Establishment : June 1992 Sahajivan Shikshan Prasarak Mandal (Tehu) Sanchalit

Rani Laxmibai Mahavidyalaya Parola

Dist.Jalgaon 425111 Tel:-02597-292665,292666

U.G.C-2F&12B(8-211/2005CPP-1D:2011)

Website: www.rlcollegeparola.org | E-Mail:principalrlcparola@gmail.com

Ad.Kakasaheb Vasantrao More
Ex.Member of Parliament
President

Dr. V.R.Patil (Principal)
Mob-9373459332
E-mail:- vasupatil13@gmail.com

3rd Cycle

Assesment and Accreditation

Criterion – II
Teaching, Learning & Evaluation

Key Indicator: 2.6 Student Performance and Learning Outcomes

2.6.1 Average passes percentage of Students during last five years

Establishment : June 1992 SSPM'S
Rani Laxmibai Mahavidyalaya Parola
Dist.Jalgaon 425111 Tel:-02597-292665,292666
U.G.C-2F&12B(8-211/2005CPP-1D:2011)
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Outward No. Date : / /20

DECLARATION

This is to declare that the information, Reports, true copies of the supporting documents, numerical data etc. submitted / presented in this file is verified by Internal Quality Assurance Cell (IQAC) and is correct as per the records. This declaration is for the purpose of NAAC Accreditation of HEI for 3rd Cycle period 2018-2019 to 2022-2023.

Date: 30/07/2023

Place: Parola

IQAC Coordinator

Coordinator, IQAC
Rani Laxmibai Mahavidyalaya
Parola,Dist.Jalgaon

Principal

Acting Principal
Rani Laxmibai Mahavidyalaya,
Parola,Tal.Parola Dist.Jalgaon

2.6.2 Attainment of Program outcomes and course outcomes are evaluated by the institution.

CONTENT

	6.1 Department of chemistry
	6.2 Department of physics
	6.3 Department of Mathematics
	6.4 Department of Zoology
	6.5 Department of Botany
	6.6 Department of Geography
	6.7 Department of Computer
7	Attainment of CO-PO Level
8	CO attainment form
9	PO attainment form

IQAC Coordinator

Coordinator IQAC
Rani Laxmibai Mahavidyalaya
Parola,Dist.Jalgaon

Rani Laxmibai Mahavidyalaya
IQAC
PAROLA
Dist.Jalgaon

Rani Laxmibai Mahavidyalaya,
Parola Tal.Parola Dist.Jalgaon

Sahajivan Shikshan Prasarak Mandal (Tehu) Sanchalit
RANI LAXMIBAI MAHAVIDYALAYA
PAROLA, DIST - JALGAON, 425111
ESTD: 1992
Website: rlcollegeparola.com, Email: principalrlcparola@gmail.com, Tel: +91 2597 292666, Fax: +91 2597 292665

A graduate attributes Programme outcomes and course outcomes Graduate Attributes

Ranilaxmibai Mahavidalya, Parola affiliated to North Maharashtra University, Jalgaon. It has continues tries for improved of rural and socially suppressed students. Our Mahavidalya graduate has Knowledge, skills and attitudes as all teachers, Nonteaching staff and management collaborates closed with the corporate World, Industry and other important stake holders. Hence student's gates succeed in their profession and are able to become leaders in the various fields chosen. Students are doing excellent work shining and proving their leadership in various ares.

Thus the graduates of our institutes can be-

1. Academic excellence
2. Communicate effectively
3. Personality and leadership
4. World citizenship

Learning objectives:

- Reflective thinking
- Efficient planer and time manger
- Self-awareness and self-motivation
- Independent learning and intellectual insight
- Coping with stress and emotions
- Leadership and professionalism
- People skill and Team work
- Affinity and flexibility to use of technology
- Value system and ethical competency
- Information and digital literacy

IQAC-COORDINATOR
Coordinator, IQAC
Rani Laxmibai Mahavidyalaya
Parola,Dist.Jalgaon

Rani Laxmibai Mahavidyalaya IQAC PAROLA Dist.Jalgaon

Principal
Acting Principal
Rani Laxmibai Mahavidyalaya,
Parola,Tal.Parola Dist.Jalgaon

Sahajivan Shikshan Prasarak Mandal (Telu) Sanchalit

RANI LAXMIBAI MAHAVIDYALAYA

PAROLA, DIST - JALGAON, 425111

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Learning Objectives

The Rani Laxmibai Mahavidyalaya stated learning objectives as follows

As graduates of mahavidyalaya, students will be able to-

1. Demonstrate the ability to prepare and communicate effectively using listening, speaking, reading and writing skill.
2. Demonstrate the ability to lead and work with others
3. Modern technology and skill at working place.
4. Acquire and demonstrate analytical and problem solving skill using critical and scientific reasoning within various disciplines.
5. Use of knowledge and techniques to do effectively any work.
6. Recognize ethical issue in organization and its applications to issues in the society.
7. Use their knowledge for personality development in various fields.

IQAC Coordinator

Coordinator IQAC
Rani Laxmibai Mahavidyalaya
Parola,Dist.Jalgaon

Principal

Acting Principal
Rani Laxmibai Mahavidyalaya,
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Sahajivan Shikshan Prasarak Mandal (Tehu) Sanchalit

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Programme Outcomes (POs)

Faculty of Arts

After completion of BA program students can be-

1. Learn and adopt communication and soft skill properly.
2. Make his overall personality development.
3. Learn the field humanities and language and conceptual clarities.
4. Becomes responsible cultural and praiseworthy as a citizen of India.
5. Secure employment/self-employment opportunity.
6. Becomes socially, politically, economically and culturally aware citizens.
7. Learn and adopt communication properly and honesty.

Faculty of Science

After completion of BSc program students can be-

1. Acquire knowledge with facts and figures related to various subjects in pure science.
2. Learns, laws, theories, principles and basic theories and apply it in day to day to life
3. Adopt the modern and advance technology at their work place.
4. Handling sophisticated instrument systematically.
5. Aware about their health and hygiene.
6. Contribute for growth and development of nation through scientific research.
7. Learn the basic scientific skills.
8. Develop problem solving abilities.
9. Acquire the necessary knowledge based research.

IQAC Coordinator

Coordinator, IQAC
Rani Laxmibai Mahavidyalaya
Parola, Dist. Jalgaon

Principal

Coordinator, IQAC
Rani Laxmibai Mahavidyalaya
Parola, Tal. Parola Dist. Jalgaon
Acting Principal
Rani Laxmibai Mahavidyalaya,
Parola, Tal. Parola Dist. Jalgaon

Sahajivan Shikshan Prasarak Mandal (Telu) Sanchalit

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Internal Quality Assurance Cell

Course Outcomes (CO's)

Under Graduate (UG)

Arts Faculty

- Marathi
- English
- Hindi
- History
- Economics
- Political Sci.
- Psychology

Science Faculty

- Chemistry
- Physics
- Mathematics
- Zoology
- Botany
- Geography
- Computer

Under Graduate

Department of Marathi

Course Outcomes: B.A. Marathi: -

Sr.No.	Class	Course	Course Outcomes
०१	F.Y.B.A सत्र-१	विशिष्ट वाङ्मय प्रकारचाअभ्यास-कथा	• कथा वाङ्मय प्रकाराचा परिचय करून देणे. • इतर वाङ्मय प्रकारांपेक्षा कथेचे वेगळेपण जाणून घेणे. • कथेचे विविध घटक समजावून घेणे. • कथेचे स्वरूप,वैशिष्ट्ये,प्रकार व वाटचाल समजून घेणे.
०२	F.Y.B.A सत्र-२	वाङ्मय प्रकाराचा अभ्यास -कविता	• कविता वाङ्मय प्रकाराचा परिचय करून देणे. • इतर वाङ्मय प्रकारांपेक्षा कविते चे वेगळेपण जाणून घेणे. • कविते चे विविध घटक समजावून घेणे. • कविते चे स्वरूप,वैशिष्ट्ये,प्रकार व वाटचाल समजून घेणे. • कवितेचे रसग्रहण व मूल्यमापन करणे.
०३	S.Y.B.A सत्र-३	वाङमयीन मराठी (विशिष्ट वाङ्मय प्रकारांचा अभ्यास) MAR२३१: A: - DSC मराठी C: वैचारिक गद्य लेखनाचा अभ्यास शेतकऱ्याचा आसूड:- महात्मा जोतीराव फुले संपादन ,व प्रस्तावना डॉ.नागनाथ कोत्तापल्ले	• मराठीतील वैचारिक गद्य लेखनाच्या परंपरेचा परिचय करून घेणे. • महात्मा जोतीराव फुले यांचे जीवन ,कार्य व त्यांची वैचारिक जडणघडण याबाबत जाणून घेणे. • महात्मा जोतीराव फुले यांच्या लेखन समापादेबाबत माहिती घेणे. • शेतकऱ्याचा आसूड मधील वैचारिक आशयाची स्वरूप ,व्वैशिश्ट्ये समजून घेणे • शेतकऱ्याचा आसूड या वैचारिक गद्य लेखनाच्या वाङमयीन गुण वैशिष्ट्यांचा शोध घेणे.
०४	S.Y.B.A सत्र-४	MAR २४१ A: DSC मराठी D: चरित्र -आत्मचरित्र पार लेखनाचा अभ्यास (जीवनरंग – निवडक चरित्र व आत्मचरित्र पार लेख: -संपादन मराठी	• चरित्र व आत्मचरित्र लेखनाचे सामाजिक व वाङ्मयीन दृष्ट्या महत्व जाणून घेणे. • मराठीतील चरित्र लेखनाच्या परंपरेचा परिचय करून घेणे. • मराठील आत्मचरित्र लेखनाच्या परंपरेचा परिचय करून घेणे. • जीवनरंग या पुस्तकातील निवडक चरित्र पार लेखांचे स्वरूप जाणून घेणे. • जीवनरंग या पुस्तकातील निवडक आत्मचरित्र पर लेखांचे स्वरूप जाणून घेणे.

		अभ्यास मंडळ KBCUNU जळगाव	• जीवनरंग या पुस्तकातील निवडक चरित्र पर लेखांची वाङ्मयीन गुण वैशिस्त्ये लक्षात घेणे. • जीवनरंग या पुस्तकातील निवडक आत्मचरित्र पर लेखांची वाङ्मयीन गुण वैशिष्ट्ये लक्षात घेणे.
०५	S.Y.B.A सत्र-३	वाङमयीन मराठी (विशिष्ट वाङ्मय प्रकारांचा अभ्यास) MAR२३१: A: - DSC मराठी C: वैचारिक गद्य लेखनाचा अभ्यास (शेतकऱ्याचा आसूड: - महात्मा जोतीराव फुले संपादन, व प्रस्तावना डॉ. नागनाथ कोत्तापल्ले)	• मराठीतील वैचारिक गद्य लेखनाच्या परंपरेचा परिचय करून घेणे. • महात्मा जोतीराव फुले यांचे जीवन ,कार्य व त्यांची वैचारिक जडणघडण याबाबत जाणून घेणे. • महात्मा जोतीराव फुले यांच्या लेखन समापादेबाबत माहिती घेणे. • शेतकऱ्याचा आसूड मधील वैचारिक आशयाची स्वरूप ,वैशिष्टे समजून घेणे • शेतकऱ्याचा आसूड या वैचारिक गद्य लेखनाच्या वाडमयीन गुण वैशिष्ट्यांचा शोध घेणे.
०६	S.Y.B.A सत्र-४	MAR २४२ DSE मराठी १ B: - आधुनिक वाङ्मय प्रकार –कविता (माझे विद्यापीठ -नारायण सुर्वे	• कविता या वाङ्मय प्रकारचे स्वरूप व त्याची वैशिष्ट्ये जाणून घेणे. • आधुनिक मराठी कवितेच्या वाटचालीचा परामर्श घेणे. • माझे विद्यापीठ या कविता संग्रहातील विविध जीवन जाणिवांचा शोध घेणे. • माझे विद्यापीठ या कविता संग्रहाचे वाङ्मयीन मूल्यमापन करणे. • कवितेचे वाङ्मयीन आकलन व मूल्यमापन करण्याची दृष्टी विकसित करणे.
०७	S.Y.B.A सत्र -३	DSE मराठी २ A: साहित्य विचार (भारतीय आणिपाच्शात्य) MAR -२३३ DSE मराठी २ A: -साहित्य विचार (भारतीय आणि पाच्शात्य)	• भारतीय आणि पाच्शात्य साहित्य विचाराचा परिचय करून देणे. • साहित्याचे स्वरूप समजून घेणे. • प्रमुख संस्कृत व पाच्शात्य साहित्य मिमासाकानी साहित्याच्या स्वरूपाविषयी मांडलेल्या विचारांचा परिचय करून घेणे. • साहित्याच्या निर्मितीचे विविध प्रयोजने जाणून घेणे. • प्रमुख संस्कृत व पाच्शात्य साहित्य मिमासाकानी साहित्याच्या प्रयोजनाविषयी मांडलेल्या विचारांचा परिचय करून घेणे. • साहित्य निर्मितीच्या प्रधान व गौण करणाची ओळख करून घेणे.

०८	S.Y.B.A सत्र -४	MAR २४३ DSE मराठी २ B: -साहित्य विचार (भारतीय आणि पाच्चात्य)	• भारतीय आणि पाच्चात्य साहित्य विचाराचा परिचय करून देणे. • साहित्याच्या भाषेचे स्वरूप जाणून घेताना शब्द शक्तीचे स्वरूप व प्रकार समजून घेणे. • साहित्याच्या भाषेचे स्वरूप जाणून घेताना पाच्चात्य साहित्य मिमान्साकानी त्याबाबत मांडलेल्या विविध संकल्पना चा परिचय करून घेणे. • साहित्यातील रस प्रक्रिया संस्कृत सहित्य मिमान्साकानी मांडलेल्या रस विचाराच्या आधारे जाणून घेणे. • साहित्यातून प्राप्त होणार्या आनंदाचे स्वरूप जाणून घेणे. • साहित्याची आस्वाद प्रक्रिया समजून घेणे.
०९	S.Y.B.A सत्र -३	SEC: - मराठी: लेखन कौशल्य MAR २३४ SEC मराठी १: लेखन कौशल्य: - मुद्रितशोधन	• मुद्रितशोधन चे स्वरूप आणि आवश्यकता जाणून घेणे. • मुद्रितशोधन चे कौशल्य आत्मसात करणे. • मुद्रितशोधन च्या खुणा ,अर्थ,आणि उपयोजन याबाबत जाणून घेणे. • विरामचिन्हे आणि लेखन विषयक नियम यांचे स्वरूप जाणून घेणे. • मुद्रितशोधन चा सराव करणे.
१०	S.Y.B.A सत्र -४	MAR २४४ SEC मराठी २: लेखन कौशल्य; - सर्जनशील लेखन	• सर्जनशील लेखनाचे स्वरूप आणि त्याची वैशिष्ट्ये जाणून घेणे. • कथा लेखनाची निर्मिती प्रक्रिया समजून घेणे. • नाट्यात्म लेखनाची निर्मिती प्रक्रिया समजून घेणे. • कथा लेखनाचा सराव करणे. • नाट्यात्म लेखनाचा सराव करणे.
११.	S.Y.B.A सत्र -३	MIL मराठी: - माध्यमांसाठी लेखन व संवाद MAR २३६ MIL मराठी १ मुद्रित माध्यमासाठी लेखन	• वृत्तपत्र या मुद्रित माध्यमाचा विशेष परिचय करून घेणे. • वृत्तपत्र या मुद्रित माध्यमाचे कार्य ,त्याची उपयुक्तता जाणून घेणे. • वृत्तपत्र माध्यमासाठी करावयाच्या बातमी लेखनाचे स्वरूप व तंत्र अवगत करणे. • वृत्तपत्र माध्यमासाठी करावयाच्या जाहिरात लेखनाचे स्वरूप व तंत्र अवगत करणे. • वृत्तपत्र माध्यमासाठी करावयाच्या विविध वृत्तलेख लेखनाचे स्वरूप व तंत्र अवगत करणे. • वृत्तपत्र माध्यमासाठी करावयाच्या स्तंभ व सदर लेखनाचे स्वरूप व तंत्र आत्मासात करणे.
१२.	S.Y.B.A सत्र -४	MAR २४६ MIL मराठी २: - श्राव्य माध्यमासाठी लेखन व संवाद	• नभोवाणी या श्राव्य माध्यमाचा विशेष परिचय करून घेणे. • नभोवाणी या श्राव्य माध्यमाचे कार्य आणि त्याची उपयुक्तता जाणून घेणे. • नभोवाणी माध्यमासाठी करावयाच्या भाषणाच्या लेखनाचे स्वरूप व तंत्र अवगत करणे.

			• नभोवाणी माध्यमासाठी करावयाच्या श्रुतिका लेखनाचे स्वरूप व तंत्र अवगत करणे.. • नभोवाणी मध्यामास्ठी करावयाच्या युवकांसाठीच्या कार्यक्रमाच्या लेखनाचे स्वरूप व तंत्र अवगत करणे. • सरकारी व खाजगी नभोवाणी माध्यमासाठी करावयाच्या निवेदनाचे स्वरूप व तंत्र आत्मसात करणे.
१३.	T.Y.B.A सत्र -५	DSE मराठी ३ A: मध्ययुगीन मराठी वाङ्मयाचा इतिहास	• मध्ययुगीन मराठी वाङ्मयाच्या इतिहासाचा परिचय करून घेणे. • मध्ययुगीन मराठी वाङ्मयाच्या निर्मिती मागील प्रेरणा जाणून घेणे. • महानुभाव संप्रदायाच्या वाङ्मय निर्मितीचे स्वरूप लक्षात घेऊन त्याची वैशिष्ट्ये जाणून घेणे. • शाहिरी काव्याचे स्वरूप लक्षात घेऊन त्याची ठळक वैशिष्ट्ये जाणून घेणे. • निवडक ग्रंथ करांच्या वाङ्मय निर्मितीचा वा साहित्य कृतींचा परिचय करून घेणे.
१४.	T.Y.B.A सत्र -६	DSE-मराठी ३ B मध्ययुगीन मराठी वाङ्मयाचा इतिहास	• मध्ययुगीन मराठी वाङ्मयाच्या इतिहासाचा परिचय करून घेणे. • मध्ययुगीन मराठी वाङ्मयाच्या निर्मिती मागील प्रेरणा जाणून घेणे. • वारकरी संप्रदायातील प्रमुख संत कवींच्या काव्य निर्मितीचे स्वरूप जाणून घेऊन त्याची वैशिष्ट्ये लक्षात घेणे. • बखर वाङ्मय निर्मितीचा परिचय करून घेऊन त्याची ठळक वैशिष्ट्ये जाणून घेणे. • निवडक ग्रंथ कारांच्या वाङ्मय निर्मितीचा वा साहित्य कृतीचा परिचय करून घेणे
१५.	T.Y.B.A सत्र -५	DSE मराठी ४ A: मराठीचा भाषिक अभ्यास	• भाषेचे स्वरूप आणि तिचे कार्य जाणून घेणे. • भाषा अभ्यासाच्या विविध अंगांचा परिचय करून घेणे. • भाषा उत्पत्तीचे सिद्धांत जाणून घेणे. • भाषाकुल संकल्पना समजून घेऊन मराठीच्या भाषाकुलाची माहिती घेणे. • मराठी भाषेच्या उत्पत्ती संबधीची मते जाणून घेऊन मराठीची पूर्व पीठिका लक्षात घेणे.
१६.	T.Y.B.A सत्र -६	DSE मराठी ४ B मराठीचा भाषिक अभ्यास	• मराठीच्या कालिक भेदांचे स्वरूप जाणून घेऊन त्यांची वैशिष्ट्ये नोदाविणे • मराठीच्या प्रांतिक भेदांची माहिती करून घेणे. • मराठीच्या निवडक प्रमुख बोलींच्या वैशिष्ट्यांचा परिचय करून घेणे. • भाषा विषयक समज-गैरसमज यांचे निराकरण करून घेणे. • मराठी वरील अन्य भाषांच्या प्रभावाचे स्वरूप लक्षात घेणे.

१७	T.Y.B.A सत्र -५	DSC मराठी-E: एकांकिका लेखनाचा अभ्यास (दलित एकांकिका लेखनाचा अभ्यास)	• एकांकिका या नाट्य प्रकारचे स्वरूप व त्याची वैशिष्ट्ये जाणून घेणे. • मराठीतील एकांकिका लेखनाची वाटचाल लक्षात घेणे. • दलित एकांकिका लेखनाचे स्वरूप वैशिष्ट्ये व वाटचाल समजून घेणे. • निवडक दलित एकांकिका यांचा अभ्यास करणे
१८.	T.Y.B.A सत्र -६	DSC मराठी F: ललित गद्य लेखनाचा अभ्यास	• ललितगद्य या वाङ्मय प्रकारची संकल्पना ,स्वरूप व वैशिष्ट्ये जाणून घेणे. • मराठीतील ललितगद्य लेखनाच्या वाटचालीचा परामर्श घेणे. • ललितगद्य लेखनातील विविध प्रकारांची त्यांच्या बदलत्या रूपांची माहिती करून घेणे. • स्त्री विषयक निवडक ललितगद्य लेखनाचा अभ्यास करणे.
१९.	T.Y.B.A सत्र -५	MIL मराठी-३: दृक्श्राव्य माध्यमांसाठी लेखन व संवाद	• दूरचित्रवाणी या दृक्श्राव्य माध्यमाचा विशेष परिचय करून घेणे. • दूरचित्रवाणी या दृक्श्राव्य माध्यमाचे कार्य आणि त्याची उप युक्तता जाणून घेणे. • दूरचित्रवाणी साठी करावयाच्या मनोरंजनपर व माहितीपर कार्यक्रमांच्या लेखनाचे स्वरूप व तंत्र अवगत करणे. • दूरचित्रवाणी साठी करावयाच्या जाहिरात लेखानाच्चे स्वरूप व तंत्र अवगत करणे.
२०.	T.Y.B.A सत्र -६	MIL मराठी ४: आधुनिक समाज माध्यमांसाठी लेखन व संवाद	• आधुनिक समाज माध्यमांचा विशेष परिचय करून घेणे. • आधुनिक समाज माध्यमांचे कार्य आणि त्यांची उप युक्तता जाणून घेणे. • EMAIL लेखनाचे स्वरूप लक्षात घेणे. त्याचे लेखन तंत्र अवगत करणे. • ब्लॉग लेखनाचे स्वरूप लक्षात घेऊन ते लेखन तंत्र अवगत करणे. • FACEBOOK, TWITTER WHATS APP, YOUTUBE या वरील लेखनाचे स्वरूप जाणून घेणे • FACEBOOK व YOUTUBE या वरील निवेदन कौशल्य जाणून घेऊन आत्मसात करणे.
२१.	T.Y.B.A सत्र -५	SEC मराठी ३: लेखन कौशल्य-निबंध लेखन	• निबंध लेखांचे कौशल्य आत्मसात करणे. • निबंध लेखनाचे स्वरूप व त्याचे घटक जाणून घेणे. • निबंधाचे प्रकार लक्षात घेऊन त्यांच्या लेखनाचा सराव करणे.
२२.	T.Y.B.A सत्र -६	SEC मराठी ४: लेखन कौशल्य: ग्रंथ परीक्षण लेखन	• ग्रंथ परीक्षण लेखनाचे कौशल्य आत्मसात करणे • ग्रंथ परीक्षण लेखनाचे स्वरूप व आशा लेखनाची प्रक्रिया जाणून घेणे. • विविध प्रकारातील ग्रंथांचे परीक्षण लिहिण्याचा सराव करणे.

२३.	T.Y.B.A सत्र -५	GE मराठी A: मराठी लोकरंगभूमी	• लोकरंगभूमी ची संकल्पना जाणून घेणे. • लोकरंगभूमी चे स्वरूप जाणून घेऊन वैशिष्ट्यांचा परिचय करून घेणे. • लोकसाहित्य आणि लोकरंगभूमी यांचे परस्पर संबंध समजून घेणे. • कीर्तन आणि भारुड या लोकरंगभूमी च्या पारंपारिक रूपांची स्वरूप वैशिष्ट्ये जाणून घेणे. • खानदेशी वही आणि कोकणी दशावतार या लोकरंगभूमी च्या प्रादेशिक प्रकारांची स्वरूप वैशिष्ट्ये जाणून घेणे.
२४.	T.Y.B.A सत्र -६	GE मराठी B मराठी लोकरंगभूमी	• तमाशा या लोकरंगभूमी च्या पारंपारिक स्वरुपाची स्वरूप व वैशिष्ट्ये जाणून घेणे. • लोकनाट्य या लोकरंगभूमी च्या आधुनिक रुपाची स्वरूप वैशिष्ट्ये जाणून घेणे. • सत्यशोधकी जलसे आणि आंबेडकरी जलसे या लोकरंगभूमी च्या आधुनिक रूपांची स्वरूप व वैशिष्ट्ये जाणून घेणे. • पथ नाट्य आणि रिंगण नाट्य या लोकरंगभूमी च्या आधुनिक रूपांची स्वरूप वैशिष्ट्ये जाणून घेणे.
२५.	F.Y.B. Com सत्र -१	वाङ्मयीन मराठी :-बिझिनेस लीजेन्ड्स -गीता पिरामल)	• वाणिज्य शाखेतील विध्यार्थ्यांना विविध उद्योग पतींची ओळख करून देणे. • वाचान व भाषिक कौशल्यांचा परिचय करून घेणे • यशोगाथांच्या माध्यमातून व्यावसायिक उद्योजकता जाणीव वाढविणे. • नवीन उद्योग उभारानिसाठीच्या विविध आव्हानाचा परिचय करून देणे. • यशस्वी उद्योजक बनण्यासाठीच्या आवशक गुणांचा परिचय करून देणे.
२६.	F.Y.B. Sc सत्र -१ व २	कथा आणि संवाद कौशल्ये यांचा अभ्यास (माणदेशी मानसं या कथा संग्रहातील निवडक ४ कथा)आणि संवाद कौशल्ये.	• माणदेशी मानासाया कथा संग्रहातील कथांचे कथानक ,व्यक्ती चित्रण व प्रसंग वर्णन या अंगानी जाणवणारी वैशिष्ट्ये लक्षात घेणे. • माणदेशी मानासाया कथा संग्रहातील कथांचे संघर्ष,निवेदन व भाषा या अंगानी जाणवणारी वैशिष्ट्ये लक्षात घेणे. • संवादाच्या औपचारिक व अनौपचारिक प्रकारांचा परिचय करून देणे. • संवाद कौशल्यासाठी आवश्यक बाबींचा परिचय करून देणे. • भाषण ,सादरीकरण,वादविवाद ,सूत्रसंचालन,गट चर्चा या संवाद कौशल्यांचे स्वरूप स्पष्ट करून त्यांचे उप योजन करण्यास शिकविणे.
२७.	S.Y.B. Sc सत्र -३ व ४	AECC मराठी कथा आणि उपयोजित लेखन, AECC१: विज्ञान कथा आणि नोंद लेखन	• विज्ञान कथा या कथाप्रकाराचा परिचय करून घेणे. • विनोदी कथा या कथा प्रकाराचा परिचय करून देणे. • विज्ञानाच्या क्षेत्रातील विविध विषयांबाबत मराठीतून लेखन करण्यास विध्यार्थ्यांना प्रोत्साहित करणे. • वैज्ञानिक संज्ञा-संकल्पना बाबत विज्ञान कोशासाठी नोंद लेखन करण्याचे तंत्र आत्मसात करणे.

			• विज्ञानाच्या क्षेत्रातील विविध विषयांवर लोकोपयोगी लेखन करण्याचे कौशल्य जाणून घेणे. • वैज्ञानिक दृष्टीकोन विकसित करण्यास सहाय्यभूत ठरणे.

Department of Hindi

Course Outcomes: B.A. Hindi: -

Sr. No.	Class	Course	Course Outcomes
1.	F.Y.B.A	हिंदी कहानी हिंदी कविता	• छात्रो को हिंदी कहानी विधा से परिचित कराना। • छात्रों में मानविय मूल्यो के प्रति आस्था निर्माण कराना। • विभिन्न कहानियों के माध्यम से छात्रों की भाषीकक्षमता को विकसित करना। • छात्रों में विभिन्न कहानियों के माध्यम से सामाजिक संवेदना को जागृत कराना। • छात्रो को हिंदी कविता विधा से परिचित कराना। • छात्रों में मानविय मूल्यो के प्रति आस्था निर्माण कराना। • विभिन्न कविताओं के माध्यम से छात्रों की भाषीकक्षमता को विकसित करना। • छात्रों में विभिन्न कविताओं के माध्यम से सामाजिक संवेदना को जागृत कराना।
2.	S.Y.B. A	MIL-I Hindiलेखन कौशल:मिडीया एवं साहित्य MIL-II Hindi लेखन कौशल:मिडीया एवं साहित्य (गीत–नवगीत)	• छात्रो को रचनात्मक लेखन के सैध्दांतिकी से अवगत कराना। • अभिव्यक्ति के विविध क्षेत्रों से छात्रो का परिचय करवाना। • हिंदी लघूकथाओं के माध्यम से रचनात्मक लेखन की सर्जन प्रक्रिया को दर्शाना। • रचनात्मक लेखन के विविध रुपों से छात्रों को परिचित कराना। • हिंदी लघूकथाओ के माध्यम से मानविय मुल्योंका संवर्धन एवं संरक्षण करना।मया लेखन कौशल से छांत्रो को अवगत कराना। • मीडिया लेखन कौशल के विविध प्रकारों से छात्रों को अवगत कराना। • साहित्य लेखन कौशल से छात्रों को परिचित कराना। • हिंदी गीत–नवगीतों के माध्यम से छात्रों में संवेदनशीलता विकसित कराना। • हिंदी गीत–नवगीतों से छात्रों को परिचित कराना। • हिंदी गीत–नवगीतों के माध्यम से लेखनकी सर्जन प्रक्रिया को दर्शाना।
3.	S.Y.B. A	DSC-1 (C) A Hindi कथेत्तर गद्य विधाऍDSC-1 (D) A Hindi श्रेष्ठ हिंदी एकांकी	• कथेत्तर गद्य विधा का विकासात्मक परिचय कराना। • कथेत्तर गद्य विधा की कालजयी रचनाओ से छात्रो कों परिचित कराना। • कथेत्तर गद्य विधा की रचनाओं के माध्यम से छात्रों में मूल्य संवर्धन कराना। • कथेत्तर गद्य विधा कीरचनाओ के माध्यम से छात्रो में सामाजिक संवेदनाशीलता को बढावा देना।

			• कथेत्तर गद्य विधा की रचनाओ के माध्यम से छात्रो में सामाजिक संवेदनाशीलता को बढावा देना। • एकांकी विधा का विकासात्मक परिचय कराना। • प्रमुख एकांकी कारोका सामान्य परिचय कराना। • एकांकीओ के माध्यम सें रंगमंचीय प्रभाव को विषद कराना।
4.	S.Y.B. A	SEC-I Hindi भाषीक संप्रेशण SEC-II Hindi अनुवाद विज्ञान	• हिंदी भाशा के भाषीकस्वरुप से छात्रों को परिचित कराना। • भाषीक संप्रेशण की सैध्दांतिक से छात्रों को परिचित कराना। • संपे्रषण के प्रमुख प्रकारों से छात्रो मे छात्रों को परिचित कराना। • मौखिक संप्रेशण के विविध रुपों से छात्रों को अवतगत कराना। • लिखित संपे्रशण के विविध रुपों से छात्रों को अवगत कराना। • अनुवाद विज्ञान की प्रविधि से छात्रों को अवगत कराना। • अनुवाद विज्ञान की सैध्दांतिक विवेचना कराना। • साहित्यिक अनुवाद, मषीनी अनुवाद से छात्रों को अवगत कराना।
5.	S.Y.B. A	DSE-I (A) Hindi काव्यशास्त्र DSE-II (B) Hindi काव्यशास्त्र	• काव्यशास्त्र का सामान्य परिचय कराना। • काव्य की विधाओं से परिचित कराना। • अलंकारों का परिचय कराना। • काव्यशास्त्र का सामान्य परिचय कराना। • गद्य की विविधाओं से परिचित कराना। • शब्दपक्तियों का परिचय कराना। • छंद एवं रसों का परिचय कराना। • आलोचना की क्षमता विकसित कराना।
6.	S.Y.B. A	DSE-II (A)Hindi उपन्यास विधा DSE-II (A) Hindi नाटक विधा	• हिंदी उपन्यास विधा का विकासात्मक परिचय कराना। • हिंदी के प्रमुख उपन्यासकारों का सामान्य परिचय देना। • निर्धारित उपन्यास के माध्यम से छात्रों को मानवीय जीवन में समय का महत्त्व, व्यक्ति की विष्वव्यापी स्वाधीनता वृध्दो की सामान्य, मूल्य संवर्धन संयुक्त परिवार आदिसें अवगत कराना। • उपन्यास के माध्यम से सामाजिक अत्तरदायित्व के प्रति छात्रों में एहसास जगाना। • हिंदी नाटक विधाका विकासात्मक परिचय कराना। • हिंदी नाटक और रंगमंच के परस्पर संबंधो पर प्रकाष डालना। • धरती आबा नाटक के माध्यम सें आदिवासी समाज का चित्रण कराना। • आदिवासी साहित्य और संस्कृति से छात्रों को परिचित कराना।
7.	T.Y.B. A	MIL-III Hindi	• छात्रों को संपादकीय कला से अवगत कराना। • संपादक की योग्यता, दायित्व और महत्त्व से परिचित कराना। • संपादकीय लेखन के तत्त्व और प्रविधि को दर्षाना।

		संपादन लेखन और साहित्य (मुद्रित माध्यम) MIL-IV Hindi हिंदी सिनेमा और साहित्य (इलेक्ट्रिनिक माध्यम)	• विभिन्न समाचार पत्र और पत्रिकाओ के उल्लेखनीय संपादकीय से परिचित करवाना। • छात्रों को हिंदी सिनेमा के इतिहास से अवगत कराना। • सिनेमा और भारतीय समाज के संबंध का परियच देना। • हिंदी सिनेमा के तकनिकी पक्ष के संबंध का परिचय देना। • हिंदी सिनेमा के तकनिकी पक्ष से परिचित कराना। • साहित्य कृति पर आधारित सिनेमा से परिचित करवाना। • मोहनदास की कहानी के माध्यम से सामाजिक यथार्थ को दर्षाना।
8.	T.Y.B. A	DSC-E (A) Hindi विषेश विधा यात्रा साहित्य DSC-F (A) Hindi विषेश विधा: भारतीय संत काव्य	• यात्रा साहित्य विधा के सैध्दांतिक विवेचन को अवगत कराना। • यात्रा साहित्य विधा के विकासात्मक परिचय से छात्रों को परिचत कराना। • यात्रा साहित्य विधा के प्रमुख साहित्यकार तथा उनके यात्रा वर्णन का ज्ञान छात्रों को प्रदान कराना। • मेरी जपान यात्रा इस साहित्य कृति के माध्यम से छात्रों में यात्रा साहित्य लेखन की कला से परिचित कराना। • भारतीस संत काव्य का परिचय कराना। • भारतीय संत काव्य परंपरा का विकासात्मक परिचय करवाना। • भारतीय संतो के काव्य का अध्ययन कराना। • भारतीय संत काव्य की विषेशताओ तथा उपलब्धियों का परिचय देना।
9.	T.Y.B. A	SEC-III Hindi हिंदी व्याकरण और अभिव्यक्ति कौषल SEC-IV Hindi हिंदी भाषा का मानकीकरण और अशुद्धी शोधण	• छात्रो को हिंदी भाशा की व्याकरणिक संरचना से अवगत कराना। • छात्रों को हिंदी षब्द संधारण से परिचित कराना। • छात्रों को पल्लवन करने की प्रक्रिया से अवगत कराना। • छात्रो को संपेक्षण करने की प्रक्रिया से अवगत कराना। • वक्तृत्व कला कौषल की जानाकारी से छात्रो को परिचित कराना। • हिदी भाशा के मानक रुप से परिचय कराना। • देवनागरी लिपी तथा हिंदी वर्तनी संबंधी नियमावली की जानकारी देना। • शाशकिय पत्र प्रारुप लेखन की क्षमता विकसित करना। • साक्षात्कार प्रणाली की क्षमता को विकसित करना। • घुष्द लेखन की क्षमता को विकसित करना।
10.	T.Y.B. A	DSE Hindi III(A) हिंदी साहित्य का इतिहास ;आदिकाल, भक्तिकाल और रितीकाल DSE Hindi III (B) हिंदी साहित्य का इतिहास ;आधुनिक काल	• हिंदी साहित्य का काल विभाजन नामकरण से छात्रो को अवगत कराना। • आदिकाल साहित्य की प्रमुख परिस्थितीयों प्रवृत्तियों तथा प्रमुख रचनाकारों से छात्रों को परिचित कराना। • भक्तिकालीन साहित्य की प्रमुख परिस्थितियों प्रवृत्तियों प्रवृत्तियों तथा प्रमुख रचनाकारों से छात्रो को परिचित कराना। • हिंदी साहित्य इतिहास कें आधुनिक काल के साहित्य से परिचित छात्रों को परिचित करना। • हिंदी साहित्य के आधुनिक काल के साहित्य की प्रमुख प्रवृत्तियो तथा रचनाकारों से छात्रों को अवगत कराना।

			• हिंदी साहित्य का इतिहास के आधुनिक काल के पद्य और गद्यसाहित्य तथा प्रमुख साहित्यकारों का ज्ञान छात्रों को प्रदान कराना। • आधुनिक काल के साहित्य की प्रमुख उल्लेखनीय कृतियों का छात्रों को परिचय देना।
11.	T.Y.B. A	DSE Hindi IV (A) हिंदी भाषा का विकास DSE Hindi IV (B) भाषा विज्ञान विकास हिंदी भाषा का विकास	• भाषा की परिभाषा तथा विषेशताओं से छात्रों को अवगत कराना। • भाषा के विविध रुपों का ज्ञान छात्रों को प्रदान कराना। • विविध बोलियों के सामान्य परिचय से छात्रों को परिचित कराना। • भाषा के उत्पत्ति विशय सिध्दांत से छात्रों को परिचित कराना। • हिंदी के प्रचार एवं प्रसार में खान्देष के साहित्यकारों के योगदान को उजागर करना। • भाषा विज्ञान की पारिभाषाये तथा भाशा विज्ञान के विविध अंगो से छात्रों को परिचित कराना। • भाषा विज्ञान तथा व्याकरण के तुलनात्मक अध्ययन का ज्ञान छात्रों को प्रदान कराना। • विज्ञान से संबंधित विविध मुददों से छात्रों कों परिचित कराना। • रुप पद विज्ञान से संबंधित विविध मुददों से छात्रों को परिचित कराना। • वाक्य विज्ञान से संबंधित विविध मुददों से छात्रों को परिचित कराना। • अर्थ विज्ञान से संबंधित विविध मुददों से छात्रों को परिचित कराना।
12.	T.Y.B. A	GE-I (A) Hindi हिंदी की राष्ट्रीय काव्यधारा GE-II (A) Hindi खानदेष का लोक साहित्य	• हिंदी की राश्ट्रीय काव्यधारा से छात्रों को अवगत कराना। • हिंदी की राश्ट्रीय काव्यधारा का विकासात्मक परिचय प्रस्तुत करना। • हिंदी की राश्ट्रीय काव्यधारा के प्रमुख कवियों का सामान्य परिचय देना। • भारतीय स्वातंत्रता आंदोलन में हिंदी की राश्ट्रीय काव्यधारा के योगदान को अजागर करना। • पाठ्यक्रम मे समावेषित कविताओं के आधार पर छात्रों में राश्ट्र के प्रति अस्मिता स्वाभिमान तथा गौरव का भाव जागृत करना। • लोक साहित्य सैध्दांतिकी से छात्रों को परिचित कराना। • खानदेष के लोक साहित्य और लोक संस्कृति से छात्रों अवगत कराना। • छात्रों को खानदेष की प्रमुख बोलियाँ अहिराणी लेवा और आदिवासी के साहित्य से अवगत कराना। • लेकगीत लोककथा लोकनाट्य और लोक संस्कृति का साक्षात्कार कराना। • लेकगीत लोककथा लोकनाट्य और लोकत्सव आदि से संबंधित

Department of English

➢ Course Outcomes: B.A. English: -

Sr.No.	Class	Course	Course Outcomes
01	F.Y.B. A	Compulsory English	• The course will introduce the basic forms of literature to the students. • The course will develop the liking of reading in the students. • The course will inspire students to develop their creative ability. • Consequently, the course will develop reading skill and creative and expressive ability of the students.
02	F.Y.B. A	Optional English	• To develop the ability of students to comprehend written texts • To inculcate amongst students moral and human values • To make the students aware of the aesthetic pleasure of literature • To introduce to the students the basic forms of poetry • To create interest among students for literature
04	S.Y.B. A	16th and 17th Century English Literature (DSE 1A&B)	• To acquaint the students with the major literary trends and tendencies and prominent writers of the 16th and 17th Century English Literature. • To make the students aware about the literary history, salient features and sociocultural background of the period. • To help the students to grasp the content and critically appreciate the prescribed texts. • To inculcate amongst students a liking for the Elizabethan and Post-Shakespearean literature.

05	S.Y.B. A	18th and 19th Century English Literature (DSE 2A&B)	• To impart basic ideas about the 18th and 19th Century English Literature with special reference to Poetry and Novel. • To make the students aware about the literary history, salient features, socio political and cultural background of the Romantic and Victorian age. • To help the students to grasp the content and critically appreciate the prescribed Texts. • To inculcate amongst students a liking for the Romantic and Victorian literature.
06	S.Y.B. A	The Study of Novel and Drama (DSC 1C)	• To develop the interest of students in reading/understanding novel and drama. • To acquaint students with Novel and Drama as genres of literature. • To develop students' competence to study, understand, analyse and interpret novel and drama. • To introduce students with the key terms useful in the study of novel and drama. • To orient students with major types of novels and drama.
07	S.Y.B. A	SEC-I: English for Competitive Examinations	• To enable students to prepare for the competitive exams of various kinds especially meant for testing ability in English language. • To introduce students with the common question types asked in competitive examinations concerning English-grammar, vocabulary, comprehension, and other significant topics. • To encourage students to appear and prepare for the competitive exams. • To help the students to overcome the fear about English as a compulsory subject in various competitive exams.
08	T.Y.B.A Sem V & VI	AEC: Developing Communication Skills	• To acquaint students with various modes of communication • To intimate students about various types of written communication • To inform students about various types of oral communication

			• To give practice to students in various modes of communication
09	T.Y.B.A Sem V & VI	DSE 3 ENG A & B: Twentieth Century English Literature	• To explain the student's development of poetry in English • To acquaint the students with features and types of modern poetry, drama and novel • To introduce the students with major poets, novelists and dramatists in modern English literature.
10	T.Y.B.A Sem V & VI	DSE 4 ENG A & B: The Study of English Language	• To introduce the students to the properties, styles, and varieties of English language. • To acquaint the students with grammatical forms and functions in English language. • To enable the students, learn and practice morphological concepts and word formation processes. • To introduce the students to the basic concepts in semantic, lexis and syntax in English language.
11.	T.Y.B.A Sem V & VI	DSC ENG 1 E & 1 F: Indian Writing in English	• To introduce students with development of English Literature by Indian Writers • To acquaint students with major writers of Indian English Literature • To introduce students with content, techniques and styles of Indian writers in English.
12	T.Y.B.A Sem V & VI	SEC ENG: English for Practical Purposes 3 & 4	• To enable students, learn and practice usages in spoken and written English • To introduce student's various skills in using practical English in real life situation • To encourage students, prepare for attending job interviews, develop presentation skills, learn professional skills in communicative English. • To make students able to exercise spoken and written English skills for their career development.
13	T.Y.B.A Sem V & VI	GE Eng. A and B: Film and Literature	• To introduce the students the concept of film and its origin and development.

			• To make the students able to understand the similarities and differences in film and literature • To enable the students, explore the process of adaptation and come to an understanding of how film interacts with other cultural forms such as theatre and fiction. To help the students analyse and judge film as an adaptation of literary text To develop among the students the ability to comprehend art of cinema making from a literary text.
14	F.Y.B. Sc	AEC	• To introduce to the students with writing and reading skills • To acquaint the students with the use of English Language through different means. • To acquaint the students with the creative use of English Language.
15	S.Y.B. Sc	Optional English	• Development of research aptitude in students will further boost their confidence for research. English is global language and to achieve professional success, practice of various skills is the demand of the hour • Present course is framed keeping in mind the requirement of science students • Present course contains the introduction to all the topic that contains the introduction to all the topic that science students need in their studies, job opportunities and research as well • Introduction of practical work for internal assessment is from the view point of honing the writing and spoken skill of the students. • The practical work will also help to ensure the opportunity of interaction between students and teachers. • Research aptitude will be inculcated in the students due to practical work, so that they will actively participate in research convention like Avishkar, Indradhanushya, and Anveshan etc. Inculcation of research aptitude will further boost the student's confidence for research

16	F.Y.B. Com	English for business	• To introduce communication theory to students • To inculcate various communication skills among English students • To introduce various soft skills students • To improve oral and written competency in English for students • To develop linguistic competency of students through various grammatical and vocabulary exercises.

Department of Economics

➢ Course Outcomes: B.A. Economics: -

Sr. No.	Class	Course	Course Outcomes
1)	F.Y.B. A	(G-1: GENERAL ECONOMICS) - Part – I Paper code Eco G-101(A): Principles of Micro-economics-1	• Introduced the students to the basic principles of microeconomic theory. • To introduced the student's behaviour of consumer, producer in Economy, Price determination in • market and also factor pricing. • How to microeconomic concepts can be applied to analyse real life situations
2)	S.Y.B. A	Indian Economy Since 1980- I&II DSC Eco 231 C & DSC Eco 241 D	• To enable students to have understanding the various issues of Indian Economy. • To develop the analysing capability in the context of current Indian Economic Problems. • To able the students for appearing the MPSC, UPSC and other competitive Examinations.
3)	S.Y.B. A	CBCS Pattern Advanced Macro Economics-I&II DSE Eco 233 A & DSE Eco 243 B	• To acquaint the student knowledge of Macroeconomics concept and theories. • To acquaint the student knowledge of Macroeconomics problem and policies. • To develop the analysing capacity in applying theories to real life situation.
4)	S.Y.B. A	Agricultural Economics –I&II DSE Eco 232 A & DSE Eco 242 B	• To enable student's basic concept of agriculture • To introduce Agriculture Theory for various competitive exam • To enable students have understand various dimensions in Agriculture
5)	T.Y.B. A	DSC -1 (E & F) Eco-351 & 361 Indian Economy Since 1980 –III & IV	• To enable students to have understanding the various issues of Indian Economy. • To develop the analysing capability in the context of current Indian Economic Problems.

			• To able the students for appearing the MPSC, UPSC and other competitive Examinations
6)	T.Y.B. A	DSE -3 (A&B) Eco-352(A)&362(A) Economics of Public Finance–I& II	• To enable students to have understanding the various issues of Public Finance and Policies. • To develop the analysing capability in the context of Public Finance and Policies. • To enable the students for appearing the MPSC, UPSC and other competitive Examinations.
7)	T.Y.B. A	DSE-4(A & B) Eco-353 (A) & 363 (A) Theory of International Trade and Practices – I & II	• To enable students to have understanding the various issues of International Trade and Practices. • To develop the analysing capability in the text context of International Trade and Practices • To able the students for appearing the MPSC, UPSC and other competitive Examinations.
8)	T.Y.B. A	SEC (3 & 4) Eco-354, Eco-364 Modern Banking & Indian Financial Market	• To provide the students basic knowledge of Banking & Financial market. • To provide the information of Indian Banking system. • To updated the students about new changes and technology in Banking. • To know the relevance of banking practices in modern competitive world
9)	T.Y.B. A	Generic Elective GE- 2 (A & B) Eco-355 & Eco-365 Indian Economic Environment- I & II	• To introduce the students Economics Environment for Business. • To provide the information of Indian Economics Environment. • To update the students about new reform in Indian Economy. • To prepare the students for competitive examination.

Department of Geography

➢ Course Outcomes: B.A. Geography: -

Sr.No.	Class	Course	Course Outcomes
1.	F.Y.B. A	Physical Geography	• To study the Latitudes and Longitudes measurement of time. • To understand the effect of rotation of the earth • To understand Interior structure of the Earth.
2.	SYBA (DSC 1C& 1D)	General Cartography & Human Geography	• To acquaint the knowledge about practical and theoretical understand of cartographical concepts. • To acquaint with knowledge of types of races in world. • To study various types of settlement pattern.
3.	SYBA (9DSE 1A & 1B)	Geography of Tourism &Geography of India	• To know the important of the sustainable tourism. • To understand the various geo tourism. • To make the students able to understand geographical personality of India.
4.	SYBA (DSE 2 A &2B)	Practical Geography	• To acquaint the students with basic of scale map projection and cartographic techniques. • To acquaint the students with principles of surveying, its important and utility in geographical studies. • To know how to draw the map on various scale
5.	SYBA	SEC- Skill Enhancement Course	• Student will become well aware about the regional planning and development.

			• Students will get knowledge about various approaches and models of regional planning and development. • To understand the principal of remote sensing. • To acquaint students with fundamental concepts of aerial photography.
6.	TYBA SEM. V	(DSC 1E) Gg. 351 – Environmental Geography	• To create the environmental awareness amongst the students. • To acquaint the students with fundamental concepts of Environmental Geography. • To aware the students about the processes and patterns in the natural environment. • To acquaint the students with potentials of Environmental Geography. • To aware the students about use of resources with prudence. • To acquaint the students with different environmental policies
7.	TYBA SEM. V	Gg. 352 (S-3) Economic Geography	• To acquaint the students with the knowledge of economic realm in the world. • To highlight the different economic activities. • To study mineral and power resources in the specific regions of the world.
8.	TYBA SEM. V	Gg. 353 (S-4) Practical in Human Geography and Geostatistics	• To introduce the practical approach of Human Geography. • To introduce the importance of statistical techniques in Human Geography. • To introduce some basic research methods to the students.
9.	TYBA SEM. V	Gg. 354 (SEC of Geography) Field Technique and Introduction to Project Report	• To introduce the analytical skill of field-work. • To develop the skill of selection of appropriate technique for field study. • To enable the student to frame different types of questionnaires to conduct a field study.

			• To develop the analytical interpretation and report writing based upon the data collected during a field study.
10.	TYBA SEM. V	Gg. 355 (GE of Geography) Disaster Risk Reduction	• To introduce the concept of disaster risk. • To prepare DRM Plans and its implementation. • To aware the students about the Disaster Risk Reduction/Mitigation strategies.
11.	TYBA SEM. VI	Gg. 361 (DSC 1F) Population Geography.	• Understand the components of population change. • Develop skills to use population information in the planning process. • Understand the impact of planning activities on population size, composition, and distribution • Population is an important resource. The development of any nation is depending on human resource. It is a prime deity to acquaint with the human resource of the nation. • To understand the recent problems of population in the world as well as nation.
12.	TYBA SEM. VI	Gg.362 (DSE 3B) Political Geography)	• To enable students to acquire knowledge of Political Geography. • To understand basic concepts of Political Geography. • To study various theories of Political Geography. • To understand the frontiers and Boundaries.
13.	TYBA SEM. VI	Gg. 363 (DSE 4B) Practical in Physical Geography)	• To introduce the students with SOI toposheets and to acquire the knowledge of toposheet Reading / interpretation. • To acquaint the students with IMD weather maps and to gain the knowledge of weather map reading/ interpretation.

14.	TYBA SEM. VI	Gg. 364 (SEC 4) Geographical Information System	• To introduce the fundamentals and components of Geographic Information System. • To provide details of spatial data structures and input, management and output processes. • To aware about the application of GIS in various fields.
15.	TYBA SEM. VI	Gg. 365 (GE 1B): SUSTAINABILITY AND DEVELOPMENT)	• It brings to attention the students about the issues which surround Sustainable Development, including its Principles, Processes and Concepts, its Deciding factors, and Potentials it holds. • Students will get the information and Importance of the MDGS. • Students will be aware about National Environmental Policy.

Department of History

Course Outcomes: B.A. History: -

Sr.No.	Class	Course	Course Outcomes
01	F.Y.B. A	History of India (1857-1950)	• To introduce various perspective of the Indian Freedom Movement. • To develop the spirit of Nationalism among student. • To bring an awareness among the students as responsible.
02	SYBA DSC 2	History of the Marathas (1605-1750)	• To Great and enhance interest about Regional History among the Student. • To acknowledge students how Shivaji Maharaj created the Empire in adverse circumstances. • To Motivate Student for the Research work of the Maratha History.
03.	SYBA DSE1A	History of U.S.A. (1776-1945)	• To understand the importance of America (USA) in the world history. • To Study the foreign policy of America (USA) • To Study and the Role of America between two world wars.
04.	SYBA DSE2A	History of Ancient India (B.C.3000-1206)	• To acquaint the students with different sources of Ancient Indian History. • To enable the students to understand the political, Socio-Economic and Cultural Developments in the Periods under study and appreciate the rich Cultural Heritage in India. • To Survey sources of History of Ancient India.
05.	SYBA SEC	Sem III, Research Methodology in History. Sem. IV An Introduction to Archives in India	• The paper is designed to provide adequate conceptual base. • Help Research in terms of formulating hypotheses and develop broad frames of interaction with other social sciences and attain certain level of Interdisciplinary Approach.

			• To introduces the importance of Archives in Study of History. • To create awareness to conserve the historical Records in their Local Arias.
06.	TYBA Sem-V	DSC 1 E HIS 351 History of Modern Europe (AD 1781 - AD 1913)	• Develop an interest in students to study the History as discipline. • To introduce the students to the concept and Nature of modern European History. • It will create a patriotism and European nationalism among the students. • The various approaches and context will be unravelled though the study of History. • To encourage students to pursue carrier in Competitive Examinations.
07.	TYBA Sem-V	DSE 1 C HIS 352 History of India (AD 1750 – AD 1857)	• To introduce various perspectives of the Modern India x to develop the spirit of nationalism among students. • To bring an awareness among the students as responsible citizen of the country. • To inculcate Liberty, Equality, and Fraternity among the students. • To inculcate the rational thinking among the students.
08.	TYBA Sem-V	DSE 2 C HIS 353 History of India (AD 1206 – AD 1526)	• Students learn about the various polity and sultanate period's (1206-1526) in India. • Students understand and review about the social, Economic and cultural information during the Sultanate period in Medieval India. • Students understand and review detail about the agricultural, trade and commerce position of women and religious condition in sultanate period.
09.	TYBA Sem-V	SEC 3 HIS 354 Travel and Tourism in India	• To introduce the students to the concept and nature of Tourism. • To acquaint the students about tourism planning. • To introduce important various tourist destinations in India to the students. • To encourage students to pursue career in Tourism.
10.	TYBA Sem-V	GE 1 A HIS 355 Making of	• This course presents some important vignettes of a complex, highly diverse India that is also witnessing unprecedented

		Contemporary India - 1	changes since its formal independence in 1947 from Great Britain. • The course revolves around social dimensions of change, political democracy, economic transition from the state to the market, gender relations, India's economic globalization and changing world view. • However, it would be helpful if students are aware of the socio-political dynamics at play in contemporary India and keep themselves abreast with current affairs and debates in the country to fully appreciate the various dimensions and contours if the subject matter in the course.
11.	TYBA Sem-VI	DSC 1 F HIS 361 History of Modern Europe (AD 1914 - AD 1945)	• Develop an interest in students to study the History as discipline. • To Introduce the students to the concept and Nature of modern European History. • It will Create a patriotism and European nationalism among the students. • The various approaches and context will be unravelled though the study of History. • To encourage students to pursue carrier in Competitive Examinations.
12	TYBA Sem-VI	DSE 1 D HIS 362 History of India (AD 1750 – AD 1857)	• To introduce various perspectives of the Modern India • To develop the spirit of nationalism among students. • To bring an awareness among the students as responsible citizen of the country. • To inculcate Liberty, Equality, and Fraternity among the students. • To inculcate the rational thinking among the students.
13.	TYBA Sem-VI	DSE 2 D HIS 363 History of India (AD 1526 – AD 1707)	• Syllabus covers competitive examinations (UPSC, MPSC, NET, SET, Railway Board and Staff Selection etc.) • To developed the skill and opportunities among the students. • To make awareness and interest about Social, Economic and Cultural Heritage and History of India. • To make awareness about research.

			• Syllabus related to tour and excursion visit and report writing. 6) Career and job-oriented syllabus.
14.	TYBA Sem-VI	SEC 4 HIS 364 An Introduction to Museums in India	• To create awareness among the students about the role of Museum in the preservation of Heritage. • To explain the importance of Museums in study of History. • To create awareness to conserve the historical Monuments & Places in their local areas. • To encourage students to pursue career in museology.
15.	TYBA Sem-VI	GE 1 B HIS 365 Making of Contemporary India - 2	• This course presents some important vignettes of a complex, highly diverse India that is also witnessing unprecedented changes since its formal independence in 1947 from Great Britain. • The course revolves around social dimensions of change, political democracy, economic transition from the state to the market, gender relations, India's economic globalization and changing world view. • However, it would be helpful if students are aware of the socio-political dynamics at play in contemporary India and keep themselves abreast with current affairs and debates in the country to fully appreciate the various dimensions and contours if the subject matter in the course.

Department of Political Science

➢ Course Outcomes: B.A. Political Science -

Sr.No.	Class	Course	Course Outcomes
1.	**F.Y.B.A**	Indian Constitution	• This paper is a basic introduction to the process, concept and working of Indian constitution. India Constitution is a social document. • This paper acquaints students with the constitution, design of state structure institutions and their actual working overtime. • The Indian constitution accommodates conflicting impulses of liberty and justice, territorial decentralization and a strong union for instance within itself. • The paper traces the embodiment some of these conflicts in constitutional provisions and shows how thus have played out in political practices in further encourages study of state in situation in their mutual interaction with the larger extra constitutional environment & recent trends in Indian democracy.
2.	**S.Y.B.A** Sem-III	(DSC 1 C) Introduction to Administration of Maharashtra	• This paper is essential for students of any faculty – discipline. Because it is not only useful for G.K. but also necessary for admire the history and administration of our region. • We should learn about how our administration is going on, what is the role of administrator of all internal section, features of gov, internal branches of administration, structure of govt etc. As well as this paper will help to create further administrator.

3.	**S.Y.B. A Sem-** IV	(DSC 1 D) Introduction to Local District Administration of Maharashtra	• This paper is attempts to discuss about local and district administration of Maharashtra. • It is very useful for MPSC/UPSC/Other exams; purpose/aim of this paper is understanding the core of administration and enhance ability to get proper knowledge of rural –urban administration.
4.	**S.Y.B.A** Sem-III	(DSE 1 A) Reading Mahatma Gandhi	• This paper is necessary for understand the basic -fundamental concepts of ethics, values, humanity, culture, faith, truth and satyagraha. • Students also learn actual meaning of Ahimsa, peace, social harmony for betterment of human life. • Theory of Gandhi is essential for society, today we see that bad elements are around us and therefore Gandhi's is the answer and solution for different problems of society. • Students are motivating for do research in Gandhian Philosophy and enhance interest about Gandhian thought.
5.	**S.Y.B.A** Sem-IV	(DSE 1 B) Reading Dr. Ambedkar.	• This paper is attempts to discuss the main concepts and philosophy of Dr. Ambedkar. • Work and ideology of Dr. Ambedkar is essential for elimination of poverty, caste, untouchability, varna, discrimination in society. • His contribution to entire society is highly appreciated by world. And therefore, students should learn philosophy of constitution, equality, women's liberty, democracy, thought of religion is essential for development and betterment of human life. • It is also useful to enhance ability for thinking different way with human kind and values.
6.	**S.Y.B.A** Sem-III	(DSE 2 A) Government and Politics of America	• Today, America is financially, technologically sound and super power nation in the world.

			• This country is having veto power, in this context students should proper understand that what elements are useful for development and how American government is working in constitutional framework? • Students are also learning history, constitution, judiciary (Judicial Review Provision), rights, administration and politics of America. And therefore, this paper is essential for perception of comparative study of govt and politics of America-China.
7.	**S.Y.B.A** Sem-IV	(DSE 2 B) Government and Politics of China	• Today, China is large financially, technologically sound and super power nation in the world. • This country is having veto power, in this context students should proper understand that what elements are useful for development and how Chinas government is working in constitutional framework, students can also learn history, constitution, judiciary, rights, administration and politics of China. • And therefore, this paper is essential for perception of comparative study of govt and politics of China-America.
8.	**S.Y.B. A**	(SEC 1) Research Methodology in Political Science.	• This paper is attempted to discuss the main concepts and methodology of research. Political science is the part of social science/humanities. And therefore, under graduate students should learn suitable research topic for further research work, ability to write a research proposal/report. • National education policy (2019) has to decide to enhance quality research and publication. • In this context, at UG level students should admire and proper understanding methodology and hard work for quality.

9.	**S.Y.B. A**	(SEC 2) Election Management	• This paper is attempts to discuss about principles, structure, debate and practices of election management. • It will be useful for proper understanding the process of election and management. • As well as admire the concepts and thoughts of election administration. • Each and every one has evolved in election process so we should get more information through this paper.
10.	**T.Y.B.A Sem-V**	DSE 3A Western Political Thinker Part - I	• This paper focus on the classical ideas generated in the western world representation the ancient to the modern. The three thinkers have been selected who represent ideal, realistic, and liberal tradition. • The test is interpreted both in historical and philosophical perspective. The course will narrate students the legacy of the thinkers and orient them about continuity and change within the western political tradition. • It helps them to study the historical aspects western state and society. • The main purpose of this paper is to acknowledge students with how the great masters explained and analysed political events and problems of their time and prescribes solutions.
11.	**T.Y.B.A Sem-V**	DSE 4A Political Sociology Part - I	• This paper deals with concepts and dimensions in Political Sociology. • It highlights various aspects of political culture, process of political socialization and political modernization, comparatively. • This course will help learners to understand dynamics within political action, power, and process in India and across the country. • The main purpose of this course is to acquaint the students with interdisciplinary approach by connecting two separate disciplines.

12.	**T.Y.B.A Sem-V**	DSC 1E Indian Political Thinker Part - I	• This is an introductory paper to the concept ideas and theories developed in India. • It deals with the main sources of the political traditions in modern India and focusses the development of social Institution and as various patterns of politics that emerged in modern India. • This course will encourage students to understand and decipher the diverse and often contesting ways in which the ideas of nationalism, democracy and social transformation were discussed in Pre- and Post-independence India. • The main objective to study this paper is to understand key thinker's seminal contribution to the evolution of political theorizing in India.
13.	**T.Y.B.A Sem-V**	SEC -3 Journalism and Mass Communication	• This paper deals with concepts and dimensions in journalism, mass communication and political journalism. It highlights various aspects of press, media and its type and methods. • This course will help learners to understand dynamics within Journalism, Political journalism and communication means and ends and his process in society and nation. • This course will give introduction to the students of journalism aims to provide voters with the information to formulate their own opinion and participate in community, Local to global matter that will affect then political journalism is provided through different mediums in print, broadcast, online reporting, instant coverage of campaign politics, event news, government status, elections updates etc.
14.	**T.Y.B.A Sem-V**	GE 1 An Indian Civil Services	• This paper provides the conceptual framework of the civil services and good governance. • It delves deep in meaning, origin, forms of civil services and good governance in general. This course will be helpful and encourage students to acknowledge civil services and good governance process in India.

			• An intention of this paper is to understand origin, development, and challenges before good governance in India.
15.	**T.Y.B.A Sem-VI**	DSE 3B Western Political Thinker Part - II	• This paper focus on the classical ideas generated in the western world representation the ancient to the modern. The three thinkers have been selected who represent ideal, realistic, and liberal tradition. • The test is interpreted both in historical and philosophical perspective. The course will narrate students the legacy of the thinkers and orient them about continuity and change within the western political tradition. • It helps them to study the historical aspects western state and society. • The main purpose of this paper is to acknowledge students with how the great masters explained and analysed political events and problems of their time and prescribes solutions.
16.	**T.Y.B.A Sem-VI**	DSE 4B Political Sociology Part - II	• This paper deals with concepts and dimensions in Political Sociology. • It highlights various aspects of political culture, process of political socialization and political modernization, comparatively. • This course will help learners to understand dynamics within political action, power, and process in India and across the country. • The main purpose of this course is to acquaint the students with interdisciplinary approach by connecting two separate disciplines.
17.	**T.Y.B.A Sem-VI**	DSC 1F Indian Political Thinker Part - II	• This is an introductory paper to the concept ideas and theories developed in India. It deals with the main sources of the political traditions in modern India and focusses the development of social Institution and as various patterns of politics that emerged in modern India. • This course will encourage students to understand and decipher the diverse and often contesting ways in which the ideas of nationalism, democracy and social

			transformation were discussed in Pre- and Post-independence India. • The main objective to study this paper is to understand key thinker's seminal contribution to the evolution of political theorizing in India.
18.	**T.Y.B.A Sem-VI**	SEC -4 Political Journalism	• This paper deals with concepts and dimensions in journalism, mass communication and political journalism. It highlights various aspects of press, media and its type and methods. • This course will help learners to understand dynamics within Journalism, Political journalism and communication means and ends and his process in society and nation. • This course will give introduction to the students of journalism aims to provide voters with the information to formulate their own opinion and participate in community, Local to global matter that will affect then political journalism is provided through different mediums in print, broadcast, online reporting, instant coverage of campaign politics, event news, government status, elections updates etc.
19.	**T.Y.B.A Sem-VI**	GE 1 B Management and Good Governance	• This paper provides the conceptual framework of the civil services and good governance. It delves deep in meaning, origin, forms of civil services and good governance in general. • This course will be helpful and encourage students to acknowledge civil services and good governance process in India. An intention of this paper is to understand origin, development, and challenges before good governance in India.

Department of Psychology

➢ Programme Outcomes: B.A. Psychology: -

Sr.No.	Class	Course	Course Outcomes
1.	F.Y.B.A.	Foundations Of Psychology (Psy- 101) Sem II Introduction To Social Psychology (Psy-201)	To impart knowledge of the basic concepts and modern trends in Psychology. To relate the fundamental principles of Psychology in everyday life. To make the students aware of the applications of psychological concepts in various fields. Sem II To understand the basics of social psychology and to understand the individual in the social world. 2. To make the students aware of the applications of the various concepts in Social Psychology in the Indian context.
2.	S.Y.B.A.	SEM III Human Developmental Psychology- Early Life (PSY 231 C) SEM IV Human Developmental Psychology- Later Life (PSY - 241 D)	SEM III To equip the learner with an understanding of the concept and process of human development across the life span. To impart an understanding of the various domains of human development SEM IV Introduce students to the concepts, theories, and research which define this discipline of psychology.

			Develop the students' capability for connecting discipline content to personal values and behaviour. Provide an understanding of the explain issues underlying lifespan development
3.	T.Y.B.A Sem-V	PSY-351 Management of Interpersonal Relations	• To develop the skills of positive interpersonal communication. • To impart an understanding of the various domains of human relationships and process adjustment. • To develop the good decision making to career choice.
4.	T.Y.B.A Sem-V	PSY- 352 Principles of Experimental Psychology (Theory)	• To acquaint the students with the basic concepts of experimental psychology. • To develop the spirit of scientific inquiry about psychological processes in human participants. • To help students understand the basic steps in experimental psychology. • To equip the students with the basic information and knowledge about conducting experiments and interpretation of the obtained results.
5.	T.Y.B.A Sem-V	PSY- 353 Experimental Psychology (Practical)	• To help students understand the basic steps in psychological experiment • To familiarized the students with the use of elementary statistical techniques. • To give practical experience to the students in administrating, scoring and interpreting of the scores. acquaint the students with the basic concepts of psychophysics.
6.	T.Y.B.A Sem-V	PSY- 354 Introduction to Counselling Psychology	• To aware the student about scientific counselling, its ethics and strategies of counselling.

			• To develop and acquaint the student about counselling skill.
7.	T.Y.B.A Sem-V	PSY-355 Industrial & Organizational Psychology	• The principles and challenges related to Industrial and Organizational Psychology at the levels of individual, team and organization. • The work done in Industrial and Organizational Psychology • Motivation at The Workplace • The Importance of Engineering Psychology
8.	T.Y.B.A Sem-VI	DSC-2 F (03) PSY-361 Adjustment in Life Span	• To acquaint the students with the basic procedure and design of Psychology Experiments • To give practical experience to the students in administrating and scoring psychological tests and interpreting the scores.
9.	T.Y.B.A Sem-VI	DSE-3B (03) PSY- 362 Experimental Psychology in Modern Life (Theory)	• To aware the student about scientific counselling, its ethics and strategies of counselling. • To develop and acquaint the student about counselling skill.
10.	T.Y.B.A Sem-VI	DSE- 4B (03) PSY- 363 Experimental Psychology (Practical)	• To acquaint the students with the basic procedure and design of Psychology Experiments • To give practical experience to the students in administrating and scoring psychological tests and interpreting the scores.
11.	T.Y.B.A Sem-VI	PSY- 364 Counselling Application	• To aware the student about psychotherapies in counselling. • To develop the attitude of students about counselling importance in day-to-day life.
12.	T.Y.B.A Sem-VI	PSY- 365 Industrial & Organizational Behaviour	• The principles and challenges related to Industrial and Organizational Psychology at the levels of individual, team and organization.

			• The work done in Industrial and Organizational Psychology • The personnel selection and training. • The Create a plan to improve their own personal leadership skills.

Department of Chemistry

➢ Course Outcomes: B.Sc. Chemistry: -

Sr.No.	Class	Course	Course Outcomes
1.	F.Y.B. Sc Sem-I	CH-101: Physical and Inorganic Chemistry	• To expose & develop interest in the field of chemistry. • To develop ability & to acquire the knowledge of terms, facts concept processes techniques & principles of subject. • To understand the fundamental principle and chemical analysis
2.	F.Y.B. Sc Sem-I	CH-102: Organic and Inorganic Chemistry	• To develop skills required in chemistry such as the proper handling of apparatus & chemical analysis • To develop ability to apply the knowledge of contents of principles of chemistry
3.	F.Y.B. Sc Sem-II	CH-201: Physical and Inorganic Chemistry	• To develop problem solving skills in students. • To develop proper aptitude towards the subject. • To develop ability to apply the knowledge of contents of principles of chemistry.
4.	F.Y.B. Sc Sem-II	CH-202: Organic and Inorganic Chemistry	• Determine analyses and evaluate the interpretation ships involve in chemistry. • Develop thirst of chemical knowledge, become flexible and persistence learners and appreciate the need for lifelong learning.
5.	S.Y.B. Sc Sem-III	CH-301: Physical and Inorganic Chemistry	• Know the qualitative properties of solution, the depression in freezing point, elevation in boiling point and osmotic pressure. Calculate molar and normal solution of various concentrations. • Explains the application of colligative properties in determining molecular mass. • Know the qualitative properties of solution, the depression in freezing point, elevation in boiling point and osmotic pressure.

			• Compares the general characteristics electronic configuration of lanthanides and actinides, uses of lanthanides and actinides.
6.	S.Y.B. Sc Sem-III	CH-302: Organic and Inorganic Chemistry	• This course gives the quantitative ideas about the synthesis, properties and uses of such heterocyclic compounds like pyrole, pyridine qunolene, thiophene, furan etc. Different methods for the preparation of important Hetero cycles and their important reactions. Aromaticity, Huckel's rule and its applications • Explains the different types of structural and stereo isomers CO2 Represent organic molecules by Fischer, Flying wedge, Sawhorse and Newman projection formulas, Conformational isomerism of ethane, n-butane, cyclohexane, Conformational analysis of 1,4 cis and trans disubstituted cyclohexane. • Explains the theories of acids and bases. Different solvents and solubility. Hard and soft acids and bases: definitions, Pearson HSAB concept, theories of Hardness and softness, application and limitation of HSAB concepts
7.	S.Y.B. Sc Sem-III	CH-303 Chemistry Practical	• Determine the miscibility temperature of phenol– water system • Experimental demonstration of Conductometric and Potentiometric titrations of strong acid against strong base, weak acid against strong base. • Simple Organic and Inorganic derivatives preparations
8.	S.Y.B. Sc Sem-III	CH-304 Basic Analytical Chemistry	• Develops accuracy and precision in doing experiments, understands the different errors and methods for minimizing errors. Explanation of MSDS. Explain significant figures, absolute error, relative error, mean, median, Give the theory behind the qualitative and quantitative analysis conducted in the laboratory. Study the importance of safety and security, responsibility types of hazards and risk in chemical laboratory. Understand the use of personal protective and other safety

			equipment's, handling of chemical in laboratory. • Understand the route of explores for toxic chemicals. Learn good laboratory practices and its applications. • Students are enabling to aware about PH, POH, derivation of Henderson's equation, conduct acid base titrations, Different indicators used in titrations, • complex metric titrations, Applications of titrations • Students are Enable to aware about Classification of chromatography, Mobile phase and stationary phase, Study the instrumentation, sample injection system, columns for HPLC and GC, Solvent treatment system and choice of mobile phase. To give an extended knowledge about chromatographic
9.	S.Y.B. Sc Sem-IV	CH-401: Physical and Inorganic Chemistry	• Free energy and equilibrium, Gibbs and Helmholtz energies, spontaneous and non-spontaneous reactions, changes in enthalpy, Entropy and free energy of reactions, Derivations of Clauses and Celsius chaperon equations. • Electrochemistry discussed electrical properties of ionic solutions. Different types of cells and their formulations, applications. Solve the cell reactions and calculate cell EMF. • Double salts and coordination compounds, coordination complexes and complex ions, coordination number, Unidentate, bidentate and polydentate ligands, chelating ligand and chelates, physical methods used in study of complex, Nomenclature of coordination compounds. • Theoretical knowledge about metals, non-metals and semiconductors. Understand the p-type semiconductor and n-type semiconductor. Their preparations and uses.
10.	S.Y.B. Sc Sem-IV	CH-402: Organic and Inorganic Chemistry	• Synthesis of organic reaction is itself involves a large part of organic chemistry. This is called synthetic organic chemistry. This chapter involves different synthetic

			reagents for synthesis of malonic ester and Acetoacetic ester. • Organometallic compounds are very important in biological bodies like haemoglobin, • Chlorophylls, Vitamin B12 and also, they can be used as chemical reagent. This course discussed about the synthesis and properties of these organometallics of Zinc, Magnesium, Lithium and Copper. • To understand deferent theories like MOT, VBT, CFT, LCAO, Compare MO and VB theory, Know the meaning of various terms involved in coordination Chemistry, to understand Werner's formulation of complexes and identify the types of valences, Know the limitations of VBT, Know the shapes of d-orbitals and degeneracy of d-orbitals, Explain MO Theory and draw the MO diagrams for H2, He2, B2, N2, O2, CO and NO
11.	S.Y.B. Sc Sem-IV	CH-403: Chemistry Practical	• Experiments based on Gravimetric and Colorimetric analysis. • Gravimetric estimation of Barium, Sulphate, Calcium using silica crucible • Organic qualitative analysis in small quantity helps in type determination and reducing the consumption of chemicals. • Determine the physical constants like boiling point and melting point of organic compounds. • Recrystallisation of organic compounds from alcohol and water. • Identify the organic compounds. • Paper chromatography
12.	S.Y.B. Sc Sem-IV	CH-404: Advance Analytical Chemistry	• To understand redox reaction • Complexometric titrations & its applications • Introduction of gravimetric analysis
13.	T.Y.B. Sc Sem-V	CH – 501 Principles of Physical Chemistry-I	• Understand the significance of wave function and postulates of quantum mechanics. • Deduce rate equations and half-life equations for first and second order reactions

			• Draw and explain the one and two component system phase diagrams. • Explain the principles of electrode processes and apply them during Practical's.
14.	T.Y.B.Sc Sem-V	CH – 502 Inorganic Chemistry	• Learn about the VSEPR theory and how it can be used to explain molecular shapes. • Learn about the VBT to describe the formation of covalent bonds in terms of atomic orbital overlap. • Learn about stability of complexes using CFSE. • Learn about MOT to draw energy diagrams and to predict bond order.
15.	T.Y.B. Sc Sem-V	CH – 503 Organic Reaction Mechanism	• Students will learn organic reactions like nucleophilic substitution, electrophilic substitution, nucleophilic addition, electrophilic addition and elimination. • Students will be able to write/ explain mechanisms of those types of reactions. • Students will understand how a reaction takes place in one or more steps. • Students will understand the types of intermediates formed in different reactions. • Students will learn how reagent attacks the substrate molecule and accordingly how bonds break and formed. • Students will learn how change in structure of substrate, reagent and solvent changes the product formed and its stereochemistry.
16.	T.Y.B. Sc Sem-V	CH – 504 Industrial Chemistry	• Basic requirements of Chemical Industry, different terms, operations and processes involved in chemical Industry. • Describe Copy Right Act, Patent Act and Trade Marks, Bureau of Indian Standards (BIS) and International Organization for Standardization (ISO). • Basic requirements, raw materials, different processes and operations involved in Sugar Industry and also different grades of sugar and uses of by-products of sugar industry. • Importance of fermented products, basic requirements, theory and process of

			alcohol making, fractional distillation and various terms involved in Fermentation Industry. • Understand Occurrence of Petroleum, theories of formation of Petroleum and different terms Viz. Knocking, Anti-Knock Compounds, Octane number, Cetane number, Gasohol and Power alcohol etc. • Manufacturing processes involved in Industrial Organic Synthesis such as Methanol, Isopropanol, Glycerol, Acetylene and Aromatic hydrocarbon i.e., Toluene from petroleum with their uses
17.	T.Y.B. Sc Sem-V	CH – 505 Analytical Instrumentation	• Explain the fundamentals of analytical methods and instruments for qualitative and quantitative Analysis. • Express the role of analytical chemistry in science. • Students will be able to function as a member of an interdisciplinary problem-solving team.
18.	T.Y.B. Sc Sem-V	CH – 506 (A) Biochemistry	• Students will study biomolecules like carbohydrates, amino acids, proteins, enzymes, lipids and nucleic acids. • Students will understand definitions, classifications and examples of these biomolecules. • Students will learn the detailed structure of these biomolecules along with types of bonds or linkages present in their molecules. • Students will learn the chemical properties of these biomolecules and the action of some reagents on them in the form of reactions or graphical presentation. • Students will understand biochemical energetics of common energy rich compounds along with hydrolytic reactions.
19.	T.Y.B. Sc Sem-VI	CH – 601 Principles of Physical Chemistry-II	• Analyse the rotational spectra of diatomic molecules and determine the bond length.

			• Explain and apply the radioactivity principles for various chemical and biological investigations. • Describe the mechanism of fluorescence, phosphorescence and photochemical reactions. • Analyse the given crystal structure and determine the indices of planes, interplanar distances and type of crystal structure.
20.	T.Y.B. Sc Sem-VI	CH – 602 Chemistry of Inorganic Solids	• Learn about basic principles and synthesis of nanomaterials. • Learn about classification, composition and processing of cement. • Learn about classification and composition of alloys. • Learn about types manufacture and applications of fertilizers.
21.	T.Y.B. Sc Sem-VI	CH – 603 Spectroscopic Methods of Structure Determination	• Students will learn interaction of radiations with matter. They will understand different regions of electromagnetic radiations. They will know different wave parameters. • Students will learn principle of mass spectroscopy, its instrumentation and nature of mass spectrum. • Students will understand principle of UV spectroscopy and nature of UV spectrum. They will learn types of electronic excitations. • Students will be able to calculate maximum wavelength for any conjugated system. And from the value of λ-max they will be able to find out extent of conjugation in the compound. • Students will understand principle of IR spectroscopy, types of vibrations and the nature of IR spectrum
22.	T.Y.B. Sc Sem-VI	CH – 604 Chemistry of Industrially Important Products	• Describe the industrial production of a number of important organic and inorganic compounds / chemicals and products of end use. • Gain comprehensive knowledge of cutting-edge developments in a field of different chemical industries.

			• Importance of Cosmetics Industry and a general study including preparation and uses of the Hair dye, hair spray, shampoo, suntan lotions, lipsticks, talcum powder, nail enamel, creams (cold, and shaving creams). • Perfumes and identify the distinguishing features of its components and also an essential oil and their importance in cosmetic industries with reference to Eugenol, Geraniol, sandalwood oil, eucalyptus, rose oil, 2- phenyl ethyl alcohol, Jasmone, Civetone, Muscone etc. • Know about pesticides both natural and synthetic, benefits and adverse effects of it, also synthesis, manufacture and uses of pesticides viz. Organochlorines (DDT, Gammexene,); Organophosphates (Malathion, Parathion); Anilides (Alachlor and Butachlor). • Definition, classification, raw material used in soaps and detergents, reaction involved in it, Manufacture of Soaps and cleansing action of soaps and detergents. • Definition, properties of good dyes, relation between colour and constitution, classification of dyes according to their mode of application and chemical constitution. • Importance's, definition and meaning of the different terms involved in Drugs and Pharmaceuticals Industry and also synthesis, uses, properties and industrial manufacture of Paracetamol, Aspirin, and Chloramphenicol.
23.	T.Y.B. Sc Sem-VI	CH – 605 Analytical Techniques	• Compare the Instrumental methods and non-instrumental methods and their advantages. • Solve the problem of detection and separation using analytical instruments. • Students will be able to explore new areas of research in both chemistry and allied fields of science and technology. • Students will be able to explain why chemistry is an integral activity for

			addressing social, economic, and environmental problems
24.	T.Y.B. Sc Sem-VI	CH – 606 (A) Polymer Chemistry	• With this course, the graduate students will be able to understand the twelve principles of green chemistry that will help to build the basic understanding of toxicity, hazards and risk of chemical substances. • The course will help to understand stoichiometric calculations and relate them to green chemistry metrics. The students will learn about atom economy and understand its importance over percentage yield. Page 44 of 70 • The students will learn to design safer chemicals, products and processes that are less toxic than the conventional chemistry, understand significance of catalysis, use of renewable feed stock, renewable energy sources, importance of green solvents, etc. • The course will train the students to appreciate green chemistry and boost the students to think and develop the skills to innovate and search for the solutions to environmental problems. • Green chemistry is only way of future chemistry to ensure sustainability with absolute zero waste. The success stories and real-world cases will motivate the young generation to practice green chemistry.

Department of Physics

➢ Course Outcomes: B.Sc. Physics: -

Sr.No.	Class	Course	Course Outcomes
1.	F.Y.B. Sc Sem-I	PHY-101: Basic Mechanics	• Apply the concept of use of knowledge of mechanics to real life problems. • Understanding of the course will create scientific temperament. • The students would learn about the behaviour of physical bodies it provides the basic concepts related to the motion of all the objects around us in our daily life. • The velocity and acceleration parameter give the knowledge about how the vehicles Move.
2.	F.Y.B. Sc Sem-I	PHY-102: Dynamics and Elasticity	• Study the behaviour of rigid body dynamics • To make the students to understand the dynamics involved in a rigid body. • Learn how Young's modulus and rigidity modulus are defining and how they are evaluated for different shapes of practical relevance
3.	F.Y.B. Sc Sem-II	PHY-201: Electricity and Electrostatics	• Gain knowledge of Gauss laws and solve the electric field for various geometric objects • To understand the basic concepts of Electric field and Electric Potential.
4.	F.Y.B. Sc Sem-II	PHY-202: Dielectrics, Magnetism and Electromagnetism	• Enable to understand the concept of magnetic field. • Understand the faradays laws of electromagnetic induction • Enable to familiarize with the laws of electromagnetic induction • Thorough knowledge in the basic concept of electromagnetic induction • Able to derive the Maxwell's equation in free space and material media

5.	S.Y.B. Sc Sem-III	PHY-301: Thermodynamics and Kinetic theory of gases	• Understand the concept of thermodynamics and their laws. • Understand the Heat Engine and there uses • Describe the thermodynamic function and their relations • To study Maxwell Relations and Application.
6.	S.Y.B. Sc Sem-III	PHY-302 (A): Electronics –I	• Understand the basics of diode and working of rectifier circuits and characteristics • Analyse the characteristics of transistor and transistor biasing circuits • Understand the basic knowledge of semiconductor physics • Learn how to construct a transistor amplifier and how its gain varies with frequency • Understand the fundamentals of codes and number system • Understand the binary arithmetic, logics and Boolean functions
7.	S.Y.B. Sc Sem-III	PHY 304: Skill Enhancement Course	• Know the need of renewable energy resources, historical and latest developments • Describe the use of solar energy and the various components used in the energy production with respect to applications like - heating, cooling, desalination, power generation, drying, cooking etc. • Appreciate the need of Wind Energy and the various components used in energy generation and know the classifications. • Understand the concept of Biomass energy resources
8.	S.Y.B. Sc Sem-IV	PHY 401: Waves, Oscillations and Acoustics	• Apply the concept of use of knowledge of Waves and Sound to real life problems • Familiarise with general terms in acoustics like intensity, loudness, reverberation etc, and study in detail about production, detection, properties and uses of ultrasonic waves • Analyse waves and oscillations
9.	S.Y.B. Sc Sem-IV	PHY 402: Optics and LASERS	• Understand the natural behaviour of aberration in lens

			• Study the theory and experiment of interference using air wedge, newtons rings etc. • Study the theory of diffraction by Fresnel's and Fraunhofer methods • Study the theories for production of polarization of light • Explain different Laser used and make a comparison between them. • Apply the gained basic knowledge of laser and working of different type of lasers
10.	S.Y.B. Sc Sem-IV	PHY 404: Electrical Circuits and Network Skills	• After the completion of the course the student will acquire necessary skills/ hands on experience /working knowledge on millimetres, voltmeters, ammeters, electric circuit elements, dc power sources, ac/dc generators, inductors, capacitors, transformers, single phase and three phase motors, interfacing dc/ac motors to control and measure, relays and basics of electrical wiring. • Study circuits in a systematic manner suitable for analysis and design. • Analyse the electric circuit using network theorem.
11.	T.Y.B. Sc Sem-V	PHY 501 Mathematical Physics	• Apply the concept and knowledge of Mathematical physics to understand and solve real life problems. • Understanding of the course will create scientific temperament.
12.	T.Y.B. Sc Sem-V	PHY502 Solid State Physics	• Apply the concept and use of knowledge of Solid-state Physics understand and solve the real-life problems. • Understanding of the course will create scientific temperament.
13.	T.Y.B. Sc Sem-V	PHY 503 Atomic and molecular physics	• Apply the concept and knowledge of Atomic and Molecular Physics to understand and solve the real-life problems. • Understanding of the course will create scientific temperament.
14.	T.Y.B. Sc Sem-V	PHY 504(A) Electronics-II	• Apply the concept and use of knowledge of Electronics and Digital Electronics to real life problems.

			• Understanding of the course will create scientific temperament.
15.	T.Y.B. Sc Sem-V	PHY 505 Solar Energy and applications	• Apply the concept of use of knowledge of energy resources, solar radiations and conversion to real life problem. • Understanding of the course will create scientific temperament. • To impart knowledge of basic concepts of solar cell fundamentals. • To provide the knowledge and methodology of conversion of solar energy into electricity
16.	T.Y.B. Sc Sem-V	PHY 506(A) Technical Electronics- I	• Apply the concept of use of knowledge of Technical Electronics to real life problems. • Understanding of the course will create scientific temperament.
17.	T.Y.B. Sc Sem-VI	PHY 601 Quantum mechanics	• Apply the concept and use of knowledge of Quantum Mechanics to real life problems. • Understanding of the course will create scientific temperament.
18.	T.Y.B. Sc Sem-VI	PHY602 Material Science	• Apply the concept of use of knowledge of Material Science to real life problems. • Understanding of the course will create scientific temperament.
19.	T.Y.B. Sc Sem-VI	PHY 603 Nuclear Physics	• Apply the concept and use of knowledge of Nuclear Physics to understand and solve the real-life problems. • Understanding of the course will create scientific temperament.
20.	T.Y.B. SC Sem-VI	PHY 604 Modern Physics	• Apply the concept and use of knowledge of Modern and Applied Physics to understand and solve the real-life problems. • Understanding of the course will create scientific temperament.
21.	T.Y.B. Sc Sem-VI	PHY 605 Basic Instrumentation Skills	• Handle and use various basic mechanical and electrical measuring instruments. • Understanding of the course will create scientific temperament
22.	T.Y.B. Sc Sem-VI	PHY 606(A): Technical Electronics II	• Apply the concept of use of knowledge of Technical Electronics to real life problems. • Understanding of the course will create scientific temperament.

Department of Mathematics

➢ Course Outcomes: B.Sc. Mathematics: -

Sr. No.	Class	Course	Course Outcomes
1.	F.Y.B. Sc Sem-I	MTH 101: Matrix Algebra	• Understand concepts on matrix operations and rank of the matrix. • Understand use of matrix for solving the system of linear equations. • Understand basic knowledge of the Eigen values and Eigen vectors. • Apply Cayley-Hamilton theorem to find the inverse of the matrix. • Know the matrix transformation and its applications in rotation, reflection, translation.
2.	F.Y.B. Sc Sem-I	MTH 102: Calculus	• Understand basic concepts on limits and continuity. • Understand use of differentiations in various theorems. • Know the Mean value theorems and its applications. • Make the applications of Taylor's, Maclaurin's theorem. • Know the applications of calculus.
3.	F.Y.B. Sc Sem-I	MTH-103(B) Graph Theory	• Make the applications Graph, Simple graph, Multigraph, Hand shaking lemma, Types of Graphs, Operations on graphs, Subgraphs, Isomorphism of graphs, Walk, path, cycles • Solving examples of Connected and disconnected Graphs, bridges, cut vertices, edge connectivity and vertex connectivity, Eulerian graph, Hamiltonian Graph, Planer Graph, Euler's Formula for planer graphs, Kuratowski's two graph, Geometrical dual • Solve problems on Definition and some properties of trees, Distance and Centre in a tree, Definitions of Rooted and Binary trees, spanning trees, Minimal Spanning

			trees, Directed graphs, some types of digraphs.
4.	F.Y.B. Sc Sem-II	MTH 201: Ordinary Differential Equations	• understand basic concepts in differential equations. • understand method of solving differential equations • understand use of differential equations in various fields.
5.	F.Y.B. Sc Sem-II	MTH 202: Theory of Equations	• Students can find out roots of any equation of degree less than or equal to five. Theory of equations is highly useful in various subjects like algebra, linear algebra, calculus, ordinary and partial differential equations etc.
6.	F.Y.B. Sc Sem-II	MTH 203(B): Numerical Analysis	• understand basic concepts of methods of solutions of equations viz. bisection, iteration, Newton-Raphson methods and method of false position. • understand methods of curve fitting viz. Gauss's forward and backward difference formulae and Lagrange's interpolation formula. • use of curve fitting such as least square, polynomial and exponential fittings set of given data. • use Taylor's series, Euler's method. Modified Euler's method., Runge Kutta method • methods for solving ordinary differential equations
7.	S.Y.B. Sc Sem-III	MTH -301: Calculus of Several Variables	• limit and continuity of functions of several variables • Fundamental concepts of multivariable Calculus. • Series expansion of functions. • Extreme points of function and their maximum, minimum values at those points. • Meaning of definite integral as limit as sums. • How to solve double and triple integration and use them to find area by double integration and volume by triple integration.

8.	S.Y.B. Sc Sem-III	MTH -302(A): Group Theory	• Understand group and their types which is one of the building blocks of pure and applied mathematics. • understand Lagrange's, Euler and Fermat theorem • understand concept of automorphism of groups • understand concepts of homomorphism and isomorphism e) understand basic • Properties of rings and their types such as integral domain and field.
9.	S.Y.B. Sc Sem-III	MTH 304: Set Theory and logic	• Uses of the language of set theory, designing issues in different subjects of mathematics • understand the issues associated with different types of finite and infinite sets via countable uncountable sets • knowledge of the concepts and methods of mathematical logic, set theory, relation calculus, and concepts concerning functions which are included in the fundamentals of various disciplines mathematics • understanding the role of propositional and predicate calculus able to provide • the logical mathematical reasoning, formulate theorems and definitions
10.	S.Y.B. Sc Sem-IV	MTH -401: Complex Variables	• The course is aimed to introduce the theory for functions of complex variables • Students will understand the concept of analytic function • Students will understand the Cauchy Riemann Equations • Students will understand harmonic functions • Students will understand complex integrations • Students will understand calculus of residues. • Students will acquire the skill of contour integrations.
11.	S.Y.B. Sc Sem-IV	MTH-402(A):	• Students will aware of formation of differential equations and their solutions

		Differential Equations	• Students will understand the concept of Lipschitz condition • Students will understand method of variation of parameters for second order L.D.E. • Students will understand simultaneous linear differential equations and method of their solutions • Students will understand Pfaffian differential equations and method of their solutions • Students will understand difference equations and their solutions
12.	S.Y.B. Sc Sem-IV	MTH 404: Vector Calculus	• understand scalar and vector products • understand vector valued functions and their limits and continuity and use them to • estimate velocity and acceleration of partials. • Calculate the curl and divergence of a vector field. • Set up and evaluate line integrals of functions along curves.

Department of Botany

Course Outcomes: B.Sc. Botany: -

Sr.No.	Class	Course	Course Outcomes
1.	F.Y.B. Sc Sem-I	BOT-101: Microbial Diversity, Algae & Fungi	• Student studied the diversity among the microbes. • Students had known the systematic morphology and structures of bacteria, viruses' algae and fungi.
2.	F.Y.B. Sc Sem-I	BOT-102: Plant Taxonomy	• Student studied the diversity among angiosperms. • To understand the economic importance of the Angio spermic plants.
3.	F.Y.B. Sc Sem-II	BOT-201: Diversity of Archegoniate	• To studied the Silent features of Archegoniate. • Student makes aware about higher cryptogams and Gymnosperms
4.	F.Y.B.Sc Sem-II	BOT-202: Plant Ecology	• Students aware about the conservation about biodiversity. • To study the botanical regions of India and types of vegetation in Maharashtra.
5.	S.Y.B.Sc Sem-III	BOT-301: Plant Anatomy	• To know the scope and importance of Plant Anatomy. • To study various tissue system.
6.	S.Y.B.Sc Sem-III	BOT-302: Plant Physiology	• To know the importance and scope of Plant Physiology. • To study the different processes in relation with structure of organism and its environment.
7.	S.Y.B. Sc Sem-III	BOT-304: Mushroom Culture Technology	• To learn the history, scope and importance of mushroom technology • To understand nutritional and medicinal values of edible mushrooms • To know about the storage, marketing and various food preparations of mushrooms. • To understand the economics of mushroom cultivation.
8.	S.Y.B.Sc Sem-IV	BOT-401: Plant Embryology	• To know the scope and importance of Embryology.

			• To Study the Pollination, Fertilization Endosperm and Embryogenic.
9.	S.Y.B.Sc Sem-IV	BOT-402: Plant Metabolism	• To study the scope and importance of plant metabolism. • To know the process of Photosynthesis in higher plants, C3, C4 and CAM pathway.
10.	S.Y.B. Sc Sem-IV	BOT-404: Nursery and Gardening	• To know the concept of nursery and Gardening. • To improve the skills for growing fresh and safe vegetables. • To create awareness about home gardening. • To develop different skills regarding the gardening operations among the students
11.	T.Y.B.Sc Sem-V	BOT.501 Lower Cryptogams	• To study salient features of cryptogamic plants. • To make students aware about the status of cryptogams as a group in plant kingdom. • To study the life cycles of selected genera. • To study economic and ecological importance of cryptogrammic plants
12.	T.Y.B.Sc Sem-V	BOT.502 Morphology and Systematics of Angiosperms	• To study vegetative and floral morphology of Angio spermic plants • To study the status of angiosperm in plant kingdom • To study the origin of angiosperm with respect to age and probable ancestors • To study various angiosperm families emphasizing their morphology, salient features etc. • To know the role of anatomy and embryology in taxonomy
13.	T.Y.B.Sc Sem-V	BOT.503 Cell Biology and Genetics	• To study the Prokaryotic and eukaryotic cell • To study the cell components and their functions • To study the cell cycle • To introduce the students with "Science of Heredity" • To study linkage and crossing over
14.	T.Y.B.Sc Sem-V	BOT.504 Plant Physiology and Biochemistry	• To study the growth pattern of plant • To know the phenomenon of photoperiodism and effect of phytochrome on flowering • To study the vernalization process

			• To know the path of translocation • To study the biomolecules in plants • To study secondary metabolites and their role in plants
15.	T.Y.B.Sc Sem-V	BOT.505 Biofertilizer	• To introduce application of Biofertilizer technology in Agriculture • To familiarize students with microbes used as biofertilizers • To demonstrate the low-cost media preparation and cultural practices in biofertilizers • To aware the students about benefits of applications of biofertilizers • To create self-employment opportunities among the students
16.	T.Y.B.Sc Sem-V	BOT.506 B Horticulture	• To know horticulture, its scope, disciplines and importance • To understand different horticultural practices and their methods • To study importance, principles and types of Bahar treatment • To study role played by green and poly houses in horticulture • To understand methods of preservations and preparations of preserved products prevailing especially in this part of the state
17.	T.Y.B. Sc Sem-VI	BOT.601 Higher Cryptogams	• To study salient features of cryptogamic plants. • To make students aware of the status of cryptogams as a group in plant kingdom. • To study the life cycles of selected genera. • To study economic importance of cryptogamic plants.
18.	T.Y.B.Sc Sem-VI	BOT.602 Gymnosperms and Palaeobotany	• To study Gymnosperms with respect to distinguishing characters, comparison with Angiosperms, and classification. • To study the life cycles of Pinus and Gnetum. • To study the scope of Paleobotany, types of fossils and geological time scale. • To study the various fossil genera representing different fossil groups.

19.	T.Y.B.Sc Sem-VI	BOT.603 Molecular Biology	• To study molecular biology in relation to genetic material, its inheritance, modification, replication • To study the mitochondria and chloroplast DNA • To study transcription, translation post translation modification of protein. • To study gene regulation in prokaryotes and eukaryotes
20.	T.Y.B.Sc Sem-VI	BOT.604 Economic Botany	• To know useful bio resources of prime importance to mankind. • To acknowledge students about various groups of plants of the world as well of India. • To know botanical, chemical and nutritional values and value additions of food grains, legumes, sugars, vegetable, fruits, spices, etc. • To reveal new vis-a-vis forgotten food sources and their current practices. • To know the general account and uses of rubber, fiber and Timber
21.	T.Y.B. Sc Sem-VI	BOT.605 Floriculture	• To know floriculture, its scope and importance. • To know the commercial floriculture. • To study the different features of garden. • To study methods of propagation. • To study diseases and pests of ornamental Plants.
22.	T.Y.B. Sc Sem-VI	BOT.606 A Herbal Technology	• . To create optimum awareness and interest amongst the students about Medicinal Plants. • To conserve the biodiversity of Medicinal Plants in Maharashtra. • To strengthen the educational system and research on Medicinal Plants. • To increase students awareness about the efficacies of herbal drugs. • To develop awareness for utilization of herbal medicines for home remedies.

Department of Zoology

Course Outcomes: B.Sc. Zoology: -

Sr. No.	Class	Course	Course Outcomes
1.	F.Y.B. Sc Sem-I	ZOO: 101 Animal Diversity I	• Understand classification of Protista. • Study General Characters and classification up to classes. • Describe and classify phylum Platyhelminthes and identify the problems caused by parasitic forms • Understand the anatomical features of non- chordates through type study of Phylum Arthropoda
2.	F.Y.B.Sc Sem-I	ZOO: 102 Animal Diversity II	• Describe and classify branch Pisces, with examples and salient features • Study the Generate an understanding about phyla. • Classify mammals and interpret general evolutionary relationships among and between these animal groups.
3.	F.Y.B.Sc Sem-II	ZOO: 201 Comparative Anatomy of Vertebrates	• Understand Derivatives of integument w.r.t. glands and digital tips. • Describe comparative anatomy of Vertebrates. • Discuss Brief account of alimentary canal and digestive glands. • Identify Types of receptors.
4.	F.Y.B. Sc Sem-II	ZOO: 202 Developmental Biology of Vertebrates	• Describe Early Embryonic Development. • Differ Fundamental processes in development • Explain in brief Types of placentas on the basis of histology • Understand Developmental biology of Vertebrates
5.	S.Y.B. Sc Sem-III	ZOO:301 Physiology	• Understand Structure of a neuron. • Understand about Absorption of carbohydrates, proteins, lipids. • Describe Respiratory volumes and capacities.

			• Acquire knowledge regarding Structure of Heart and Endocrine glands
6.	S.Y.B. Sc Sem-III	ZOO:302 Biochemistry	• Describe Biosynthesis and β oxidation of palmitic acid. • Understand Classification of Enzymes • Develop knowledge of Enzyme Kinetics
7.	S.Y.B.Sc Sem-III	ZOO: 303 Physiology & Biochemistry	• Understand Preparation of hemin and hem chromogens • Understand about Estimation of total protein in given solutions by Lowry's method • Describe Study of permanent slides of spinal cord, duodenum, liver, lung, kidney, bone, cartilage
8.	S.Y.B.Sc Sem-III	SEC I Apiculture	• Understand Classification and Biology of Honey Bees • Acquire knowledge regarding Describe Artificial Bee rearing • Develop knowledge about Products of Apiculture Industry and its Uses • Understand about Modern Methods in employing artificial Beehives for cross pollination in horticultural gardens
9.	S.Y.B.Sc Sem-IV	ZOO 401 Genetics	• Understand about Mendel's work on transmission of traits • Understand Chromosome theory of inheritance • Describe definition of gene mapping& mutation • Students become familiar with Chromosomal mechanisms and methods
10.	S.Y.B.Sc Sem-IV	ZOO 402 Evolutionary Biology	• Understand about Major Events in History of Life • Describe Types of natural selection • Acquire knowledge regarding biological species concept
11.	S.Y.B.Sc Sem-IV	ZOO 403 Genetics & Evolutionary Biology	• Describe Study of Linkage, recombination, gene mapping using the data • Understand about Study of homology and analogy from suitable specimens/ pictures • Students become familiar with Study of Mendelian Inheritance and gene interactions
12.	S.Y.B.Sc Sem-IV	SEC II Medical Diagnostics	• Describe Preparation of blood smear and Differential Leucocyte Count.

			• Develop knowledge about prevention of Diabetes • Understand about Diagnostic Methods Used for Urine Analysis
13.	T.Y.B.Sc Sem-V	Zoo: 501 Reproductive Endocrinology	• understand the functioning of male and female reproductive systems particularly in humans. • comprehension of the interplay of various hormones in the functioning and regulation of the male and female reproductive systems • know about modern contraceptive devices.
14.	T.Y.B.Sc Sem-V	Zoo: 502 Cell and Molecular biology	• achieve the knowledge of cell structure and cellular system. • predict the outcome of various cellular reactions carried out in cell and cellular system under various conditions. • predict the role of genes and its relevance to human genetics and diseases.
15.	T.Y.B.Sc Sem-V	Zoo: 503 Mammalian Histology	• enrich themselves with histology of different tissues and systems for research and job opportunities in Pathology and Cancer research centers.
16.	T.Y.B.Sc Sem-V	Zoo:504 Animal Biotechnology	• acquire knowledge about animal cell and tissue culture techniques. • become familiar with genetically engineered products for human animal welfare. • developing embryo - transfer technology, cloning, transgenic animals. • understand applications of hybridoma technique and functions of antibodies. • acquire knowledge about stem cell research and its ethical issues.
17.	T.Y.B.Sc Sem-V	Zoo 505 Public health and hygiene	• get familiarised with various aspects of environmental risks and hazards. • acquire knowledge regarding epidemiology, prevention, control and management of diseases of public health importance. • learn about diagnosis of various diseases and methods to prevent them

18.	T.Y.B.Sc Sem-V	Zoo 506 A) Pest Management	• impart basic awareness regarding pest problem and crop loss due to their dominance. • understand various pests affecting our local crops and select the best method for their control. • acquire basic knowledge and skills in agriculture management to enable the learner for self-employment
19.	T.Y.B.Sc Sem-VI	Zoo 601 Study of Leech and Calotes	• understand the systematic position, habit and habitat of Leech and Calotes • acquire the knowledge about structural and functional details about Leech as invertebrates and Calotes as vertebrates • compare structural and functional details in Leech and Calotes.
20.	T.Y.B.Sc Sem-VI	Zoo 602 Chick Embryology	• Understand various stages involved in the developing embryo • Understand the initial developmental procedures involved in chick. • Understand the processes involved in embryonic development and practical applications of studying the chick embryology.
21.	T.Y.B.Sc Sem-VI	Zoo 603 Applied Zoology	• practice of vermicomposting, vermiculturing and poultry farming. • aspire to work in preparing bio compost, vermicomposting and vermiculturing and get employment accordingly. • start business for rearing and production of birds and get employment accordingly.
22.		Zoo 604 Micro technique	• Differentiate among various methods of micro techniques. • Identification of the tools and instruments that used in the micro techniques. • How to prepare different types (plants and animal specimens) of glass slides. • Uses of the vital and artificial stains. In addition, the histochemical stains that are used. • Preparation of the films, squashes and completely mounted slides. • Differentiate different types of microscopes and their uses in the field of

			biology, additionally to the applications of the digital photography
23.	T.Y.B.Sc Sem-VI	Zoo 605 Research Methodology	• understand some basic concepts of research and its methodologies. • differentiate between the Quantitative and Qualitative Research and understand different types of Research Design • select and define appropriate research problem and parameters. • organize and conduct research project in a more appropriate manner. • writing of dissertations, project proposals, project reports, research papers. • understand intellectual Property Rights – Biopiracy, copyrights, patent and traditional knowledge and plagiarism.
24.	T.Y.B.Sc Sem-VI	Zoo 606 B) Sericulture	• develop an expert manpower to handle the own sericulture units/entrepreneurship/corporate sector units. • Provide gainful employment, economic development and improvement in the quality of life to the people in rural area.

Semester I

Computer Science-DSC 1 A:

(Credits: Theory-04, Practicals-02)

Theory: 30 Hours

CS 101: Essential of Computer Science

CS 101: Essential of Computer Science

Unit-1. Introduction to Computer Components

[H: 8]

1.1 Definition of computer

1.2 Block Diagram of Computer, Types of computer, Neumann machine

1.3 Input Devices and Output Devices

1.4 Memory: RAM, ROM, EPROM, PROM, SSD

1.5 Definition: Data, Information, Algorithm, Flowchart, Program, Hardware, and Software:

System Software, Application, Software, Firmware, Interpreter, compiler

1.6 Programming Languages: High level, Middle Level, Low Level

Unit-2 Basics of Algorithms and Flowcharts

[H: 8]

2.1 What is Algorithm? , Steps for creation of Algorithm.

2.2 Properties of Algorithm and Examples

2.3 What is Flowchart?, Symbols for drawing Flowcharts, Examples

2.4 Advantages of algorithm and flowcharts.

Unit -3. Concepts of network

[H:7]

3.1 What is Computer Network?

3.2 Types of Networks (with Features and Application): LAN, WAN, MAN Wired Network, Wireless Network,

3.3: Introduction and application of Internet

3.4 Network Topology

3.5 Study of Web Browsers and Search Engines

Unit -4. Operating System

[H: 7]

4.1 What is booting, POST, Bootstrap, Boot Drive.

4.2 Definition of operating system, functions of operating system

4.3 Introduction of operating systems: DOS, Windows, Linux, Android

4.4 Applications of Operating System,

4.5 Comparison Of various Operating Systems

References:

1. V. Rajaraman, "Fundamentals of Computers", PHI publication, ISBN: 8120340116, 9788120340114

2. Fundamentals of Data Structures in C by Ellis Horowitz, Sartaj Sahni, Susan Anderson-Freed.

3. Fundamentals of Computer Algorithms by Ellis Horowitz, Sartaj Sahni, Sanguthever

4. Abraham Silberschatz, Peter B. Galvin, Greg Gagne," Operating System concepts", ISBN:1119017475, 9781119017479

5. Andrew S. Tanenbaum, David J. Wetheral, "Computer Network", ISBN 0133072622, 9780133072624

Computer Science-DSC 1 A:
(Credits: Theory-04, Practicals-02) Theory: 30 Hours

CS 102: Programming in C-I

UNIT-1. Fundamentals of C (5 Hrs., 15 M)

1.1 Introduction to C- History, character set, structured programming paradigm
1.2 Applications areas and Features
1.3 Structure of C-program
1.4 Program development steps- Introduction to editor, Compilation, Execution and Debugging of C-program

UNIT-2. Element of "C" Program (7 Hrs., 20 M)

2.1 Variables and Identifiers, Declaration of variables, keywords
2.2 Data types and Qualifiers
2.3 Constants and types of constants, Comments
2.4 Input Output Statements (Standard and formatted)
2.5 Introduction and features of 'C' preprocessor
2.6 Directives and Macros: #define, File inclusion (#include), Conditional Compilation Directives

UNIT -3. Operators and Expression (7 Hrs., 20 M)

3.1 Types of Operators –Arithmetic, Relational, Logical, Assignment, Compound assignment operator (short hand assignment), Bitwise, Increment-Decrement, Conditional Operator, Special Operator – Comma, sizeof operator
3.2 Operator Precedence and Associativity
3.3 Type Conversion – implicit and explicit
3.4 Library Functions: abs (), sqrt( ), pow( ), ceil( ), floor( )

UNIT -4. Conditional Statements and looping (6 Hrs., 20 M)

4.1 If Statement, if-else Statement, nested if-else Statement, else-if ladder, Switch Statement
4.2. Break, continue and goto statements
4.3 Looping Concepts -While, do-while, for loop Nested loops Concept

UNIT-5. Arrays (5 Hrs., 15 M)

5.1 Definition: Array: declaration and Initialization
5.2 Types of array (One Dimensional and Multidimensional)
5.3 Advantages and disadvantages of array
5.4 Applications of array

References:-

1. Denis Ritchie. "C" Programming – Prentice Hall Software Series- ***ISBN***. 10 9 8 7
2. Yashwant P. Kanetkar - ANSI C ,BPB publication. ***ISBN***: 9788183333245
3. Byron Gottfried – Programming with C –Tata McGRAW-Hill ***ISBN***-10: 0070145903
4. Yashwant P. Kanetkar -Understanding pointers in "C" -BPB publication. ***ISBN***-13: 978-8176563581
5. E.Balguruswami -Programming in ANSI- C- Tata McGRAW-Hill- ***ISBN***-10: 933921966X
6. Mike McGrath - C programming in easy step – Wiley publication I***SBN***-10: 1840785446

CS LAB: DSC 1A LAB: Lab Course on Essential of Computer and Programming in C-I
Credit -2

CS 103: LAB (Students should perform at least ten experiments from the following list)

Part –A Lab Course on Essentials of Computer

1. Introduction to Computer, Input devices, Output devices, Booting – POST.
2. Installation of Software and operating system
3. Introduction to Web Browsers
4. Creation of an e-mail account, sending and receiving emails with attachment
5. Searching information text, videos
6. How LAN work in laboratory, Sharing of Computer and printer in Network.

Part – B Lab Course on Programming in C-I

1. Program using standard input output Statements (getchar(),putchar(),gets(),puts()) and formatted input output statements.
2. Program to illustrate various operators like arithmetic, relational, logical, Conditional etc.
3. Program to illustrate various control statement (if, if-else, nesting if-else, Switch) at least one program on each control statement.)
4. Program using various loops (for, while, do-while, nested loops) (eg no. is palindrome, prime ,factorial, fibbonacci, Armstrong etc.)
5. To write sample program using goto, continue, break, and return statement.
6. Program using 1-D and 2-D arrays.

Semester -II

Computer Science-DSC 1 B: (Credits: Theory-04, Practicals-02)

CS 201: Internet Computing

Theory: 30 Hours

Unit-1 Introduction to Website: [H: 05]

1.1. Web page and its types
1.2. Website and Types of Website
1.3 What is Navigation?
1.4 Web Process Model- Modified Waterfall Model, JADModel

Unit-2 Introduction to HTML Programming: [H: 09]

2.1 Introduction and features of HTML
2.2 Structure of HTML Document
2.3 Text Formatting Tags and Character Entity References
2.4 List Tags
2.5 Anchor Tag
2.6 Image Tag
2.7 Map Tag
2.8 Table Tags
2.9 Media Elements: Audio tag, Video tag

Unit 3:- Forms and Frames in Html [H: 06]

3.1. Frame in HTML
3.2. Form Tag with Form elements and Form methods
3.3. Script Tag

Unit-4 Introduction to CSS [H: 5]

4.1. What is CSS
4.2. Types of Style sheet (Internal, External, and Inline)
4.3. Syntax of CSS with Example
4.4. Selectors (Class, ID, Group, Element)

Unit 5: CSS Properties [H:05]

5.1 CSS Background
5.2 CSS colors
5.3 CSS Font
5.4 CSS Text
5.5 CSS Links
5.6 Opacity Property

References:

1. Thomas A. Powell, "The Complete reference –Web Design", Second Edition, TMH, ISBN:0-07-041186.
2. Internet in easy steps By Dremtech press.
3. James L. Mohler, "How to become web master in 14 days" TechMedia, ISBN:81-
4. E.Stephen Mack &Janan Platt, "HTML 4.0" BPB publication, ISBN:9780782121438
5. Thomas A. Powell, "The Complete reference HTML & CSS ", Fifth Edition, TMH,

Computer Science-DSC 1 B:
(Credits: Theory-04, Practicals-02)
CS 202: Programming in C-II **Theory: 30 Hours**

Unit-1 Function (7 Hrs., 20 M)
1.1 Definition and Need of Function
1.2 Declaration and Prototypes
1.3Function calling (Call by value, call by reference)
1.4 Function with return and Function with argument
1.5 Recursion
1.6 String Function: strcpy(), strlen(), strcmp(), strcat(), strrev()

Unit-2 Pointers (7 Hrs., 20 M)
2.1 Introduction
2.2 Address and arguments
2.3 Declaration, accessing value through a pointer
2.4 Operations on Pointers: Pointers and Arrays, Array of Pointer, Pointer to Function, Pointer to pointer
2.5 Dynamic memory allocation and releasing dynamically allocated memory.

Unit-3 Structure and union (5 Hrs., 20 M)
3.1 Introduction, Declaration and accessing of structure and union
3.2 Need of structure and union
3.3 Nested structure
3.4 Self Referential Structure
3.5 Array of structure, typedef

Unit-4 Graphics (5 Hrs., 15 M)
4.1 Introduction to Graphics in C
4.2 Graphics functions: Initgraph(), putpixel(),closegraph(),outtextxy(), setcolor(),line(),circle(),rectangle(),ellipse(),arc(), bar()

Unit-5 File handling in C (6 Hrs., 15 M)
5.1 Concept of files, records, field
5.2 Various mode of file opening and closing files.
5.3 File Processing putc(), getc(), getw(), putw() etc. -fopen() , fclose(),fprintf(),fscanf()
5.4 Command line arguments

References:-

1. Denis Ritchie. "C" Programming – Prentice Hall Software Series- ***ISBN***. 10 9 8 7
2. Yashwant P. Kanetkar – ANSI C, BPB publication. ***ISBN***: 9788183333245
3. Byron Gottfried – Programming with C –Tata McGRAW-Hill ***ISBN***-10: 0070145903
4. Yashwant P. Kanetkar -Understanding pointers in "C" -BPB publication. ***ISBN***-13: 978-8176563581
5. E.Balguruswami -Programming in ANSI- C- Tata McGRAW-Hill- ***ISBN***-10: 933921966X
6. Mike McGrath - C programming in easy step – Wiley publication ***ISBN***-10: 1840785446

CS LAB: DSC 1A LAB: Lab Course on Essential of Computer and C Programming

Credit -2

CS 203: LAB (Students should perform at least ten experiments from the following list)

Part-A Lab Course on Internet Computing

1. Demonstration of the Basic Tags of HTML
2. Demonstrate the List Tags
3. Design Web Page showing information of your college using various text-
4. Formatting tags.
5. Design Web Page to create image gallery using image and link tags.
6. Demonstrate the use of Audio tag.
7. Demonstrate the use of Video tag.
8. Demonstrate the use of Table tag.

Part-B Lab Course on C-Programming-II

1. Program to illustrate concept of function (call by value, call by reference, recursive)
2. Write program using Function with return and Function with argument
3. Program using user defined function to find length of string
4. Write the program using std. string functions(like strlen(). strcat(),strcmp(), strrev(), strcpy()etc.)
5. Program using pointers (arrays, functions, structures)
6. Program using structures (at least two practical)
7. Program using graphics function (at least two practical using all graphics functions)

Sem - I Paper - I

CS-DSC 2 C : COMP 211 : Data Structure – I

Theory: 30 Hours

Unit 1. Introduction to Data Structure & Algorithm Notations (L:04, M: 18)

1.1 Introduction to Data Structure,
1.2 Types of data structure 1. Primitive 2.Non Primitive 3.Linear 4. Non linear
1.3 Need of data structure
1.4 Algorithm Notations.
  a. Format Convention
  b. Name of Algorithm
  c. Introductory Comment
  d. Steps
  e. Comments
1.5 Data Structure
  a. Arrays
  b. Dynamic Storage allocation
  c. Functions
  d. Procedures

Unit 2. Introduction to Algorithm analysis for Time and Space Requirement (L:04, M:12)

2.1 Rate of Growth
2.2 Basic time analysis of an algorithm
2.3 Order Notation
2.4 More timing Analysis
2.5 Space analysis of an algorithm

Unit 3. Stacks

3.1 Definition and concept (L.: 06, M:18)
3.2 Representations – static
3.3 Operations – push, pop, peep, change
3.4 Applications – infix to postfix & prefix, postfix evaluation, Recursion using stack

Unit 4. Queues

4.1 Definition and Concept (L.: 06, M :18)
4.2 Representation – static
4.3 Operations- Insert, Delete
4.4 Circular queue : Concept, Operations – insert, delete
4.5 DeQue : Concept
4.6 Priority queues : Concept

Unit 5. Linked List

5.1 Introduction to Linked list (L: 10, M: 24)
5.2 Implementation of List – Dynamic representation.
5.3 Types of Linked List
  a. Singly Linked list : Operations- Insert, delete, search
  b. Circular linked list : Operations- Insert, delete, search
  c. Doubly linked linear list : Operations- Insert, delete, search
5.4 Applications of linked list – polynomial manipulation

References :

1. Jean-Paul Trembley, Paul. G. Soresan, An introduction to data structures with applications, Mc-Graw Hill International Editions, ISBN-13: 978-0070651579,ISBN-10: 0070651574

2. Horowitz, Sahani, Data Structures :Galgotia publication
3. Aho, Hopcroft, Ulman, Data Structures and Algorithms, ISBN-13: 978-0201000238 ,ISBN-10: 0201000237

4. Nikaulus wirth, Algorithms- Data Structures Programs, ISBN-13: 978-0130224187,ISBN-10: 0130224189

5. Tannenbaum, Data Structures using C and C++; PHI., ISBN-13: 978-0130369970,ISBN-10: 0130369977

6. Thoms Horbron, -File systems – Structures and Algorithms; PHI. I
7. Bonald Knuth, - Art of Computer Programming Vol. I:, ISBN-13: 978-0201896831,ISBN-10: 9780201896831

Sem - I Paper - I

CS-DSC 2 C **Theory: 30 Hours**

CS-DSC 2 C : COMP-212 : Programming in C++-I

Unit 1.IntroductiontoC++ **(6 L,18M)**

1.1Basics of C++, Structure of C++ Program
1.2 keywords in C++,Data types hierarchy in C++
1.3 Operators in C++, Scope resolution operator, Insertion and Extraction operator, New and D operators, reference operators.
1.4 Manipulators : endl, setw, setfill,set precision.

Unit 2. Classes and objects **(8 L, 18M)**

2.1 Classes, object, Specifying a class, Access specifiers, Class members
2.2 Defining member functions: Inside and Outside the class definition
2.3 Creating objects.
2.4Array of objects , Pointer and object ,Array of pointer to object.

Unit 3 .Functions in C++

1 Basics of function and its need. **(6L,18M)**
3.2 Functions Prototype.
3.3 Call by value, Call by reference with object.
3.4 Functions with default arguments.
3.5 Inline function.
3.6 friend function, friend class.

Unit 4 .Function Overloading **(4L,18M)**

4.1 Concept of Polymorphism
4.2 Function overloading, function overloading with arguments
4.3 Scoping rules & features of function overloading.

Unit 5. Operator Overloading **(6 L,18M)**

5.1 Introduction to operator overloading, rules of operator overloading
5.2 Operator overloading:
- 5.2.1 Unary and binary operators,
- 5.2.2 Comparison, arithmetic, assignment operator,
- 5.2.3 Overloading new & delete operators

Reference Books:

1. Object oriented programming with C++, E Balgurusamy, **ISBN**-10: 9383286504; **ISBN**-13: 978-9383286508
2. Programming with C++ D Ravichandran, **ISBN**, 0070681899, **97800706**
3. Programming in C++ by John H Hubbard, **ISBN**-10: 0071353461
4. Mastering C++ by K Venugopal, Rajkumar, T Ravishankar, **ISBN**-10/ASIN: 0074634542

CS SEC-I (Skill Enhancement Course-I)

Theory: 30 Hours

Software & Hardware Installation Skills

Unit-1. Operating System Basics & Installation — 6 L

Introduction to OS, Types of Operating systems, System files FAT and NTFS Dos 6.2 Windows 7 and RedHat Linux and Multi Boot Operating System.

Unit-2. Various types of Software Installation — 6 L

MS-Office 2010, Photoshop 7 and CS5, Tally 7.0 and ERP, Acrobat Reader X, Java, Visu Studio, C & C++, Multimedia software's, and Internet Browsers like- IE9, Google Chrom Mozilla Firefox .

Unit-3. Device Installation — 6 L

Graphics Card, Sound Card, LAN Card, Wireless LAN Card, SCSI Card, External Drive, Flas Cards, Web Camera, CCTV Camera, Mobile Devices, Firewire Cards, Modem, Plotter, Wirele: LAN, Access Point .

Unit-4. Diagnostic Tools & PC Maintenance — 6 L

Introduction, Virus and its types, Effect of Virus for Computer System, Scanning and Antivirt remover tools, Antivirus Utilities for Diagnostic, Safety and Preventive Maintenance Tools, Da Recovery, Troubleshooting PC Hardware:- O/S Troubleshooting issues in computer System (Related Diagnostic Tools should be covered)

Unit-5 Basic Network Introduction & Installation — 6 L

Introduction About Network, Installing Network Operating System Server and Windows 20(Server, Cable Crimping, Network Sharing and user Permission, Internet Connection, E-Mai Cloud Networking, Google Drive, SkyDrive, Dropbox etc.

REFRENCE BOOK:

(1) Windows XP Professional edition complete BPB Publication

(2) Office XP complete BPB publication

(3) Microsoft Windows Server 2008 Administration by STEVE SEGUIS, Mc Graw Hill Publication, **ISBN** 10: 0071493263 **ISBN** 13: **9780071493260**.

(4) Upgrading and Repairing PC by Scott Muller, **ISBN**-13: 978-0789756107,**ISBN**-10: 9780789756107

(5) https://www.makeuseof.com/tag/13-windows-diagnostics-tools-check-pcs-health/

Software & Hardware Installation Skills (SEM- I)

Practical (Demonstration to be performed in the Laboratory)

1. Installation : Windows 7 Operating Systems
2. Troubleshooting and Repair Operating System : Windows 7
3. Tacking Data Backup and System Formatting
4. Installation of Different Device and Drivers PCI, PCI-E, AGP
5. Installation of Ms-Office 2010
6. Installation of On Board and PCI Device Driver
7. Installation of Web Camera and CCTV Camera Drivers and Software
8. Installation of Application Software : Photoshop 7.0 , Tally
9. Installation Dual Operating System like: Windows XP and Windows 7
10. Installation and Troubleshooting of Laser Printer
11. Installation and Troubleshooting of Scanner (Photo & Bar Code Scanner)

Sem I Paper III

CS-DSC 2 C: Lab Course on COMP 213 : PRACTICAL COURSE

PRACTICALS BASED ON DATA STRUCTURE : I

(Note :Implement all practical using 'C++' Language)

1.Write a program to implement Stack operations : push, pop, peep, change, Display

2.Write a program to convert given infix expression into postfix.

3.Write a program to implement Linear Queue operations : Insert, Delete, Display

4. Write a program to implement Circular queue with its operations: Insert, Delete, Display

5.Write a program to implement singly linked list with operations.

i)create ii)insert iii)delete iv)find

6. Write a program to implement doubly linked list with operations.

i)create ii)insert iii)delete.

PRACTICALS BASED ON C++ PROGRAMMING-I

1. Write a program to demonstrate all manipulators in C++.

2. Demonstrate the memory management operators: new, delete

3. Write a program to demonstrate the simple class for following objects

i) Student Information (Define function inside the class)

ii) Employee Information (Define function outside the class)

4. Write a C++ program to demonstrate the array of objects.

5. Write a C++ program to demonstrate inline function

6. Write a C++ program to demonstrate friend function

7. Write a C++ program to demonstrate

i) Function overloading. ii) Operator overloading

Sem – II Paper – I

CS-DSC 2 D : Comp-221: Data Structure – II **Theory: 30 Hours**

Unit 1. Tree **(L: 10, M :23)**

1.1 Definition and Concept
1.2 Binary tree
1.3 Storage representation and Manipulation of Binary trees
  a. Sequential Storage representation of Binary Tree
  b. Linked Storage representation of Binary Tree
  c. Threaded storage representation of Binary Tree
1.4 Operations on Binary tree - Traversing
1.5 Operations & Algorithms on BST – Create, Insert, Delete
1.6 Concept: AVL tree. B- Tree

Unit 2. Graph **(L: 05, M:21)**

2.1 Definition and Concept
2.2 Matrix representation of graph
2.3 List Structures
2.4 Multi list representation of Graph
2.5 Traversal of graph : Breadth First Search and Depth First search
2.6 Applications of graph

Unit 3. Sorting **(L:10, M :28)**

3.1 Introduction
3.2 Sorting Techniques :
3.2.1 Selection Sort
3.2.2 Insertion sort
3.2.3 Bubble Sort
3.2.4 Merge Sort
3.2.5 Heap Sort
3.2.6 Quick Sort
3.2.7 Sorting Method Comparison on Time and space Complexity attribute

Unit 4. Searching Techniques **(L:05, M:18)**

4.1 Sequential Searching
4.2 Binary searching
4.3 Hash Table Method
4.3.1 Introduction
4.3.2 Hashing Function
4.3.3 Collision Resolution Technique

Sem – II Paper – II

CS-DSC 2 D : COMP-222 : Programming in C++-II **Theory: 30 Hours**

Unit 1. Constructors and Destructors **(6 L, 20 M)**

3.1 Concept of Constructor.
3.2Types of Constructor: Default Constructor, Parameterized Constructor, Copy Constructor.
3.3Overloaded Constructors in a class.
3.4Constructor with default arguments.
3.5 Destructors.

Unit 2. Inheritance and Extending Classes **(10L, 20M)**

2.1 Introduction to Inheritance
2.2 Types of Inheritance
2.3 Derived Class Constructors
2.4 Benefits of inheritance in C++
2.5this pointer.
2.6Abstract class, pure virtual function.

Unit 3. Exception Handling **(4L,14M)**

3.1Concept of Exception Handling mechanism
3.2 Concept of try, throw and catch
3.3 Multiple catch statements
3.4 Standard Exception in C++

Unit 4. Templates & Introduction to Standard Template Library **(4L, 18M)**

4.1Basic of templates, Function templates, Class templates
4.2 Templates with multiple parameter
4.3 Introduction to STL,
4.4Components of STL, Containers (Sequence, Associative & Derived)

Unit 5. Working with Files **(6 L,18 M)**

5.1 Introduction
5.2 Hierarchy of File Stream Classes.
5.3 Opening and Closing Files.
5.4 File modes
5.5 File Input/output with fstream class.

Reference Books:

1Object oriented programming with C++, E Balgurusamy, **ISBN**-10: 9383286504; **ISBN**-13: 978-9383286508

2. Programming with C++ D Ravichandran, **ISBN**, 0070681899, **97800706**

3. Programming in C++ by John H Hubbard, **ISBN**-10: 0071353461

4. Mastering C++ by K Venugopal, Rajkumar, T Ravishankar, **ISBN**-10/ASIN: 0074634542

CS SEC-II (Skill Enhancement Course-II)

Theory: 30 Hours

Network Security

Unit-1. Introduction

5 L

Need of Security, Security approaches, Principles of Security , Anti-virus Software, Access Control, Firewall, Smart cards, Biometric, Encryption, Physical Security Mechanisms .

Unit-2. Malicious Software

5 L

Types of Malicious Software , Viruses , Virus Countermeasures , Worms , Distributed Denial of Service Attacks,

Unit-3. Types of Attack

5 L

Snooping, Eavesdropping, Interception, Denial of Service attack, Hacking Techniques – Open Sharing, Bad Passwords, Programming Flaw, Sniffing Switch Network, IP Spoofing.

Unit-4. Firewalls

6 L

The Need for Firewalls , Firewall Characteristics , Types of Firewalls , Firewall Basing , Firewall Location and Configurations

Unit 5. Intrusion Detection System (IDS)

4 L

Introduction; IDS limitations – teardrop attacks, counter measures; Host based IDS set up

Unit-6. System security

5 L

Operating system hardening, general steps for securing windows operating system, Hardening Unix/Linux based operating system, updates: hot fix, patch, service pack

(* Delivery of Basic & practical knowledge of above topics is expected)

References :

1. Fundamental of Network Security – Eric Maiwald **ISBN**-10: 0072230932
2. Cryptography and Network security – Atul Kahate, **ISBN**-10: 0070151458
3. Cryptography and Network security- 5th Edition, William stalling, **ISBN**: 9788131761663

Practical Based on Network Security(Demonstration to be performed in the Laboratory)

1. Demonstration of Malware for using any Antivirus software
   - Viruses
   - Worms
   - Intrusion Tools
   - Spyware using
2. Secure Client of Network by using various permissions as well as password protection.
3. Apply Firewall rules for Inbound and Outbound services.
4. Create user groups and perform various roles for securing Network
5. Demonstration of securing Wireless Network.

Sem – II Paper – III

CS-DSC 2 D : Lab Course on COMP 223: PRACTICAL COURSE

PRACTICALS BASED ON DATA STRUCTURE: II

(Note: Implement all practical using 'C++' Language)

1. To Create a binary tree and Implement following Tree Traversal Techniques:
   i)Inorder ii) Preorder iii)Postorder.
2. Implement following Graph Search Techniques:
   i) BFS ii) DFS.
3. Implement Selection sort technique.
4. Implement Bubble sort technique
5. Implement Selection sort technique
6. Implement Insertion sort technique.
7. Implement Merge sort technique.
8. Implement Quick sort technique.
9. Implement: i) Linear Search ii) Binary Search

PRACTICALS BASED ON C++ PROGRAMMING-II

1. Write a C++ program to demonstrate following constructors and Destructor
   i) Default constructor ii) Parameterized constructor iii) Copy Constructor
2. Write a C++ program to demonstrate all types of Inheritances.
3. Write a C++ program to demonstrate the concept of virtual function.
4. Write a C++ program to demonstrate exception handling mechanism.
5. Write a C++ program to demonstrate:
   i) Function template ii) Class template.
6. Write C++ program to implement concept of file Handling.

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T. Y. B. Sc. (Computer Science)
(w.e.f. June -2020)
DSC (UG-CS-501) System Programming
Semester-V

Total lectures: 45
Total Marks: 90

Course Objectives:

- To understand use and development of software tools.
- To understand the design structure of Assembler and macro preprocessor
- To understand the design structure of compiler
- To understand the functions of linkers and loaders

Course Outcomes:

- Understand details about system software
- To do basic system program like development of editors lexical analyzers etc
- Students are familiar with language processing activities- functions of translators, loader and linkers

Unit-1 Introduction [L: 05, M: 10]
1.1 Types of program – System program and Application program
1.2 Difference between system programming and application programming.
1.3 Goal of system software
1.4components of system software
1.5 View of system software
Unit-2 Software Tools [L: 05, M: 10]
2.1 What is a Software Tools?
2.2 Software Tools for Program Developments
2.3 Editors
2.4 Debug Monitors
2.5 Programming Environments
Unit-3 Overview of Language Processors [L: 5, M:12]
3.1 Programming Languages and Language Processors
3.2 Language Processing Activities
3.3 Fundamentals of Language Processing
Unit-4. Assembler [L:10,M:16]
4.1 Definition.
4.2 Features of assembly language, advantages
4.3 Statement format, types of statements
4.4 Constants and Literals.
4.5 Advanced assembler directives
4.6 Design of assembler – Analysis Phase and Synthesis Phase.
4.7 Overview of assembly process
4.8 Pass Structure of Assembler – One pass, two pass assembler.
4.9 Problems of One-pass assembler
4.10 Design of Two-pass Assembler
Unit-5. Macro and Macro Preprocessor [L: 05, M: 14]
5.1 Macro Definition and Call

5.2 Macro Expansion
5.3 Nested Macro Calls
5.4 Tables used in Macro
5.5 Advanced Macro Facilities
5.6 Design of Macro Preprocessor

Unit-6. Compiler [L: 10, M:14]

6.1. What is Compiler?
6.2. Scanning and Parsing
6.2.1. Programming Language Grammars
6.2.2. Scanning
6.2.3. Parsing
6.3. Language Processors Development Tools

Unit-7. Linkers and Loaders [L: 05, M: 14]

7.1 Introduction
7.2 Relocation and Linking Concepts
7.3 Self Relocating Programs
7.4 Linking for Overlays
7.5 Dynamic Linking
7.6 Loaders

References:

1. D.M. Dhamdhere, "Systems Programming", ISBN : 9780071333115, Tata McGraw-Hill Education, 2011
2. D.M. Dhamdhere, "Systems programming and operating system". ISBN: 978-0074635797, Tata Mcgraw Hill Education Private Limited
3. John Donovan, "System programming.", ISBN: 978-0-07-46

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DSC (UG-CS-502): Database Management System
Semester-V

Total lectures: 45
Total Marks: 90

Course Objectives

- To understand the fundamental concepts of database.
- To understand user requirements and frame it in data model.
- To understand creations, manipulation and querying of data in databases.

Course Outcomes

On completion of the course, student will be able to–

- Solve real world problems using appropriate set, function, and relational models.
- Design E-R Model for given requirements and convert the same into database tables.
- Use SQL.

Content

1. Introduction of DBMS **L 12: M 16**

1.1. Overview, Definition
1.2. Types of DBMS
1.3. Describing & storing data (Data models (relational,hierarchical, network)),
1.4. Levels of abstraction , data independence,
1.5. Queries in DBMS (SQL : DDL,DML,DCL,TCL), Users of DBMS, Advantages of DBMS

2. Conceptual Design (E-R model) **L 10 : M 16**

2.1. Overview of DB design,
2.2. ER data model (entities, attributes, entity sets, relations, relationship sets) ,
2.3. Conceptual design using ER (entities VS attributes, Entity Vs relationship, binary Vs ternary)

3. Relational data model **L 10 : M 18**

3.1. Relations (concepts, definition),
3.2. Conversion of ER to Relational model ,
3.3. Integrity constraints (key, referential integrity, general constraints)
3.4 Codd's Rules, Functional Dependency, Data Normalization (1NF, 2NF, 3NF, BCNF)

4. Relational algebra **L 08 : M 15**

4.1. Preliminaries
4.2. Relational algebra (selection, projection, set operations, renaming, joins, division)

5. Database Implementations **L-08 M:12**

5.1 Database security
5.2 Database integrity
5.3 Transaction Concept
5.4 Transaction State

5.5 Transaction Properties (ACID)

6. Concurrency control, Backup & recovery:- **L-09** **M-12**

6.1Lock-Based protocol,
6.2 Timestamp-Based protocol
6.3 Log base Recovery
6.4 Shadow Paging
6.5 Differed Updates.

Reference Books:-

1. Database System Concepts- Abraham Silberschatz, Henry F. Korth& S. Sudarshan,McGraw- Hill, 4th Edition / 5th Edition.
2. R. Elmasri, S.B. Navathe, "Fundamentals of Database Systems", Fifth Edition, Pearson Education/Addison Wesley, 2007.
3. Database System Concepts – Alexis Leon & Mathews leon, Vikas Publication House Ltd, New Delhi.

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DSC (UG-CS-503)Software Engineering
Semester-V

Total lectures: 45
Total Marks: 90

Course Objective:
This paper helps to understand

- What is software and the process in development of software.
- It gives detailed knowledge about various models and requirements needed in developing software.
- It also elaborates the concepts of designing, testing & quality about software.

Course Outcomes:
After completion of the course:

- Students are able to perform the E-R Diagram, DFD, Data dictionary, Decision tree about software.
- They can also design the software in learned language using the course content.
- Get the knowledge of types of testing & how testing is performed in industry.

1. Introduction to Software Engineering **L-8 M-12**
- 1.1 Software and Software Engineering
- 1.2 Evolution of Software
- 1.3 Software Characteristics
- 1.4 Software Applications
- 1.5 Software Myths
- 1.6 Software Process
- 1.7 Software Development Life Cycle (SDLC)

2. Software Development Model **L-8 M-14**
- 2.1 Waterfall Model
- 2.2 Prototyping Model
- 2.3 Incremental Development Model
- 2.4 RAD model
- 2.5 Spiral Model

3. Requirement Analysis and Specification **L-8 M-12**
- 3.1 Requirements Engineering
- 3.2 Fact finding Techniques
- 3.3 Introduction to Types of Requirement Modeling
- 3.4 Data Modeling Concepts- Data Objects, Data Attributes & Relationship.

4. Design Engineering **L-7 M-14**
- 4.1 Characteristics of good Software Design
- 4.2 Design Concepts- Architecture, Modularity, Information Hiding
- 4.3 Cohesion & Coupling
- 4.4 Decision Table & Decision Tree
- 4.5 Data flow Diagram
- 4.6 Data Dictionary

5. Software Coding & Testing **L-7 M-12**
- 5.1 Coding standards & Guidelines

5.2 What is testing?
5.3 Testing Activities
5.4 Black box testing
5.5 White box testing
5.6 Introduction to Debugging Approaches – Brute force Method, Backtracking, Case Elimination Method, Programming Slicing

6. Software Quality **L-7 M-12**

6.1 What is Quality?
6.2 Software Quality - Garvin's quality dimensions, Mc Calls quality factors, ISO 9125 quality factors
6.3 Elements of Software Quality Assurance
6.4 ISO 9000 & Certification

References –

1. Roger S. Pressman , "Software Engineering a Practitioners Approach", ISBN 13: 9780071267823, 7 th edition, McGraw Hill International Edition.
2. Rajib Mall , "Fundamental of Software Engineering", ISBN- 978-81-203- 3819-7 3 RD Edition, , PHI Learning Private Limited.

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DSC (UG-CS-504): Computer Aided Graphics
Semester-V

Total lectures: 45
Total Marks: 90

Course Objectives

- Understanding Graphics Concept.
- Study the various graphics techniques
- Study the various graphics algorithms

Course Outcome:

- Differentiate between interactive and non-interactive graphics.
- Study line Drawing and Circle Drawing techniques and algorithms.
- Perform 2D and 3D transformation on different images.
- Know about detail working of 2D and 3D clipping and windowing.
- Understand raster graphics and hidden surface elimination.

Unit-1: Introduction to Graphics **[L:08 M:16]**

1.1 The origin of computer graphics
1.2 Application of Computer Graphics
1.3 Definitions: Pixel, Resolution, Aspect Ratio, Interactive, Non interactive graphics, Active graphics, Passive graphics
1.4 How the interactive graphics display works.
1.5 Display types: Random Scan and Raster Scan

Unit-2: Line Drawing Technique **[L:07 M:14]**

2.1 Co-ordinate Systems
2.2 The Simple DDA
2.3 The Symmetrical DDA
2.4 Bresenham's line drawing Algorithm
2.5 Bresenham's circle drawing Algorithm

Unit-3: Two Dimensional and Three Dimensional Transformations **[L:08 M:20]**

3.1 Transformation principles
3.2 Concatenations
3.3 2D Transformations, 2D Matrix Representation
3.4 3D Transformations, 3D Matrix Representation
3.5 Transformation in Viewing
3.6 The Perspective Transformation

Unit-4: Clipping and Windowing **[L:09 M:16]**

4.1 Definitions: Window, View port, Clipping
4.2 Cohen-Sutherland line clipping algorithm
4.3 Mid-point Subdivision line clipping algorithm
4.4 Polygon Clipping
4.5 The Windowing Transformation
4.6 3-D Clipping

Unit-5: Raster Graphics and Solid Area Scan-Conversion **[L:07 M:12]**

5.1 Introduction
5.2 Scan Converting Line and Polygon drawing
5.3 Coherence
5.4 (YX) Algorithm
5.5 Priority: Painter's Algorithm

Unit-6: Hidden Surface Elimination **[L:06 M:12]**

6.1 Object Space and Image Space Algorithms
6.2 The Depth Buffer Algorithm
6.3 Warnock's Algorithm

Reference:

1. William M. Newman and Robert F. Sproull, "Principles of Interactive Computer Graphics", ISBN : 9780074632932 (Second Edition), Tata-McGraw Hill Publication
2. Rogers," Procedural Interactive Computer Graphics", ISBN- 978-070486775, McGraw Hill Book Company Ltd.
3. Mathematical Elements of Interactive C.

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DSC SEC(UG-CS-505)Python Programming – I
Semester-V

Total lectures: 45
Total Marks: 90

Course Objectives:

- The course is designed to provide Basic knowledge of Python.
- Python programming is intended for software engineers, system analysts, program managers and user support personnel who wish to learn the Python programming language.
- To learn how to design and program Python applications.
- To develop problem solving skills and their implementation through Python.
- Master the fundamentals of writing Python scripts

Course Outcome: At the end of the course, the student will be able to

- Explain basic principles of Python programming language
- Construct and apply various filters for a specific task.
- Apply the best features of mathematics, engineering and natural sciences to program real life problems.

Unit – 1 Introduction to Python Programming L: 5 M:10

- **Introduction to Python**
- History of Python
- Version of Python
- Need, Featuresof Python
- Applications of Python
- Installing Python on Linux and Windows
- Installing Python IDE

Unit – 2Basics of Python Programming L:10 M: 20

- Python Identifiers, Variables and Keywords
- Putting Comments
- Expressions and Statements
- Standard Data Types – Basic, None, Boolean, Numbers.
- Type Conversion Function
- Operators in Python
- Operator Precedence
- Accepting Input and Displaying Output

Flow Control Statements

- Conditional Statements
- Looping Statements
- break, continue, pass Statements

Unit – 3Python Strings **L: 10 M: 20**

- Introduction to String
- String Literals
- Assign String to a Variable
- Multiline Strings
- Operations on Strings, Index Operator: Working with the Characters of a String, String Methods, Length, The Slice Operator, String Comparison,
- **Concepts of Python Lists:** Creating, Initializing and Accessing elements in lists, Traversing, Updating and deleting elements from Lists.
- List Operations: Concatenation, List Indexing, Slices
- Built- in List functions and methods
- Aliasing, Cloning Lists

Unit – 4Python Tuples and Dictionary **L: 10 M: 20**

Introduction to Tuples

- Creating Tuples.
- Deleting Tuples.
- Accessing elements in a Tuple.
- Tuples Operations: Concatenation, Repetition, Membership, Iteration.
- Built- in Tuples functions and methods

Introduction to Dictionary

- Dictionaries: Concept of key-value pair.
- Creating, Initializing and Accessing elements in a Dictionary.
- Traversing, Updating and Deleting elements in a Dictionary
- Built- in Dictionary functions and methods

Unit – 5Python Functions and ModulesL: 10 M: 20

Introduction to Functions

- Defining a Function (def)
- Calling a Function
- Function Arguments - Required arguments, Keyword arguments, Default arguments, Variable-length arguments
- Scope of Variables
- Void functions and function returning values
- Recursion
- Advance Function Topics: Anonymous Function Lambda, Mapping Functions, Functional Programming Tools: filter and reduce

Introduction to Modules

- Creating Modules and Packages
- Importing Modules
- Using the dir() Function
- Built-in Modules

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DSC (UG-CS-506 A):Elective A - Internet Programming using PHP
Semester-V

Total lectures:45
Total Marks: 90

Objectives:

- To understand Core-PHP concepts, Server Side Scripting Language
- To acquaint knowledge of Database handling in PHP.

Outcomes:

- To Design dynamic and interactive Web pages.
- PHP framework for effective design of web applications.

Unit–1 The BasicsofPHP **L:12M:24**

- Introduction toPHP
- Working of PHP
- Structure ofPHP
  - Structure & Syntax of PHP
  - PHP withHTML
  - Comments
  - Data Types andVariables
  - Operators
- Flow ControlStatements
  - ConditionalStatements
  - Looping Statements
  - Exit, Return, Die, Include and RequireStatements

Unit – 2 Arrays, FunctionandString **L:10 M:20**

- Introduction toArray
  - Types ofArray: Index, Associative, MultidimensionalArray
  - Different array function inPHP
  - Traversing arrays, Sorting arrays
- Introduction toFunction
  - Defining and Calling afunction
  - Scope of variables infunction
  - Function Parameters
  - Returning Values from afunction

- RecursiveFunctions
- String functions inPHP
  - Printing functions
  - Comparing strings
  - Manipulating and Searchingstrings
- RegularExpressions

Unit – 3Object-OrientedPHP **L:10 M:18**

- Introduction and Benefits ofOOPs in PHP
- Creating aClass in PHP
- Creating anObject in PHP
  - Adding aMethods
  - Adding aProperties
  - Visibility (Public, Private andProtected)
- Constructor andDestructors
- Inheritance (Extending aclass)
- Abstract classes, Finalclasses
- Interfaces
- Exception handling
- Serialization

Unit – 4WebTechniques **L:07 M:14**

- Introduction
- HTTPBasics
- ProcessingForms
  - Methods (Get and PostMethod)
  - Parameters ($_GET and$_POST)
  - Self-ProcessingPages
  - FileUploads
- Maintaining State
  - Cookies
  - Sessions
  - Combining Cookies andSessions

Unit – 5 PHPwithMySQL **L:06 M:14**

- Introduction toMySQL
- Interaction between PHP and MySQL
- Error Checking
- Execute DDLStatements
- Execute DMLStatements

References Books:

1. Ivan Bayross and Sharnam Shah , "PHP 5.1 for Beginners", ISBN: 9788184040753 SPD Publication 2007
2. Dave W. Mercer, Allan Kent, "Beginning PHP 5" ,ISBN: 978-0-7645-5783-5,Wrox publication , July2004.
3. W. Jason Gilmore , "Beginning PHP and MySQL",ISBN: 978-1-4302-3115-8, 3rd edition, Apress Publication.

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Elective B
DSC (UG-CS-506B): JAVA Programming I
Semester-V

Total lectures: 45
Total Marks: 90

Course Objectives:

- To learn Object Oriented Design with JAVA
- Ability to write computer program to solve specific program
- To handle abnormal termination of a program using exception handling

Course Outcomes:

- Get knowledge of JDK environment
- Explore polymorphism using method overloading and method overriding
- Understand the different aspects of hierarchy of classes and their extensibility
- Understands the concept of streams and files
- Write programs for handling run time errors using exceptions

Unit-1 Introduction toJAVA **[L-04M-08]**

1.1 History ofJava

1.2 Comparison of Java and C++
1.3 Features - Simple, Object Oriented Distributed, Robust, Secure, Architecture neutral, Portable, Interpreted, High Performance, Multithreading,dynamic.
1.4 Java andInternet
1.5 JDK Environment (Java, Javac, Applet Viewer,Javadoc)

Unit-2 Basics of JAVA **[L-04M-10]**

2.1 Variables, Data Types, Casting, Operators
2.2 Compiling and running java program,
2.3 Command linearguments.
2.4 Accepting input from console (Using BufferedReaderclass,Scanner)
2.5Arrays

[Unit-3 Objects andClasses **[L-08M-14]**

3.1 Introduction – Classes andObjects
3.2 Data members,methods
3.3 Types of Constructors
3.4 Overloading
3.5 Packages
3.6 Accessmodifier
3.7 Innerclasses

Unit-4 FunctionsinJAVA **[L-07M-16]**

4.1 String functions - Concatenation, Substring, String editing, Testing forEquality,
4.2 Character extraction functions – CharAt, getChars, getByte
4.3 Formattingfunctions

4.4 Date and Time functions using Gregorian CalendarClass.

Unit-5Inheritance [L-10 M-20]

5.1 Inheritance- Inheritance Hierarchy, Super class, Overriding,Polymorphism
5.2 Use of final keyword related to method and class
5.3 Interfaces
5.4 Wrapperclasses
5.5 Reflection - 'Class'class
5.6 Use of abstract class and abstract methods

Unit-6Exception Handling [L-06M-10]

6.1 Dealing with errors - Types ofexceptions
6.2 Exception Handling Mechanism
6.3 Catching Exceptions.
6.4 Creating user defined exception

Unit-7 Streamsa n d Files [L-06M-12]

7.1 String class and StringBuffer Class
7.2 Using the File class
7.3 Stream classes-Byte Stream classes , Character Stream Classes
7.4 Creation of files
7.5 Reading/Writing characters and bytes
7.6 Handling primitive data types
7.7 Random Access files

References:

1. Cay's Horstmann and Gary Cornell, " Core Java Volume -1 Fundamentals", ISBN: 81-7808-277-2
2. E. Balaguruswamy ,"Programming with Java – A primer", ISBN: 978-0-07-061713-1
3. Herbert Schildt, "The complete reference JAVA-2", ISBN:978-0-07-049543-2, Fifth Edition, (TMH)
4. Java 6 Programming Black Book

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DSC UG-CS-507 LAB on Python Programming – I

Instruction:

- **At the time of Practical you can used any Python IDEs and Code Editors (PyCharm, Spyder, Thonny, etc.).**

1. Installing python and setting up environment. Simple statements like printing the names ("Hello World"), numbers, mathematical calculations, etc.
2. Write a program to find all prime numbers within a given range.
3. Write a program to print "n" terms of Fibonacci Series using Iteration
4. Write a program to demonstrate the use of slicing in string.
5. Programs related to string manipulation
6. Write a Programs related to functions & modules
7. Write a program that demonstrate concept of functional programming.
8. Write a program to demonstrate the use of list & related functions
9. Write a program to demonstrate the use of Dictionary& related functions
10. Write a program to demonstrate the use of tuple.

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DSC UG-CS-508: LAB on Computer Aided Graphics
Semester-V

Course Objectives

- To know how to implement Graphics Programs.
- To implement various graphics techniques
- To implement various graphics algorithms

Course Outcome:

- Understanding Graphics Concept Practically
- Hands on of using standard graphics library
- Hands on of implementation of DDA, Bresenham's Line,Circle Drawing Algorithm
- Hands on of implementation of 2D Transformation: Translation, Scaling and Rotation
- Hands on of implementation ofCohen-Sutherland line clipping algorithm

1. Draw the following pattern using standard graphics library:
   a. Block Diagram of Computer
   b. Display Flag of India
   c. Flow Chart Symbols, DFD Symbols, ER-Diagram Symbols
2. Implement Bresenham's Line Drawing Algorithm
3. Implement Bresenham's Circle Drawing Algorithm
4. Implement DDA line Drawing Algorithm
5. Implementing Translation transformation on polygon
6. Implementing Scaling transformation on polygons
7. Implementing Rotation transformation on polygons
8. Implement Cohen-Sutherland line clipping algorit

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(w.e.f. June-2020)
Elective A
DSC (UG-CS-509 A): Internet programming using PHP
Semester-V

1. Design web pages using HTML that will contain online admissionforms.
2. Write PHP scripts that demonstrate fundamentalsPHP.
3. Write PHP script that will display grade based on criteria given below using the marks obtained in T.Y.Bsc.Examination.
   a. Distinction (70 andabove)
   b. First Class (60 -69)
   c. Pass (40 - 59)
   d. Fail (below 40)
4. Write a PHP script to demonstrate different Stringfunctions.
5. Write a PHP script to demonstratearray.
6. Write a PHP script to use Functions (Call by Value, Call byreference).
7. Write a PHP script to Demonstrate OOPS Concept inPHP.
8. Write a PHP script to demonstrate ExceptionHandling.
9. Write a PHP script to demonstrate Form Data Handling using Get andPost methods.
10. Design a database in MYSQL using PHP. Create table in database. Store, Update, Delete and Retrieve data from the table. Display the data from the table.
11. Write a PHP script to store, retrieve and delete cookies on your localmachine.
12. Write a PHP script to store, retrieve and delete data using sessionvariables.

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Elective B
DSC (UG-CS-509B): Lab on JAVA Programming I
Semester-V

Course Objectives:

- To learn Object Oriented Design with JAVA
- Ability to write computer program to solve specific program
- To handle abnormal termination of a program using exception handling

Course Outcomes:

- Get knowledge of JDK environment
- Explore polymorphism using method overloading and method overriding
- Understand the different aspects of hierarchy of classes and their extensibility
- Understands the concept of streams and files
- Write programs for handling run time errors using exceptions

1. Write a simple program in Java to print first fifty primenumber.
2. Write a program in Java to print factorial of given number using recursion
3. Write a program in Java to print Fibonacci seriesin given series
4. Write a program in Java to demonstrate command line arguments.
5. Write a program in Java to create student information using array
6. Write a program in Java to implement user defined package.
7. Write a program in Java to implement default & parameterized constructor.
8. Write a program in Java to demonstrate various operations on string functions.
9. Write a program in Java to demonstrate wrapper classes
10. Write a program in Java to demonstrate class.
11. Write a program in Java to implement inheritance.
12. Write a program inJava to demonstrate inner class.
13. Write a program in Java to demonstrate reflection.
14. WriteaprograminJavatodemonstrateexceptionhandling.
15. Write a program in Java to demonstrate text stream object that take input from user & write it into text file.

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DSC (UG-CS-601):Operating System
Semester-VI

Total lectures: 45
Total Marks: 90

Objectives:

- To understand Operating system concepts and services.
- To understand the concept of a CPU scheduling, memory management, Disk Drum Scheduling and deadlock.

Outcomes:

- Students should familiar with Operating System Services.
- Understand CPU scheduling algorithms, memory Management Techniques, Disk Drum Scheduling algorithms, Deadlock preventions and avoidance.
- Introduction to android operating systems – its architecture, applications and uses.

Unit 1.Introduction L:04M:08
1.1 What is an operating system?
1.2 Types of Operating System
1.3 Services of Operating System
1.4 Functions of operating system.
Unit 2.CPU scheduling L:10M:16
2.1 Multiprogramming Concepts
2.2 Basic Concept of CPU scheduling: CPU-I/O burst cycle, CPU scheduler, Preemptive scheduling, Dispatcher
2.3Performance criteria's
2.3 Scheduling Algorithms:FCFS, SJF, Priority scheduling, Round-robin scheduling
2.4 Multilevel queues, multilevel feedback queue
Unit 3.Memory Management L: 10M: 20
3.1 Logical versus Physical Address space
3.2 Swapping
3.3 Multiple partition allocation MFT , MVT
3.4 Paging
3.5 Segmentation
3.6Virtual Memory Management – Background, Demand paging
Unit 4. Disk and Drum Scheduling L:06M:18
4.1 First Come first serve scheduling
4.2 Shortest Seek Time First Scheduling
4.3 SCAN Scheduling
4.4 C-SCAN Scheduling
Unit 5 Deadlocks L:10M:18
5.1 Concept of Deadlock
5.2 Deadlock Characterization
5.3 Deadlock Prevention
5.4 Deadlock Avoidance
5.5 Deadlock Detection
5.6 Recovery from Deadlock
Unit 6 Overview of Android Operating system L:05 M:10
6.1 What is android operating system.

6.2 Android Architecture
6.3 Features of Android operating system
6.4 Applications of android operating system
6.5 What is Google play store

Reference books:

1. Peterson Silberschatz, "Operating system concepts", ISBN: 0-201-35251-6, Addison Wesley, 1st Edition
2. Andrew S. Tanenbaum, "Modern operating system", ISBN: 81-203-0974-X, P .H.I. New Delhi 3.
3. Achyut S. Godbole, "Operating Systems" ISBN: 9780070702035, McGraw Hill Education, 2010, Third Edition
4. .Marko Garaenta, "Learning Android ,Oreilly ", ISBN: 978-1449319236, O' Reilly, second edition
5 Mike Wolfson, "Android developers tools ,Essential,Oreilly" ISBN:978-1

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(w.e.f. June-2020)
DSC (UG-CS-602):Relational Database Management Systems
Semester-VI

Total lectures: 45
Total Marks: 90

Prerequisites

- Basic Knowledge of DBMS
- Knowledge of SQL Queries
- Basics of relational design
- Basics of ER model

Course Objectives

- To teach fundamental concepts of RDBMS (PL/PgSQL)
- To teach database management operations
- Be familiar with the basic issues of transaction processing and concurrency control
- To teach data security and its importance

Course Outcomes

On completion of the course, student will be able to–

- Design E-R Model for given requirements and convert the same into database tables.
- Use database techniques such as SQL & PL/SQL.
- Explain transaction Management in relational database System.
- Use advanced database Programming concepts

Unit 1 INTRODUCTION TO RDBMS [L : 5 M: 10]

- Introduction to RDBMS,
- Introduction to Open Source software PostgreSQL,
- Installation of open source software PostgreSQL on Windows and Linux,
- Data types of PostgreSQL

Unit 2 DATABASE AND TABLE OPERATIONS [L : 05 M: 10]

- Database Operations - 1.Creating a Database 2.Dropping the Database
- Table Operations – 1. Create 2. Alter3. Drop

Unit 3 SQL – STATEMENTS, OPERATORS, FUNCTIONS [L : 10 M: 20]

- Statements - SELECT, INSERT, UPDATE, DELETE
- Null value and Default value
- Operators - Arithmetic, Logical, Comparison, Bitwise, Relational
- Functions - Aggregate functions, Date and Time functions, String functions

- Clauses:- where, order by, AND, OR, Between, Like, CASE, Distinct, Group by, Having

Unit 4 VIEW, JOIN and DATA CONSTRANTS in SQL [L : 10 M: 20]

- **Constraints** - Data Integrity, Entity Integrity
- Keys - PRIMARY KEY, UNIQUE, FOREIGN KEY, CHECK, Not Null
- **Views** - Create, Alter, Drop
- **Join** - Joins, Cross Join, Inner Join, Outer Join, Self-Join
- **Subquries** -Subqueries as Constants, Subqueries as Correlated Values, Subqueries as Lists of Values, NOT IN and Subqueries with NULL Values, Subqueries Returning Multiple Columns
- **Statement** - MERGE Statement
- **Set operations**-UNION, EXCEPT, and INTERSECT
- **Clauses** -ANY, ALL, and EXISTS Clauses

Unit 5 TRANSACTION COMMANDS , INDEX AND SEQUENCE[L : 5 M: 10]

- **Transaction commands**-Commit, Rollback
- **Indexing** -Creating an Index, Unique Indexes
- **Sequences**- Creating Sequence, using nextval(), currval() and setval()

Unit 6PL/PGSQL - SQL PROCEDURAL LANGUAGE[L : 15 M: 20]

- **Introduction to** PL/PGSQL-Advantages of PL/PGSQL, structure of PL/PGSQL, basic Statements and control structures
- **Function** -Creating functions, Removing functions
- **Cursors**-Creation of Cursors, Using Cursors, Looping
  Triggers-Introduction, Triggers Vs constraints, DML Triggers, DDL Triggers
- **Error handling** -Introduction Error Handling, RAISE Statement

REFERENCE BOOKS:

- Bruce Momjian , PostgreSQL Introduction and Concepts, Addison.Wesley, ISBN 0-201-70331-9
- NEIL MATTHEW AND RICHARD STONES , **Beginning Databases with PostgreSQL, From Novice to Professional, Second Edition,** ISBN (pbk): 1-59059-478-9

Kavayitri Bahinabai Chaudhari
North Maharashtra University, Jalgaon
T. Y. B. Sc. (Computer Science)
(w.e.f. June-2020)
DSC (UG-CS-603):Computer Network
Semester-VI

Total lectures: 4
Total Marks: 9

Course Objective:
This paper helps to understand

- How network works? & types of networks & its applications.
- It helps to understand the various models.
- It helps to understand various layers & their functionality.
- It get the idea of how cryptography works.

Course Outcomes:
After completion of the course:

- Students understand the information exchange done across the network with the help of OSI & TCP/IP models.
- Student understands how errors are captured & handled in network.
- Student understands various attack & its prevention techniques.

Unit-1 Introduction to Computer Network and Network Model **L-8 M- 12**

1.1 What is Computer Network?
1.2 Application of Computer Networks
1.3 Transmission Mode, Network Structure
1.4 Network Topologies
1.5 ISO OSI Reference Models, TCP / IP Reference Model & their Comparison.

Unit-2 Physical Layer **L-8 M- 15**

2.1 Guided Media:
- 2.1.1 Twisted Pair
- 2.1.2 Coaxial Cable
- 2.1.3 Fiber Optics
- 2.14 Satellite Communication
- 2.15 Microwave Communication
- 2.1.6 Submarine Cables.

2.2 Unguided Media
- .2.1. Electromagnetic Spectrum
- 2.2.2. Radio Transmission
- .2.3. Microwave Transmission
- 2.2.4. Infrared & Millimeter Waves
- 2.2.5. Light wave Transmission

Unit 3 The Data link Layer **L-8 M- 15**

3.1 Services Provided to Network Layer
3.2 Framing, Error Control , Flow Control
3.3 Error Detection – Redundancy, Parity Check, Checksum & CRC

3.4 Error Correction – Hamming Code.

Unit 4 The Network Layer

4.1 Logical Addressing **L-7 M- 18**

4.1.1 IP v4 Addresses - Address Space - Classful Addressing - Classless Addressing

4.2. Routing Algorithm

4.2.1. Shortest Path

4.2.2. Multicast Routing

4.3. Congestion Control

4.3.1. Introduction to Congestion Control

4.3.2. Deadlocks

Unit-5 Transport Layer

5.1 Process to Process Delivery **L-7 M- 15**

5.1.1 Client-Server Paradigm

5.1.2 Multiplexing and Demultiplexing

5.1.3 Connectionless v/s Connection Oriented Services

5.1.4 Reliable v/s Unreliable Transmission

5.2 UDP and TCP

5.2.1 UDP – Operations and uses

5.2.2 TCP – Services and features

Unit-6 Cryptography and Public key Infrastructure

6.1 Introduction: **L-7 M-15**

KBC North Maharashtra University, Jalgaon
T. Y. B. Sc. (Computer Science)
(w.e.f. June 2020)
Theoretical Computer Science (UG-CS-604)
Semester-VI

Total lectures: 45
Total Marks: 90

Course Outcome

1) Understanding the use of Sets, Relations and Graphs.
2) Understand Languages in TCS.
3) Introduction of Regular Languages and Expressions.
4) Understanding Pumping Lemma and its applications.
5) Explore the knowledge of Pushdown Automata.
6) Understanding Normal Forms with Examples.
7) Understanding Turing Machine.

Unit-1. Mathematical Preliminaries **[L-04 M-12]**

1.1 Symbol, Alphabet, String, Formal Language, Operation on languages
1.2 Sets, Relations
- 1.2.1 Sets and Subsets
- 1.2.2 Relations
- 1.2.3 Closure of Relations

1.3 Graphs & Trees
- 1.3.1 Graphs
- 1.3.2 Trees

1.4 Principal of Induction
- 1.4.1 Method of Proof by Induction

Unit-2. Finite Automata **[L-14 M-20]**

2.1 Definition of Automata
2.2 Why study Automata Theory?
- 2.2.1 Introduction to finite Automata
- 2.2.2 Structural representations
- 2.2.3 Automata and Complexity

2.3 Descriptions of Finite Automata, Transition Systems, Transition Functions
2.4 Deterministic Finite Automata (DFA)
2.5 Nondeterministic Finite Automata (NFA)
2.6 The Equivalence of DFA and NFA
2.7 Minimization of DFA
2.8 Finite Automata with ε-Moves
2.9 Melay and Moore Machines: Definition and Examples
2.10 Applications of Finite Automata

Unit-3. Regular Expressions & Regular Sets **[L-08 M-16]**

3.1 Regular Expressions
3.2 FA & Regular Expressions
- 3.2.1 Convert Regular Expression to FA
- 3.2.2 Construct FA from Regular Expression
- 3.3 Pumping Lemma for Regular Sets and applications

Unit-4. Context Free Grammars [L-10 M-18]

4.1 Introduction to Context Free Grammars
4.2 Derivation Trees
4.2.1 Ambiguity in CFG
4.3 Simplification of Context Free Grammars
- 4.3.1 Useless Symbols
- 4.3.2 Null Production
- 4.3.3 Unit Production

4.4 Normal forms for CFG
- 4.4.1 Chomsky Normal Form (CNF)
- 4.4.2 Greibach Normal Form (GNF)

Unit-5 Pushdown Automata [L-04 M-12]

5.1 Basic Definitions
5.2 Types of PDA
5.3 Acceptance by Pushdown Automata
5.4 PDA and Context Free Language

Unit-6 Turing Machine [L-05 M-12]

6.1 Introduction
6.2 Turing Machine Model
6.3 Representation of Turing Machine
6.4 Design of Turing Machine

References:

1. John E. Hopcraft,RajeevMotwani, Jeffery D. Ullman, "Introduction to Automata Theory, Languages & Computations", ISBN: 978-0321455369 , Pearson publication, Third edition
2. K. L. P. Mishra, N. Chandrasekaran, "Theory of Computer Science", ISBN: 9788120329683, Published by Prentice-Hall of India Pvt.Ltd , Third edition.
3. Daniel A. Cohen, "Introduction to Computer Theory",ISBN: 978-0471137726, John Wiley & Sons; 2nd Revised edition edition.
4. SmitaRajpal, "Theory of Automata and Formal Languages", GalgotiaPublications,ISBN: 1234027054
5. http://nptel.ac.in/

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North Maharashtra University, Jalgaon
T. Y. B. Sc. (Computer Science)
(w.e.f. June -2020)
DSC (UG-CS-605) Python Programming – II
Semester-VI

Total lectures: 45
Total Marks: 90

Course Objectives:

- The course is designed to provide advance knowledge of Python.
- Python programming is intended for software engineers, system analysts, program managers and user support personnel who wish to learn the Python programming language.
- To learn how to design and program Python applications.
- To develop problem solving skills and their implementation through Python.
- Master the fundamentals of writing Python scripts
- To develop the ability to write database applications in Python

Course Outcome: At the end of the course, the student will be able to

- Explain basic principles of Python programming language
- Implement object oriented concepts, database applications.
- Construct regular expressions for pattern matching and apply them to various filters for a specific task.
- Design and implement Database Application and Content providers.
- Apply the best features of mathematics, engineering and natural sciences to program real life problems.

Unit – 1Object Oriented Concepts in Python L:05 M: 10

- Overview of OOP Terminology
- Creating Classes
- Creating Instance Objects
- Accessing Attributes
- Built-In Class Attributes
- Garbage Collection: Constructor
- Overloading Methods and Operator
- Inheritance - Implementing a subclass, Overriding Methods

Unit – 2Python Exception Handling and Regular Expression L.: 10 M: 20

- Introduction
- Syntax Error
- Handling Exception
- Multiple Except Clauses
- try...finally
- Raising Exception
- User Defined Exception

- List of Standard Exception
- Regular Expression

Unit – 3File Handling in Python **L: 10 M: 20**

- File Objects,
- Writing Text Files,
- Appending Text to a File,
- Reading Text Files,
- File Exceptions,
- Paths and Directories,
- Exceptions in os, Paths,
- Directory Contents,
- Obtaining Information about Files, Renaming, Moving, Copying, and Removing Files,
- Creating and Removing Directories, Globbing

Unit – 4GUI with Python **L: 10 M: 20**

- GUI Programming Toolkits for Python,
- Tkinter Introduction,
- Creating GUI Widgets with Tkinter,
- Resizing the Widget,
- Configuring Widget Options,
- Putting the Widgets to Work,
- Creating Layouts, Packing Order,
- Controlling Widget Appearances, Radio Buttons and Checkboxes, Dialog Boxes, Other Widget Types

Unit – 5Python with MySQL **L: 10 M: 20**

- Introduction to MySQL
- Installing MySQL Driver - MySQL Connector or MySQLdb
- MySQL Database connection with Python
- Creating Database in MySQL using Python
- Create a Table in MySQL with Python
- Insert, Select, Update and Delete Operation in MySQL with Python
- COMMIT Operation
- ROLLBACK Operation
- Disconnecting Database

References:

1. John V Guttag (2013), Introduction to Computation and Programming Using Python, Prentice Hall of India, 2013, ISBN: 9780262525008
2. Peter C. Norton, Alex Samuel and others, –Beginning Python‖, Wrox Publication,2005 ISBN 10: 0764596543 ISBN 13: 9780764596544
3. R. NageswaraRao(2016), Core Python Programming, Dreamtech Press, 2016, ISBN-13: 9789351199427
4. Wesley J. Chun(2006), Core Python Programming - Second Edition, Prentice Hall, ISBN-13: 978-0132269933, ISBN-10: 0132269937
5. Michael T. Goodrich, Roberto Tamassia, Michael H. Goldwasser(2013), Data Structures and Algorithms in Pyhon", Wiley, 2013, ISBN : 978-1-118-54958-2, ISBN : 978-1-118-29027-9(HardCover)
6. Kenneth A. Lambert(2011), Fundamentals of Python – First Programs, CENGAGE Publication, 2011, ISBN 1111822700, ISBN 9781111822705
7. Luke Sneeringer(2015), Professional Python, Wiley Inc.,2015, ISBN: 1119070856

Kavayitri Bahinabai Chaudhari

North Maharashtra University, Jalgaon
T. Y. B. Sc. (Computer Science)
(w.e.f. June-2020)
DSC (UG-CS-606 A):
Elective A - Web Programming using ASP.NET
Semester-VI

Total lectures:45
Total Marks: 90

Objectives:

- To describe the .Net Framework, its components and features. ·
- To introduce the ASP.NET. ·
- To demonstrate the use of various controls to design a web application. ·
- To demonstrate the use of ADO.NET.

Outcomes:

- Upon completion of this course the students should be able to understand the .NET framework ·
- Develop a proficiency in the ASP.NET ·
- Develop ASP.NET web applications on any given scenario.

Unit1.Introduction **L-08, 20Marks**

- Introduction toAsp.Net
- Structure of Asp.NetPage
- ASP.Net CompilationModel
- Code BehindModel
- Execution Stages and Event Model for the PageClass

Unit 2.ASP.NETControls **L-08, 20Marks**

- Introducing WebForms
- HTMLControls
- WebControls
- BasicControls
- UserControls
- ASP.Net RichControls
- Validation Controls
- ASP.Net Page Directives

Unit 3. ASP.NetIntrinsicObjects **L-15, 20Marks**

- HTTP RequestObject, HTTP ResponseObject

- HTTP Server UtilityObject
- HTTP Application StateObject
- HTTP Session stateObject
- Object Contextobject

Unit 4. Data AccesswithADO.Net **L-14, 30Marks**

- ASP.Net Data ListControls
- Working With ADO.Net
- Using BasicSQL
- Working With ASP.NetObject
- Data ReaderObject
- Data TableObject
- Data RowObject
- Data Column Object
- Data RelationObject.

Books References: -

1. Kogent Learning Solutions, ".NET 4.0 Programming 6 in 1 Black BooK", ISBN: 9789350045107, by DreamtechPress,2013.
2. Crouch, Matt J, "Asp.Net and Vb.Net Web Programming"ISBN: 9780201734409, Addison-Wesley,2002.
3. J.Liberty,D.Hurwitz , Programming ASP.Net, ISBN: 978-0596529567, O'Reilly Media ,4TMEdition.

WEB References:-1. http://www.tutorialspoint.com

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(w.e.f. June-2020)
Elective B
DSC (UG-CS-606B): JAVA Programming II
Semester-VI

Total lectures: 45
Total Marks: 90

Course Objectives:

- **To design User Interface using Swing and AWT**
- **Learn the advanced concept of java**
- **To aware about the applet programming**

Course Outcomes:

- Program using graphical user interface with Swing classes
- Handle different kinds of events generated while handling GUI components
- Create programs using menus and dialog boxes
- Program to create applets
- Understand advanced java concepts like JDBC, Java Beans

Unit-1GRAPHICSProgramming **[L-08 M-14]**

1.1 Introduction- frames, framelayouts
1.2 Displaying information in a frame, Graphics objects and paint componentmethod
1.3 Text andFonts, Colors
1.4 Drawing Shapes, FillingShapes
1.5 Paint mode andImages.

Unit-2 EventHandling **[L-10M-18]**

2.1 EventHandling Mechanism
2.2 Concept: AWT, Swing, Difference between AWT and Swing.
2.2 The AWT eventhierarchy
2.3 Event handling summary- event sources and listener, adapterclasses.
2.4 Low level events - Focus, window, keyboard, mouseevents.
2.5 Multicasting

Unit-3 User Interface ComponentsUsingSWING **[L-10M-18]**

3.1 Introduction to layout management - Panels, Border Layout, GridLayout,
3.2 Text Input- Text Field, Text Area, Passwordfield
3.3 Labels andButtons
3.4 Making choices - Check boxes, Radio buttons, List, Comboboxes

Unit-4 Menu andDialogBox **[L-08M-14]**

4.1 Menus - Buildingmenus
4.2 Menuevents,
4.3 Popupmenu,
4.5 Keyboard mnemonics and Accelerators, enabling and disablingmenus
4.6 Dialog boxes - opening dialogs using inbuilt dialogbox

Unit-5APPLETS **[L-05 M-13]**

5.1 Introduction to applet
5.2 Converting application to applets
5.3 Life cycle ofapplet
5.4 Applet tag, Param Tag

Unit-6 Introduction ToAdvancedJAVA **[L-04 M-13]**

6.1 Collections

6.2 Interfaces- List,Set

6.3 Classes- Array List,Vector

6.4 Database connectivity -JDBC

6.5 Introduction to JavaBeans- Servlets, Java Server Pages(JSP)

References:

1. Cay's Horstmann and Gary Cornell ,"CoreJavaVolume 2", ISBN: 978-0-13- 708160-8, 9TH edition, published by PrenticeHall
2. E. Balaguruswamy ,"Programming with Java – A primer", ISBN:978-0-07-061713-1
3. Herbert Schildt, "The complete reference JAVA-2", ISBN: 978-0-07-049543-2, Fifth Edition,(TMH)
4. Java Programming BlackBook.
5. Buyya, Selvi, Chu, , "Object Oriented Programming with Java", ISBN: 978- 0070678835, Tata McGraw Hill Education2010

Kavayitri Bahinabai Chaudhari
North Maharashtra University, Jalgaon
T. Y. B. Sc. (Computer Science)
(w.e.f. June-2020)
DSC UG-CS-LAB-607 LAB on Python Programming – II
Semester-VI

Instruction:

- **At the time of Practical you can used any Python IDEs and Code Editors (PyCharm, Spyder, Thonny, etc.).**

1. Write a program to demonstrate Exception Handling mechanism
2. Write a program to demonstrate Regular expression in python.
3. Write a program to demonstrate the working of classes and objects.
4. Write a program to demonstrate the working of Inheritance and Overloading Methods and Operator.
5. Write a program to demonstrate read & write file.
6. Write a program to demonstrate to Renaming, Moving, Copying, and Removing Files,
7. Write a program to demonstrate to learn GUI programming using Tkinter.
8. Write a program to create a database application for insert, update and delete in a table using MySQL.

Kavayitri Bahinabai Chaudhari
North Maharashtra University, Jalgaon
T. Y. B. Sc. (Computer Science)
(w.e.f. June-2020)
DSC (UG-CS-Lab 608): Lab on RDBMS
Semester-VI

Course Objectives

- To perform operations on relational database management systems.
- Understand basic database management operations.
- Design E-R Model for given requirements and convert the same into database tables.

Course Outcomes:-

On completion of this course, students will be able to :

- To use SQL & PL/SQL.
- To perform advanced database operations.
- Create database tables in postgreSQL.
- Write and execute simple, nested queries

Use of PostgreSQL 11

1. To create one or more tables with following constraints, in addition to the first twoconstraints (PK & FK)
   a. Check constraint
   b. Unique constraint
   c. Not null constraint
2. To drop a table, alter schema of a table, insert / update / delete records using tablescreated in previous Assignments. (use simple forms of insert / update / deletestatements)
3. To query the tables using simple form of select statement Select <field-list> from table [where <condition> order by <field list>] Select <field-list, aggregate functions > from table [where <condition> group by <> having <> order by <>]
4. To query table, using set operations (union, intersect)
5. To query tables using nested queries (use of 'Except', exists, not exists, all clauses
6. To create views
7. To create Stored Procedure
   - A Simple Stored Procedure
   - A Stored Procedure with IN, OUT and IN/OUT parameter
8. Stored Function
   - A Simple Stored Function
   - A Stored Function that returns
   - A Stored Function recursive
9. Cursors
   - A Simple Cursor
   - A Parameterize Cursor

Kavayitri Bahinabai Chaudhari
North Maharashtra University, Jalgaon
T. Y. B. Sc. (Computer Science)
(w.e.f. June-2020)
Elective A
DSC (UG-CS-609 A): Lab on Lab on ASP.NET
Semester-VI

Course Objectives:

Course Outcomes:

1. Write an ASP .net program that demonstrate use of HTMLControls
2. Write an ASP .net program that demonstrate use of webcontrols.
3. Write an ASP .net that return the windows name of your computer and URL of the page that you arevisiting.
4. Write an ASP .net program that demonstrate use of Validation Controls.
5. Write an ASP .net program that demonstrate use of IntrinsicObjects.
6. Write an ASP .net program that demonstrate Application and Session Scope Variables using Global. Ajax
7. Write an ASP .net program that demonstrate Pagedirectives.
8. Write an ASP .net page that used the connection object to connect the database and display information using data gridControls.

Kavayitri Bahinabai Chaudhari

North Maharashtra University, Jalgaon
T. Y. B. Sc. (Computer Science)
(w.e.f. June-2020)
Elective B
DSC (UG-CS-509 B): Lab on JAVA Programming II
Semester-VI

Course Objectives:

- **To design User Interface using Swing and AWT**
- **Learn the advanced concept of java**
- **To aware about the applet programming**

Course Outcomes:

- Program using graphical user interface with Swing classes
- Handle different kinds of events generated while handling GUI components
- Create programs using menus and dialog boxes
- Program to create applets
- Understand advanced java concepts like JDBC, Java Beans

1. Write a program in Java to display messages in various fonts in aframe

2. Write a program in Java to draw various geometric shapes like circle, line, rectangleetc.

3. Write a program in Java to demonstrate paintmode.

4. Write a program in Java to demonstrate windowevents.

5. Write a program in Java to demonstrate Mouseevents.

6. Write a program in Java to demonstrate Keyboard events.(key pressed, key released)

7. Write a program in Java to demonstratemulticasting

8. Write a program in Java to demonstrate user interface component list boxes and combo box.

9. Write a program in Java to demonstrate user interface component radio button and check box.

10. Write a program in Java to demonstrate menus as interfacecomponent.

11. Write an Applet to display humanface.

12. Write a program in Java to demonstrate Java Applet with parameter

13. Write a program in java to demonstrate collection interfaces. (List andSet).

Sahajivan Shikshan Prasarak Mandal (Tehu) Sanchalit

RANI LAXMIBAI MAHAVIDYALAYA

PAROLA, DIST - JALGAON, 425111

CO – PO ATTAINMENT
DEPT. OF ENGLISH
T.Y.B.A. 2021-2022

Programme Outcomes	PO1	Learn the field of humanities and language with conceptual clarity.
	PO2	Become cultured and praiseworthy as a citizen of india .
	PO3	Secure employment /self employment (entrepreneurship) opportunities.
	PO4	Learn and fundamental values /principals of indian consciousness.
	PO5	Learn and adopt communication and soft skills properly.
	PO6	Become socially ,politically ,economically and culturally awareness.
	PO7	Make his overall personality development.
Course	**Outcomes**	
CENG-COMP. ENGLISH	CO1	Develop Reading, Writing & Communication skills of students
	CO2	The Course will inspire students to develop their creative ability.
	CO3	The course will introduce the basic forms of literature to the students.

CO 1	CO 2	CO 3
3.50	3.25	3.33

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	3	2	2	-	2	1	-
CO2	2	2	-	1	1	-	1
CO3	3	1	1	2	1	1	1
CO/PO	3.37	3.46	3.44	3.30	3.39	3.41	3.29

Coordinator, IQAC
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Parola,Dist.Jalgaon

Coordinator

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Acting Principal
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Principal

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Dept. of English
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Sahajivan Shikshan Prasarak Mandal (Telhi) Sanchalit
RANI LAXMIBAI MAHAVIDYALAYA
PAROLA, DIST - JALGAON, 425111

CO – PO ATTAINMENT
DEPT.OF ENGLISH
T.Y.B.A. 2022-2023

Programme Outcomes	PO1	Learn the field of humanities and language with conceptual clarity.
	PO2	Become cultured and praiseworthy as a citizen of india .
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	PO5	Learn and adopt communication and soft skills properly.
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	PO7	Make his overall personality development.
Course	**Outcomes**	
CENG-COMP. ENGLISH	CO1	Develop Reading, Writing & Communication skills of students
	CO2	The Course will inspire students to develop their creative ability.
	CO3	The course will introduce the basic forms of literature to the students

CO 1	CO 2	CO 3
3.33	3.46	3.53

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	2	2	2	1	-	1	1
CO2	3	2	2	1	1	-	1
CO3	2	2	1	-	1	1	-
CO/PO	4.01	3.44	3.42	3.39	3.49	3.43	3.39

Coordinator, IQAC
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Sahajivan Shikshan Prasarak Mandal (Tehu) Sanchalit
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CO – PO ATTAINMENT
DEPT. OF ENGLISH
T.Y.B.A. 2021-2022

Programme Outcomes	PO1	Learn the field of humanities and language with conceptual clarity.
	PO2	Become cultured and praiseworthy as a citizen of india .
	PO3	Secure employment /self employment (entrepreneurship) opportunities.
	PO4	Learn and fundamental values /principals of indian consciousness.
	PO5	Learn and adopt communication and soft skills properly.
	PO6	Become socially ,politically ,economically and culturally awareness.
	PO7	Make his overall personality development.
Course	**Outcomes**	
DSE 3 ENG A& B Twentieth century English Literature	CO1	To explain the students development of poetry in English.
	CO2	To acquaint the students with features and types of modern poetry ,Drama and Novel.
	CO3	To introduce the students with major poets ,Novelists and Dramatists in modern English Literature.

CO 1	CO 2	CO 3
3.62	3.25	3.62

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	3	2	1	1	2	2	2
CO2	1	2	2	2	2	2	-
CO3	2	1	1	-	1	-	1
CO/PO	3.55	3.47	2.74	3.37	3.47	3.43	3.62

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CO – PO ATTAINMENT
DEPT. OF ENGLISH
T.Y.B.A. 2022-2023

Programme Outcomes	PO1	Learn the field of humanities and language with conceptual clarity.
	PO2	Become cultured and praiseworthy as a citizen of india .
	PO3	Secure employment /self employment (entrepreneurship) opportunities.
	PO4	Learn and fundamental values /principals of indian consciousness.
	PO5	Learn and adopt communication and soft skills properly.
	PO6	Become socially ,politically ,economically and culturally awareness.
	PO7	Make his overall personality development.
Course	**Outcomes**	
DSE 3 ENG A& B Twentieth century English Literature	CO1	To explain the students development of poetry in English.
	CO2	To acquaint the students with features and types of modern poetry ,Drama and Novel.
	CO3	To introduce the students with major poets ,Novelists and Dramatists in modern English Literature.

CO 1	CO 2	CO 3
3.62	3.60	3.75

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	3	2	3	2	1	1	-
CO2	3	2	3	1	-	1	1
CO3	1	-	-	1	2	2	2
CO/PO	3.63	3.61	3.61	3.64	3.70	3.68	3.7

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CO – PO ATTAINMENT
DEPT. OF ENGLISH
T.Y.B.A. 2021-2022

Programme Outcomes	PO1	Learn the field of humanities and language with conceptual clarity.
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	PO3	Secure employment /self employment (entrepreneurship) opportunities.
	PO4	Learn and fundamental values /principals of indian consciousness.
	PO5	Learn and adopt communication and soft skills properly.
	PO6	Become socially ,politically ,economically and culturally awareness.
	PO7	Make his overall personality development.
Course	**Outcomes**	
DSE 4 ENG A The Study of English Language	CO1	To Introduce the students to the properties ,styles and varieties of English Language.
	CO2	To acquaint the students with grammatical forms and functions in English Language.
	CO3	To introduce the students to the basic concepts in semantic,lexis and syntax in English Language.

CO 1	CO 2	CO 3
3.83	3.25	2.75

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	3	2	1	-	1	2	-
CO2	2	2	1	2	2	1	1
CO3	1	1	-	1	-	1	1
CO/PO	3.45	3.38	3.54	3.08	3.44	3.41	3

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CO – PO ATTAINMENT
DEPT. OF ENGLISH
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Programme Outcomes	PO1	Learn the field of humanities and language with conceptual clarity.
	PO2	Become cultured and praiseworthy as a citizen of india .
	PO3	Secure employment /self employment (entrepreneurship) opportunities.
	PO4	Learn and fundamental values /principals of indian consciousness.
	PO5	Learn and adopt communication and soft skills properly.
	PO6	Become socially ,politically ,economically and culturally awareness.
	PO7	Make his overall personality development.
Course	**Outcomes**	
DSC ENG 1 E&1F Indian Writing in English	CO1	To introduce students with development of English literature by indian writers
	CO2	To acquaint students with major writers of Indian English Literature.
	CO3	To introduce students with content,techniques and styles of Indian writers in English.

CO 1	CO 2	CO 3
3.50	3.5	2.25

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	2	2	2	2	2	1	1
CO2	2	2	2	1	-	-	-
CO3	2	1	1	-	1	1	2
CO/PO	3.08	3.25	3.25	3.5	3.16	2.87	2.66

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DEPT. OF ENGLISH
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Programme Outcomes	PO1	Learn the field of humanities and language with conceptual clarity.
	PO2	Become cultured and praiseworthy as a citizen of india .
	PO3	Secure employment/self-employment (entrepreneurship) opportunities.
	PO4	Learn and fundamental values /principals of indian consciousness.
	PO5	Learn and adopt communication and soft skills properly.
	PO6	Become socially ,politically ,economically and culturally awareness.
	PO7	Make his overall personality development.
Course	Outcomes	
DSC ENG 1 E&1F Indian Writing in English	CO1	To introduce students with development of English literature by indian writers.
	CO2	To acquaint students with major writers of Indian English Literature.
	CO3	To introduce students with content,techniques and styles of Indian writers in English.

CO 1	CO 2	CO 3
3.83	3.5	3.25

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	2	2	1	2	-	2	-
CO2	2	2	2	1	2	1	1
CO3	1	1	-	-	1	-	1
CO/PO	3.57	3.57	3.61	3.7	3.41	3.7	3.37

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Programme Outcomes	PO1	Learn the field of humanities and language with conceptual clarity.
	PO2	Become cultured and praiseworthy as a citizen of india .
	PO3	Secure employment /self employment (entrepreneurship) opportunities.
	PO4	Learn and fundamental values /principals of indian consciousness.
	PO5	Learn and adopt communication and soft skills properly.
	PO6	Become socially ,politically ,economically and culturally awareness.
	PO7	Make his overall personality development.
Course -	**Outcomes**	
DSE 4 ENG A The Study of English Language	CO1	To Introduce the students to the properties ,styles and varieties of English Language
	CO2	To acquaint the students with grammatical forms and functions in English Language
	CO3	To introduce the students to the basic concepts in semantic,lexis and syntax in English Language.

CO 1	CO 2	CO 3
3.80	3.25	2.50

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	3	3	2	2	1	1	1
CO2	3	2	1	1	1	-	1
CO3	2	2	1	-	1	1	-
CO/PO	3.26	3.27	3.33	3.61	3.18	3.15	3.52

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CO – PO ATTAINMENT
DEPT. OF MARATHI
T.Y.B.A.

Programme Outcomes	PO1	Learn the field of humanities and language with conceptual clarity.
	PO2	Become cultured and praiseworthy as a citizen of india .
	PO3	Secure employment /self employment (entrepreneurship) opportunities.
	PO4	Learn and fundamental values /principals of indian consciousness.
	PO5	Learn and adopt communication and soft skills properly.
	PO6	Become socially ,politically ,economically and culturally awareness.
	PO7	Make his overall personality development.
Course	Outcomes	
MAR-351A: EKANKIKA LEKHANACHA ABHYAS	CO1	Students get the knowledge of the theatre of the times
	CO2	The students learn the origin of drama and dramatics art.
	CO3	Develop Attitude of literary forms.

CO 1	CO 2	CO 3
3.33	3.26	3.53

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	2	2	1	2	-	2	-
CO2	2	2	2	1	2	1	1
CO3	1	1	-	-	1	-	1
CO/PO	3.34	3.34	3.28	3.30	2.35	3.30	3.39

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CO – PO ATTAINMENT
DEPT. OF MARATHI

Programme Outcomes	PO1	Learn the field of humanities and language with conceptual clarity.
	PO2	Become cultured and praiseworthy as a citizen of india .
	PO3	Secure employment /self employment (entrepreneurship) opportunities.
	PO4	Learn and fundamental values /principals of indian consciousness.
	PO5	Learn and adopt communication and soft skills properly.
	PO6	Become socially ,politically ,economically and culturally awareness.
	PO7	Make his overall personality development.

Course		Outcomes
MAR-351B: VYVSAYBHIMUKH LEKHANASATHI MARATHI	CO1	Develop Reading, Writing & Communication skills of students
	CO2	Develop Marathi Vyavsaybhimukh lekhan of students.
	CO3	Inculcate moral and human values within themselves

CO 1	CO 2	CO 3
3.02	3.53	3.33

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	2	2	2	2	2	1	1
CO2	2	2	2	1	-	-	-
CO3	2	1	1	-	1	1	2
CO/PO	3.29	3.28	3.28	3.19	3.12	3.17	3.22

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CO – PO ATTAINMENT
DEPT. OF MARATHI

Programme Outcomes	PO1	Learn the field of humanities and language with conceptual clarity.
	PO2	Become cultured and praiseworthy as a citizen of india .
	PO3	Secure employment /self employment (entrepreneurship) opportunities.
	PO4	Learn and fundamental values /principals of indian consciousness.
	PO5	Learn and adopt communication and soft skills properly.
	PO6	Become socially ,politically ,economically and culturally awareness.
	PO7	Make his overall personality development.

Course		Outcomes
MAR-352: MADHYAYUGIN MARATHI VAGAMAYACHA ITIHAS	CO1	Know the Types of Marathi Vagamaya.
	CO2	Know the brief literature .
	CO3	Study the socio-cultural & Political background.

CO 1	CO 2	CO 3
3.40	3.53	3.26

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	3	2	2	1	1	1	1
CO2	2	2	1	1	-	-	-
CO3	1	1	1	-	1	1	2
CO/PO	3.39	3.42	3.39	3.46	3.33	3.33	3.30

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PAROLA, DIST - JALGAON, 425111

CO – PO ATTAINMENT
DEPT. OF MARATHI

Programme Outcomes	**PO1**	**Learn the field of humanities and language with conceptual clarity.**
	PO2	**Become cultured and praiseworthy as a citizen of india .**
	PO3	**Secure employment /self employment (entrepreneurship) opportunities.**
	PO4	**Learn and fundamental values /principals of indian consciousness.**
	PO5	**Learn and adopt communication and soft skills properly.**
	PO6	**Become socially ,politically ,economically and culturally awareness.**
	PO7	**Make his overall personality development.**
Course	**Outcomes**	
MAR-353: MARATHICHA BHASHIK ABHYAS	**CO1**	Know the importance of language in human life.
	CO2	Know the various methods to the study of language.
	CO3	Understand the communication process and method

CO 1	CO 2	CO 3
3.60	3.46	3.02

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	2	2	2	1	1	1	1
CO2	2	1	1	-	1	-	1
CO3	2	2	1	1	-	1	-
CO/PO	3.42	3.41	3.46	3.31	3.53	3.31	3.53

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CO – PO ATTAINMENT
DEPT. OF MARATHI

Programme Outcomes	**PO1**	**Learn the field of humanities and language with conceptual clarity.**
	PO2	**Become cultured and praiseworthy as a citizen of india .**
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	PO6	**Become socially ,politically ,economically and culturally awareness.**
	PO7	**Make his overall personality development.**
Course	**Outcomes**	
MAR-351A: EKANKIKA LEKHANACHA ABHYAS	**CO1**	Students get the knowledge of the theatre of the times
	CO2	The students learn the origin of drama and dramatics art.
	CO3	Develop Attitude of literary forms.

CO 1	CO 2	CO 3
3.46	3.26	3.02

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	2	2	1	1	-	1	-
CO2	2	2	2	1	1	1	1
CO3	1	1	-	-	1	-	1
CO/PO	3.32	3.32	3.32	3.36	3.23	3.36	3.23

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CO – PO ATTAINMENT
DEPT. OF MARATHI

Programme Outcomes	PO1	Learn the field of humanities and language with conceptual clarity.
	PO2	Become cultured and praiseworthy as a citizen of india .
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	PO4	Learn and fundamental values /principals of indian consciousness.
	PO5	Learn and adopt communication and soft skills properly.
	PO6	Become socially ,politically ,economically and culturally awareness.
	PO7	Make his overall personality development.

Course		Outcomes
MAR-351B: VYVSAYBHIMUKH LEKHANASATHI MARATHI	CO1	Develop Reading, Writing & Communication skills of students
	CO2	Develop Marathi Vyavsaybhimukh lekhan of students.
	CO3	Inculcate moral and human values within themselves

CO 1	CO 2	CO 3
3.46	3.60	3.66

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	2	2	2	1	-	1	1
CO2	2	2	1	1	-	-	-
CO3	2	1	1	-	1	1	1
CO/PO	3.57	3.55	3.54	3.53	3.66	3.56	3.56

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	PO2	Become cultured and praiseworthy as a citizen of india .
	PO3	Secure employment /self employment (entrepreneurship) opportunities.
	PO4	Learn and fundamental values /principals of indian consciousness.
	PO5	Learn and adopt communication and soft skills properly.
	PO6	Become socially ,politically ,economically and culturally awareness.
	PO7	Make his overall personality development.
Course	Outcomes	
MAR-352: MADHYAYUGIN MARATHI VAGAMAYACHA ITIHAS	CO1	Know the Types of Marathi Vagamaya.
	CO2	Know the brief literature .
	CO3	Study the socio-cultural & Political background.

CO 1	CO 2	CO 3
3.46	3.60	3.02

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	2	2	1	1	1	-	1
CO2	2	2	1	1	-	1	-
CO3	1	1	1	-	1	1	1
CO/PO	3.46	3.46	3.42	3.53	3.33	3.4	3.33

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DEPT. OF MARATHI

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	PO2	**Become cultured and praiseworthy as a citizen of india .**
	PO3	**Secure employment /self employment (entrepreneurship) opportunities.**
	PO4	**Learn and fundamental values /principals of indian consciousness.**
	PO5	**Learn and adopt communication and soft skills properly.**
	PO6	**Become socially ,politically ,economically and culturally awareness.**
	PO7	**Make his overall personality development.**
Course	**Outcomes**	
MAR-353: MARATHICHA BHASHIK ABHYAS	**CO1**	Know the importance of language in human life.
	CO2	Know the various methods to the study of language.
	CO3	Understand the communication process and method

CO 1	CO 2	CO 3
3.02	3.33	3.53

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	2	2	2	1	1	1	1
CO2	2	1	1	-	1	-	1
CO3	2	2	1	1	-	1	-
CO/PO	3.44	3.46	3.31	3.36	3.26	3.36	3.26

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CO – PO ATTAINMENT
DEPT. OF HISTORY
T.Y.B.A.2022-2023

Programme Outcomes	PO1	Learn the field of humanities and language with conceptual clarity.
	PO2	Become cultured and praiseworthy as a citizen of india .
	PO3	Secure employment /self employment (entrepreneurship) opportunities.
	PO4	Learn and fundamental values /principals of indian consciousness.
	PO5	Learn and adopt communication and soft skills properly.
	PO6	Become socially ,politically ,economically and culturally awareness.
	PO7	Make his overall personality development.
Course	Outcomes	
History-351: History of Modern Europ(AD1781-AD1913)	CO1	Understand the concept and meaning of the history of modern Europe
	CO2	Explain important information of the history of modern Europe.
	CO3	To inculcate liberty equality and fraternity among the students

CO 1	CO 2	CO 3
3.33	3.46	3.53

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	2	2	2	1	-	1	1
CO2	3	2	2	1	1	-	1
CO3	2	2	1	-	1	1	-
CO/PO	3.33	3.44	3.42	3.39	3.49	3.43	3.39

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DEPT. OF HISTORY
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Programme Outcomes	**PO1**	**Learn the field of humanities and language with conceptual clarity.**
	PO2	**Become cultured and praiseworthy as a citizen of India .**
	PO3	**Secure employment /self employment (entrepreneurship) opportunities.**
	PO4	**Learn and fundamental values /principals of indian consciousness.**
	PO5	**Learn and adopt communication and soft skills properly.**
	PO6	**Become socially ,politically ,economically and culturally awareness.**
	PO7	**Make his overall personality development.**

Course	**Outcomes**	
HIS-361 HISTORY OF MODERN EUROP(AD1914-AD1945)	**CO1**	Understand the concept and meaning of the history of modern Europe
	CO2	Explain important information of the history of modern Europe.
	CO3	To inculcate liberty equality and fraternity among the students

CO 1	CO 2	CO 3
1.06	1.86	1.06

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	3	3	2	2	1	1	1
CO2	3	2	1	1	1	-	1
CO3	2	2	1	-	1	1	-
CO/PO	1.36	1.28	1.26	1.32	1.32	1.06	1.46

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Sahajivan Shikshan Prasarak Mandal (Tehu) Sanchalit

RANI LAXMIBAI MAHAVIDYALAYA

PAROLA, DIST - JALGAON, 425111

CO – PO ATTAINMENT
DEPT. OF HISTORY
T.Y.B.A. 2022-2023

Programme Outcomes	**PO1**	**Learn the field of humanities and language with conceptual clarity.**
	PO2	**Become cultured and praiseworthy as a citizen of india .**
	PO3	**Secure employment /self employment (entrepreneurship) opportunities.**
	PO4	**Learn and fundamental values /principals of indian consciousness.**
	PO5	**Learn and adopt communication and soft skills properly.**
	PO6	**Become socially ,politically ,economically and culturally awareness.**
	PO7	**Make his overall personality development.**
Course	**Outcomes**	
His 352: History of India (AD1750 to AD1857)	**CO1**	Students learn about the history of the mentioned modern period (1750 to 1857)
	CO2	Students understand about the social, economic and cultural information of the modern period.
	CO3	Students learn about the agricultural, and commercial position of women and religious condition in modern period

CO 1	CO 2	CO 3
3.02	3.33	3.53

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	2	2	1	3	2	2	2
CO2	1	2	2	2	2	2	-
CO3	2	1	1	-	1	-	1
CO/PO	3.2	3.2	2.92	3.29	3.2	2.92	2.98

Coordinator

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Parola,Dist.Jalgaon

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Vice Principal
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CO – PO ATTAINMENT
DEPT. OF HISTORY
T.Y.B.A. 2022-2023

Programme Outcomes	**PO1**	**Learn the field of humanities and language with conceptual clarity.**
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	PO4	**Learn and fundamental values /principals of Indian consciousness.**
	PO5	**Learn and adopt communication and soft skills properly.**
	PO6	**Become socially, politically, economically and culturally awareness.**
	PO7	**Make his overall personality development.**
Course	**Outcomes**	
History-353: History of India (AD 1206 to AD1526)	**CO1**	Students learn about the history of the mentioned sultanate period (1206 to 1526)
	CO2	Students understand about the social, economic and cultural information of the medieval period.
	CO3	Students learn about the agricultural, and commercial position of women and religious condition in sultanate period

CO 1	CO 2	CO 3
3.53	3.60	3.66

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	3	2	2	-	2	1	-
CO2	2	2	-	1	1	-	1
CO3	3	1	1	2	1	1	1
CO/PO	3.53	3.44	3.07	2.89	3.29	2.18	2.18

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CO – PO ATTAINMENT
DEPT. OF HISTORY
T.Y.B.A. 2022-2023

Programme Outcomes	**PO1**	**Learn the field of humanities and language with conceptual clarity.**
	PO2	**Become cultured and praiseworthy as a citizen of india .**
	PO3	**Secure employment /self employment (entrepreneurship) opportunities.**
	PO4	**Learn and fundamental values /principals of indian consciousness.**
	PO5	**Learn and adopt communication and soft skills properly.**
	PO6	**Become socially ,politically ,economically and culturally awareness.**
	PO7	**Make his overall personality development.**
Course	**Outcomes**	
His 362: History of India (AD 1750 to 1857)	**CO1**	Students learn about the history of the mentioned modern period (1750 to 1857)
	CO2	Students understand about the social, economic and cultural information of the modern period.
	CO3	Students learn about the agricultural, and commercial position of women and religious condition in modern period

CO 1	CO 2	CO 3
3.33	3.02	3.53

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	3	2	3	2	1	1	-
CO2	3	2	3	1	-	1	1
CO3	1	-	-	1	2	2	2
CO/PO	3.22	3.17	3.17	3.30	3.46	3.35	3.36

Coordinator IQAC
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CO – PO ATTAINMENT
DEPT. OF HISTORY
T.Y.B.A. 2022-2023

Programme Outcomes	**PO1**	**Learn the field of humanities and language with conceptual clarity.**
	PO2	**Become cultured and praiseworthy as a citizen of india .**
	PO3	**Secure employment /self employment (entrepreneurship) opportunities.**
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	PO5	**Learn and adopt communication and soft skills properly.**
	PO6	**Become socially ,politically ,economically and culturally awareness.**
	PO7	**Make his overall personality development.**
Course	**Outcomes**	
History-363: History of India (AD 1206 to AD1526)	**CO1**	Students learn about the history of the mentioned sultanate period (1206 to 1526)
	CO2	Students understand about the social, economic and cultural information of the medieval period.
	CO3	Students learn about the agricultural, and commercial position of women and religious condition in sultanate period

CO 1	CO 2	CO 3
3.53	3.60	3.66

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	3	2	2	-	2	1	-
CO2	2	2	-	1	1	-	1
CO3	3	1	1	2	1	1	1
CO/PO	3.53	3.44	3.07	2.89	3.29	2.18	2.18

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CO – PO ATTAINMENT
DEPT. OF HISTORY
T.Y.B.A. 2021-2022

Programme Outcomes	**PO1**	**Learn the field of humanities and language with conceptual clarity.**
	PO2	**Become cultured and praiseworthy as a citizen of india .**
	PO3	**Secure employment /self employment (entrepreneurship) opportunities.**
	PO4	**Learn and fundamental values /principals of indian consciousness.**
	PO5	**Learn and adopt communication and soft skills properly.**
	PO6	**Become socially ,politically ,economically and culturally awareness.**
	PO7	**Make his overall personality development.**

Course	**Outcomes**	
History-351: Modern Europe (AD 1781-1913	**CO1**	Understand the concept and meaning of the history of modern Europe
	CO2	Explain important information of the history of modern Europe.
	CO3	To inculcate liberty equality and fraternity among the students

CO 1	CO 2	CO 3
3.33	3.46	3.53

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	2	2	2	1	2	1	1
CO2	2	2	2	1	1	-	1
CO3	2	3	3	2	1	1	-
CO/PO	3.44	3.54	3.68	3.44	3.52	3.42	3.36

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CO – PO ATTAINMENT
DEPT. OF HISTORY
T.Y.B.A. 2021-2022

Programme Outcomes	**PO1**	**Learn the field of humanities and language with conceptual clarity.**
	PO2	**Become cultured and praiseworthy as a citizen of india .**
	PO3	**Secure employment /self employment (entrepreneurship) opportunities.**
	PO4	**Learn and fundamental values /principals of indian consciousness.**
	PO5	**Learn and adopt communication and soft skills properly.**
	PO6	**Become socially ,politically ,economically and culturally awareness.**
	PO7	**Make his overall personality development.**

Course	**Outcomes**	
HIS-361 History of Modern Europ(AD1914-AD1945)	**CO1**	Understand the concept and meaning of the history of modern Europe
	CO2	Explain important information of the history of modern Europe.
	CO3	To inculcate liberty equality and fraternity among the students

CO 1	CO 2	CO 3
1.06	1.86	1.06

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	3	3	2	2	1	1	1
CO2	3	2	1	1	1	-	1
CO3	2	2	1	-	1	1	-
CO/PO	1.82	1.78	1.46	1.32	1.39	1.46	1.46

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RANI LAXMIBAI MAHAVIDYALAYA
PAROLA, DIST - JALGAON, 425111

CO – PO ATTAINMENT
DEPT. OF HISTORY
T.Y.B.A. 2021-2022

Programme Outcomes	**PO1**	**Learn the field of humanities and language with conceptual clarity.**
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	PO6	**Become socially ,politically ,economically and culturally awareness.**
	PO7	**Make his overall personality development.**
Course	**Outcomes**	
His 352: History of India (AD1750 to AD1857)	**CO1**	Students learn about the history of the mentioned modern period (1750 to 1857)
	CO2	Students understand about the social, economic and cultural information of the modern period.
	CO3	Students learn about the agricultural, and commercial position of women and religious condition in modern period

CO 1	CO 2	CO 3
3.02	3.33	3.53

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	2	2	1	3	2	2	2
CO2	3	2	2	2	2	2	-
CO3	2	1	1	-	1	-	1
CO/PO	3.44	3.28	2.89	3.32	3.28	3.07	2.92

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RANI LAXMIBAI MAHAVIDYALAYA

PAROLA, DIST - JALGAON, 425111

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DEPT. OF HISTORY
T.Y.B.A. 2021-2022

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	PO7	**Make his overall personality development.**
Course	**Outcomes**	
His 362: History of India (AD 1750 to 1857)	**CO1**	Students learn about the history of the mentioned modern period (1750 to 1857)
	CO2	Students understand about the social, economic and cultural information of the modern period.
	CO3	Students learn about the agricultural, and commercial position of women and religious condition in modern period

CO 1	CO 2	CO 3
3.33	3.02	3.53

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	3	2	3	2	1	1	-
CO2	3	2	3	1	-	1	1
CO3	1	-	-	1	2	2	2
CO/PO	3.44	3.12	3.32	3.38	3.22	3.27	3.22

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DEPT. OF HISTORY
T.Y.B.A. 2021-2022

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	PO7	**Make his overall personality development.**
Course	**Outcomes**	
History-353: History of India (AD 1206 to AD1526)	**CO1**	Students learn about the history of the mentioned sultanate period (1206 to 1526)
	CO2	Students understand about the social, economic and cultural information of the medieval period.
	CO3	Students learn about the agricultural, and commercial position of women and religious condition in sultanate period

CO 1	CO 2	CO 3
3.53	3.60	3.66

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	3	2	2	-	2	1	-
CO2	2	2	-	1	1	-	1
CO3	3	1	1	2	1	1	1
CO/PO	3.58	3.49	2.89	2.89	3.19	2.16	2.16

Coordinator
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Parola,Dist.Jalgaon

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RANI LAXMIBAI MAHAVIDYALAYA

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Course	**Outcomes**	
History-363: History of India (AD 1206 to AD1526)	**CO1**	Students learn about the history of the mentioned sultanate period (1206 to 1526)
	CO2	Students understand about the social, economic and cultural information of the medieval period.
	CO3	Students learn about the agricultural, and commercial position of women and religious condition in sultanate period

CO 1	CO 2	CO 3
3.53	3.60	3.66

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	3	2	2	-	2	1	-
CO2	2	2	1	1	1	-	1
CO3	1	1	1	2	1	1	1
CO/PO	3.43	3.42	3.22	3.21	3.27	2.09	2.09

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Sahajivan Shikshan Prasarak Mandal (Tehu) Sanchalit
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DEPARTMENT OF POLITICAL SCIENCE

Academic Year: 2021-22

Sr.No	Year	Class	Name of Course	Course Code	CO1	CO2	CO3
1	2021 - 2022	FYBA	Indian Constitution and Polity	Pol-G-DSC 1(A)& Pol-G-DSC1(B)	3.60	3.9	3.75
2	2021 - 2022	SYBA	Introduction to Administration of Maharashtra	POL-G-DSC 1 C & POL-G-DSC 1 D	3.75	3.65	3.75
3	2021 - 2022	TYBA	Indian Political Thinkars	POL-G-DSC 1 E & POL-G-DSC 1 F	3.52	3.82	3.52

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DEPARTMENT OF POLITICAL SCIENCE

Academic Year: 2022-23

Sr.No	Year	Class	Name of Course	Course Code	CO1	CO2	CO3
1	2021 - 2022	FYBA	Indian Constitution and Polity	Pol-G-DSC 1(A)& Pol-G-DSC1(B)	3.75	3.85	3.75
2	2021 - 2022	SYBA	Introduction to Administration of Maharashtra	POL-G-DSC 1 C & POL-G-DSC 1 D	3.75	4	3.75
3	2021 - 2022	TYBA	Indian Political Thinkars	POL-G-DSC 1 E & POL-G-DSC 1 F	3.65	3.80	3.65

Head
Dept. of Political Science
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Establishment : June 1992

SSPM'S

Rani Laxmibai Mahavidyalaya Parola

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U.G.C-2F&12B(8-211/2005CPP-1D:2011)

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Ad.Kakasaheb Vasantrao More
Ex.Member of Parliament
President

Dr. V.R.Patil (Principal)
Mob-9373459332
E-mail:- vasupatil13@gmail.com

Outward No.

Date : / /20

Attainment of Course Outcomes
Academic Year: 2021-22

Name: Dr. V. S. Ghuge
Designation: Associate Professor
Subject: Hindi

Sr. No.	Course Name	Course Code	Class	SEM	CO 1	CO 2	CO 3
1.	Samanya Hindi	DSC- HIN –A-1-2	F.Y.B.A	I & II	3.86	3.86	3.73
2.	Samanya Hindi	DSC-HIN-C-D-A	S. Y.B.A	I & II	3.6	3.7	3.8
3.	Samanya Hindi	DSC-E-F-A	T.Y.B.A	I & II	3.8	3.7	3.6

HOD
Department of Hindi

Head
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Establishment : June 1992

SSPM'S

Rani Laxmibai Mahavidyalaya Parola

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Ex.Member of Parliament
President

Dr. V.R.Patil (Principal)
Mob-9373459332
E-mail:- vasupatil13@gmail.com

Outward No. Date : / /20

Attainment of Course Outcomes
Academic Year: 2022-23

Name: Dr. V. S. Ghuge
Designation: Associate Professor
Subject: Hindi

Sr. No.	Course Name	Course Code	Class	SEM	CO 1	CO 2	CO 3
1.	Samanya Hindi	DSC- HIN –A-1-2	F.Y.B.A	I & II	3.73	3.8	3.86
2.	Samanya Hindi	DSC-HIN-C-D-A	S. Y.B.A	I & II	3.8	3.7	3.6
3.	Samanya Hindi	DSC-E-F-A	T.Y.B.A	I & II	3.7	3.8	3.8

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Department of Economics
Academic Year: 2022-23

Sr.No	Year	Class	Name of Course	Course Code	CO1	CO2	CO3
1	2022 - 2023	FYBA	Introductory Economics	ECO-G-101(A)& ECO-G-201(A)	3.66	3.8	3.8
2	2022 - 2023	SYBA	Indian Economy since 1980- I	ECO-231 & ECO-241	3.6	3.6	3.7
3	2022 - 2023	TYBA	Indian Economy since 1980- II	ECO-351 & ECO-361	3.9	3.8	3.8

Head
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Department of Economics
Academic Year: 2021-22

Sr.No	Year	Class	Name of Course	Course Code	CO1	CO2	CO3
1	2021 - 2022	FYBA	Introductory Economics	ECO-G-101(A)& ECO-G-201(A)	3.66	3.86	3.73
2	2021 - 2022	SYBA	Indian Economy since 1980- I	ECO-231 & ECO-241	3.8	3.7	3.8
3	2021 - 2022	TYBA	Indian Economy since 1980- II	ECO-351 & ECO-361	3.8	3.8	3.7

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Rani Laxmibai Mahavidyalaya
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Acting Principal
Rani Laxmibai Mahavidyalaya,
Parola,Tal.Parola Dist.Jalgaon

Sahajivan Shikshan Prasarak Mandal (Tehu) Sanchalit
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Rani Laxmibai Mahavidyalaya IQAC PAROLA Dist.Jalgaon

Academic Year 2022-2023

Name of Department: English

Sr. No	Year	Class	Name of course	Corse code	PO1	PO2	PO3	PO4	PO5	PO6	PO7
1	2022-2023	F. Y. B. A SEM-I	Compulsory English	C. Eng.	3.60	3.58	3.66	3.37	3.52	3.65	3.49
			Optional English	GEN ENG							
		F. Y. B. A SEM-II	Compulsory English	C. Eng.	3.71	3.56	3.52	3.57	3.44	3.47	3.51
			Optional English	GEN ENG							
2	2022-2023	S. Y. B. A. SEM-I(GEN)	16th&17th Century English literature(SPL)	DSE-1A	3.65	3.65	3.40	3.49	3.44	3.54	3.68
			18th&19th Century English literature(SPL)	DSE-2A							
			The study of Novel & Drama	DSC-1C							
		S. Y. B. A. SEM-II(GEN)	16th&17th Century English literature(SPL)	DSE-1B	3.47	3.52	3.52	3.51	3.52	3.28	2.89
			18th&19th Century English literature(SPL)	DSE-2B	3.66	3.60	3.37	3.66	3.58	3.49	2.89
			The study of Novel & Drama	DSC-1C	3.52	3.71	3.57	3.52	1.82	1.78	1.46
3	2022-2023	T. Y. B. A. SEM-I	Compulsory English	C. Eng.	4.01	3.44	3.42	3.39	3.49	3.43	3.39
			20th Century English literature(SPL)	DSE-3 Eng.A	3.63	3.61	3.61	3.64	3.70	3.68	3.60
			The Study of English Language	DSE-4 Eng A	3.08	3.25	3.25	3.5	3.16	2.87	2.66
			Indian writing in English	DSC-Eng 1 E	3.08	3.25	3.25	3.5	3.16	2.87	2.66
4	2022-2023	T. Y. B. A. SEM-II	20th Century English literature(SPL)	DSE-3 Eng.B	3.63	3.61	3.61	3.64	3.70	3.68	3.60
			The Study of English Language	DSE-4 Eng B	3.08	3.25	3.25	3.5	3.16	2.87	2.66
			Indian writing in English	DSC-Eng 1 F	3.08	3.25	3.25	3.5	3.16	2.87	2.66

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Academic Year 2021-2022

Name of Department: English

Sr. No	Year	Class	Name of course	Corse code	PO1	PO2	PO3	PO4	PO5	PO6	PO7
1	2021-2022	F. Y. B. A SEM-I	Compulsory English	C. Eng.	3.60	3.58	3.66	3.37	3.52	3.65	3.49
			Optional English	GEN ENG							
		F. Y. B. A SEM-II	Compulsory English	C. Eng.	3.71	3.56	3.52	3.57	3.44	3.47	3.51
			Optional English	GEN ENG							
2	2021-2022	S. Y. B. A. SEM-I(GEN)	16th&17th Century English literature(SPL)	DSE-1A	3.65	3.65	3.40	3.49	3.44	3.54	3.68
			18th&19th Century English literature(SPL)	DSE-2A							
			The study of Novel & Drama	DSC-1C							
		S. Y. B. A. SEM-II(GEN)	16th&17th Century English literature(SPL)	DSE-1B	3.47	3.52	3.52	3.51	3.52	3.28	2.89
			18th&19th Century English literature(SPL)	DSE-2B	3.66	3.60	3.37	3.66	3.58	3.49	2.89
			The study of Novel & Drama	DSC-1C	3.52	3.71	3.57	3.52	1.82	1.78	1.46
		T. Y. B. A. SEM-I	Compulsory English	C. Eng.	3.37	3.46	3.44	3.30	3.39	3.41	3.29
3	2021-2022		20th Century English literature(SPL)	DSE-3 Eng.A	3.55	3.47	2.74	3.37	3.47	3.43	3.62
			The Study of English Language	DSE-4 Eng A	3.45	3.38	3.55	3.08	3.044	3.41	3.0
			Indian writing in English	DSC-Eng 1 E	3.57	3.57	3.61	3.7	3.41	3.7	3.37
4	2021-2022	T. Y. B. A. SEM-II	20th Century English literature(SPL)	DSE-3 Eng.B	3.55	3.47	2.74	3.37	3.47	3.43	3.62
			The Study of English Language	DSE-4 Eng B	3.45	3.38	3.55	3.08	3.044	3.41	3.0
			Indian writing in English	DSC-Eng 1 F	3.57	3.57	3.61	3.7	3.41	3.7	3.37

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Academic Year 2022-20223 **Name of Department: Marathi**

Sr. No	Year	Class	Name of course	Corse code	PO1	PO2	PO3	PO4	PO5	PO6	PO7
1	2022-2023	F. Y. B. A SEM-I	ADHUNIK GADHY PADHY VADGMAY PRAKAR : SWRUPVICHAR	MAR-111-A	3.60	3.70	4.57	3.64	3.71	3.59	3.63
			BHASHIK KAUSHALYA : SWRUPVICHAR V UPYOJAN	MAR-111 B	3.5	3.44	3.42	3.39	3.49	3.43	3.39
		F. Y. B. A SEM-II	:ADHUNIK GADHY PADHY VADGMAY PRAKAR : SWRUPVICHAR	MAR-121-A	3.60	3.70	4.57	3.64	3.71	3.59	3.63
			BHASHIK KAUSHALYA : SWRUPVICHAR V UPYOJAN	MAR-121 B	3.5	3.44	3.42	3.39	3.49	3.43	3.39
2	2022-2023	S. Y. B. A. SEM-I(GEN)	VAICHARIK GDHYA LEKHANACHA ABHYAS	MAR-231A	3.28	3.24	2.64	3.85	3.24	3.17	3.19
			SPRDHA PRIKSHESATHI MARATHI VYAKRAN	MAR-231B	3.22	3.17	3.17	3.30	3.46	3.35	3.36
		S. Y. B. A. SEM-II(GEN)	VAICHARIK GDHYA LEKHANACHA ABHYAS	MAR-241A	3.47	3.52	3.52	3.51	3.52	3.28	2.89
			SPRDHA PRIKSHESATHI MARATHI VYAKRAN	MAR-241B	3.22	3.17	3.17	3.30	3.46	3.35	3.36
		S. Y. B. A. SEM-I(SPL)	ADHUNIK VAAGAMAY PRAKAR KADAMBARI	MAR-232	3.61	3.60	3.59	3.57	3.57	3.62	3.59
		S. Y. B. A. SEM-II(SPL)	ADHUNIK VAAGAMAY PRAKAR KAVITAI	MAR-242	3.52	3.71	3.57	3.52	1.82	1.78	1.46
		S. Y. B. A. SEM-I(SPL)	SAHITY SWARUP VICHAR BHARTIY ANI PASHCHATY	MAR-233	3.42	3.45	3.46	3.45	3.44	3.49	3.43
		S. Y. B. A. SEM-II(SPL)	SAHITY SWARUP VICHAR BHARTIY ANI PASHCHATY	MAR-243	3.42	3.45	3.46	3.45	3.44	3.49	3.43
3	2022-2023	T. Y. B. A. SEM-I	EKANKIKA LEKHANACHA ABHYAS	MAR-351A	3.44	3.54	3.68	3.44	3.52	3.42	3.36
			VYVSAYBHIMUKH LEKHANASATHI MARATHI	MAR-351B	3.29	3.28	3.28	3.19	3.12	3.17	3.22
			MADHYAYUGIN MARATHI VAGAMAYACHA ITIHAS	MAR-352	3.39	3.42	3.39	3.46	3.33	3.33	3.30
			MARATHICHA BHASHIK ABHYAS	MAR-353	3.42	3.41	3.46	3.31	3.53	3.31	3.53
4	2022-2023	T. Y. B. A. SEM-II	LALIT GADHY LEKHANACHA ABHYAS	MAR-361A	3.34	3.34	3.28	3.30	2.35	3.30	3.39
			VYVSAYBHIMUKH LEKHANASATHI MARATHI	MAR-361B	3.29	3.28	3.28	3.19	3.12	3.17	3.22
			MADHYAYUGIN MARATHI VAGAMAYACHA ITIHAS	HIS-362	3.39	3.42	3.39	3.46	3.33	3.33	3.30
			MARATHICHA BHASHIK ABHYAS	MAR-363	3.41	3.46	3.31	3.53	3.31	3.53	3.42

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Academic Year 2021-2022

Name of Department: Marathi

Sr. No	Year	Class	Name of course	Corse code	PO1	PO2	PO3	PO4	PO5	PO6	PO7
1	2021-2022	F. Y. B. A SEM-I	ADHUNIK GADHY PADHY VADGMAY PRAKAR : SWRUPVICHAR	MAR-111-A	3.60	3.70	4.57	3.64	3.71	3.59	3.63
			BHASHIK KAUSHALYA : SWRUPVICHAR V UPYOJAN	MAR-111 B	3.5	3.44	3.42	3.39	3.49	3.43	3.39
		F. Y. B. A SEM-II	:ADHUNIK GADHY PADHY VADGMAY PRAKAR : SWRUPVICHAR	MAR-121-A	3.60	3.70	4.57	3.64	3.71	3.59	3.63
			BHASHIK KAUSHALYA : SWRUPVICHAR V UPYOJAN	MAR-121 B	3.5	3.44	3.42	3.39	3.49	3.43	3.39
2	2021-2022	S. Y. B. A. SEM-I(GEN)	VAICHARIK GDHYA LEKHANACHA ABHYAS	MAR-231A	3.28	3.24	2.64	3.85	3.24	3.17	3.19
			SPRDHA PRIKSHESATHI MARATHI VYAKRAN	MAR-231B	3.22	3.17	3.17	3.30	3.46	3.35	3.36
		S. Y. B. A. SEM-II(GEN)	VAICHARIK GDHYA LEKHANACHA ABHYAS	MAR-241A	3.47	3.52	3.52	3.51	3.52	3.28	2.89
			SPRDHA PRIKSHESATHI MARATHI VYAKRAN	MAR-241B	3.22	3.17	3.17	3.30	3.46	3.35	3.36
		S. Y. B. A. SEM-I(SPL)	ADHUNIK VAAGAMAY PRAKAR KADAMBARI	MAR-232	3.61	3.60	3.59	3.57	3.57	3.62	3.59
		S. Y. B. A. SEM-II(SPL)	ADHUNIK VAAGAMAY PRAKAR KAVITAI	MAR-242	3.52	3.71	3.57	3.52	1.82	1.78	1.46
		S. Y. B. A. SEM-I(SPL)	SAHITY SWARUP VICHAR BHARTIY ANI PASHCHATY	MAR-233	3.42	3.45	3.46	3.45	3.44	3.49	3.43
		S. Y. B. A. SEM-II(SPL)	SAHITY SWARUP VICHAR BHARTIY ANI PASHCHATY	MAR-243	3.42	3.45	3.46	3.45	3.44	3.49	3.43
3	2021-2022	T. Y. B. A. SEM-I	EKANKIKA LEKHANACHA ABHYAS	MAR-351A	3.44	3.54	3.68	3.44	3.52	3.42	3.36
			VYVSAYBHIMUKH LEKHANASATHI MARATHI	MAR-351B	3.29	3.28	3.28	3.19	3.12	3.17	3.22
			MADHYAYUGIN MARATHI VAGAMAYACHA ITIHAS	MAR-352	3.39	3.42	3.39	3.46	3.33	3.33	3.30
			MARATHICHA BHASHIK ABHYAS	MAR-353	3.42	3.41	3.46	3.31	3.53	3.31	3.53
4	2021-2022	T. Y. B. A. SEM-II	LALIT GADHY LEKHANACHA ABHYAS	MAR-361A	3.34	3.34	3.28	3.30	2.35	3.30	3.39
			VYVSAYBHIMUKH LEKHANASATHI MARATHI	MAR-361B	3.29	3.28	3.28	3.19	3.12	3.17	3.22
			MADHYAYUGIN MARATHI VAGAMAYACHA ITIHAS	HIS-362	3.39	3.42	3.39	3.46	3.33	3.33	3.30
			MARATHICHA BHASHIK ABHYAS	MAR-363	3.41	3.46	3.31	3.53	3.31	3.53	3.42

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Academic Year 2021-2022 **Name of Department: History**

Sr. No	Year	Class	Name of course	Corse code	PO1	PO2	PO3	PO4	PO5	PO6	PO7
1	2021-2022	F. Y. B. A SEM-I	Indian Freedom Movement	HIS-101	3.60	3.58	3.66	3.37	3.52	3.65	3.49
		F. Y. B. A SEM-II	Indian Freedom Movement	HIS-102	3.71	3.56	3.52	3.57	3.44	3.47	3.51
2	2021-2022	S. Y. B. A. SEM-I(GEN)	History Of Marathas	HIS-231	3.65	3.65	3.40	3.49	3.44	3.54	3.68
		S. Y. B. A. SEM-II(GEN)	History Of Marathas	HIS-231	3.47	3.52	3.52	3.51	3.52	3.28	2.89
		S. Y. B. A. SEM-I(SPL)	History of USA	HIS-232	3.66	3.60	3.37	3.66	3.58	3.49	2.89
		S. Y. B. A. SEM-II(SPL)	History of USA	HIS-242	3.52	3.71	3.57	3.52	1.82	1.78	1.46
		S. Y. B. A. SEM-I(SPL)	History of ancient India	HIS-233	3.40	3.65	3.49	3.40	3.44	3.12	3.32
		S. Y. B. A. SEM-II(SPL)	History of ancient India	HIS-243	3.52	3.47	3.51	3.52	3.43	3.42	3.49
3	2021-2022	T. Y. B. A. SEM-I	History of Modern Europe (AD 1781-1913)(GEN)	HIS-351	3.44	3.54	3.68	3.44	3.52	3.42	3.36
			History of India (AD 1750-1857)	HIS-352	3.44	3.28	2.89	3.32	3.28	3.7	2.92
			History of India (AD 1206-1526)	HIS-353	3.58	3.49	2.89	2.89	3.19	2.16	2.16
4	2021-2022	T. Y. B. A. SEM-II	History of Modern Europe (AD 1914-1945)(GEN)	HIS-361	1.82	1.78	1.46	1.32	1.39	1.46	1.46
			History India (AD 1750-1857)	HIS-362	3.44	3.12	3.32	3.38	3.22	3.27	3.22
			History of India (AD 1206-1526)	HIS-363	3.43	3.42	3.22	3.21	3.27	2.9	2.9

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Academic Year 2022-2023 **Name of Department: History**

Sr. No	Year	Class	Name of course	Corse code	PO1	PO2	PO3	PO4	PO5	PO6	PO7
1	2022-2023	F. Y. B. A SEM-I	Indian Freedom Movement	HIS-101	3.60	3.58	3.66	3.37	3.52	3.65	3.49
		F. Y. B. A SEM-II	Indian Freedom Movement	HIS-102	3.71	3.56	3.52	3.57	3.44	3.47	3.51
2	2022-2023	S. Y. B. A. SEM-I(GEN)	History Of Marathas	HIS-231	3.65	3.65	3.40	3.49	3.44	3.54	3.68
		S. Y. B. A. SEM-II(GEN)	History Of Marathas	HIS-231	3.47	3.52	3.52	3.51	3.52	3.28	2.89
		S. Y. B. A. SEM-I(SPL)	History of USA	HIS-232	3.66	3.60	3.37	3.66	3.58	3.49	2.89
		S. Y. B. A. SEM-II(SPL)	History of USA	HIS-242	3.52	3.71	3.57	3.52	1.82	1.78	1.46
		S. Y. B. A. SEM-I(SPL)	History of ancient India	HIS-233	3.40	3.65	3.49	3.40	3.44	3.12	3.32
		S. Y. B. A. SEM-II(SPL)	History of ancient India	HIS-243	3.52	3.47	3.51	3.52	3.43	3.42	3.49
3	2022-2023	T. Y. B. A. SEM-I	History of Modern Europe (AD 1781-1913)(GEN)	HIS-351	3.44	3.54	3.68	3.44	3.52	3.42	3.36
			History of India (AD 1750-1857)	HIS-352	3.44	3.28	2.89	3.32	3.28	3.7	2.92
			History of India (AD 1206-1526)	HIS-353	3.58	3.49	2.89	2.89	3.19	2.16	2.16
4	2021-2022	T. Y. B. A. SEM-II	History of Modern Europe (AD 1914-1945)(GEN)	HIS-361	1.82	1.78	1.46	1.32	1.39	1.46	1.46
			History India (AD 1750-1857)	HIS-362	3.44	3.12	3.32	3.38	3.22	3.27	3.22
			History of India (AD 1206-1526)	HIS-363	3.43	3.42	3.22	3.21	3.27	2.9	2.9

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CO ATTATMENT

ARTS-FACULTY

DEPARTMENT: MARATHI

(2021-2022)

Sr. No	Year	Class	Name of course	Corse code	CO-1	CO-2	CO-3
1 2	2021-2022	F. Y. B. A.	आधुनिक गद्य व पद्य वाङ्मयप्रकार: स्वरुपविचार	MAR-111 A	3.53	3.60	3.66
			आधिक कौशल्ये :स्वरूपविचार व उपयोजन	MAR-111 B	3.33	3.46	3.53
	2021-2022	S. Y. B. A.	वैचारिक गद्य लेखनाचा अभ्यास	MAR-231 A	3.2	3.33	3.53
			स्पर्धा परीक्षेसाठी मराठी व्याकरण	MAR-231 B	3.33	3.2	3.53
			आधुनिक वाङ्मय प्रकार कादंबरी	MAR-232	3.66	3.53	3.66
			साहित्य स्वरूप विचार भारतीय आणि पाश्चात्य	MAR-233	3.53	3.33	3.46
	2021-2022	T. Y. B. A.	एकांकिका लेखनाचा अभ्यास	MAR-351 A	3.33	3.26	3.53
			व्यवसायभिमुख लेखनासाठी मराठी	MAR-351 B	3.2	3.53	3.33
			मध्ययुगीन मराठी वाङ्मयाचा इतिहास	MAR-352	3.40	3.53	3.26
			मराठीचा आधिक अभ्यास	MAR-353	3.60	3.46	3.2
3	2021-2022	S. Y. B. Sc.	विज्ञान कथा व विनोदी कथा	MAR	3.2	3.66	3.26

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CO ATTATMENT

ARTS-FACULTY

DEPARTMENT: MARATHI

(2022-2023)

Sr. No	Year	Class	Name of course	Corse code	C0-1	C0-2	C0-3
1	2022-2023	F. Y. B. A.	आधुनिक गद्य व पद्य वाङ्मयप्रकार: स्वरुपविचार	MAR-111 A	3.46	3.40	3.53
			भाषिक कौशल्ये :स्वरूपविचार व उपयोजन	MAR-111 B	3.33	3.53	3.2
2	2022-2023	S. Y. B. A.	वैचारिक गद्य लेखनाचा अभ्यास	MAR-231 A	3.26	3.60	3.2
			स्पर्धा परीक्षेसाठी मराठी व्याकरण	MAR-231 B	3.2	3.46	3.60
			आधुनिक वाङ्मय प्रकार कादंबरी	MAR-232	3.53	3.26	3.2
			साहित्य स्वरूप विचार भारतीय आणि पाश्चात्य	MAR-233	3.46	3.60	3.2
	2022-2023	T. Y. B. A.	एकांकिका लेखनाचा अभ्यास	MAR-351 A	3.46	3.26	3.2
			व्यवसायाभिमुख लेखनासाठी मराठी	MAR-351 B	3.46	3.60	3.66
			मध्ययुगीन मराठी वाङ्मयाचा इतिहास	MAR-352	3.46	3.60	3.2
			मराठीचा भाषिक अभ्यास	MAR-353	3.2	3.33	3.53
3	2022-2023	S. Y. B. Sc.	विज्ञान कथा व विनोदी कथा		3.26	3.2	3.26

Head,
Department of Marathi

Dept. of Marathi
Rani Laxmibai Mahavidyalaya
Parola,Tal. Parola Dist. Jalgaon

IQAC Coordinator

Coordinator, IQAC
Rani Laxmibai Mahavidyalaya
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ARTS-FACULTY

DEPRTMENT: English

(2021-2022)

Sr. No	Year	Class	Name of course	course code	CO-1	CO-2	CO-3	CO-4
1	2021-2022	F. Y. B. A. SEM-I	Compulsory English	C. Eng.	3.50	3.25	3.33	
			Optional English	Gen. Eng.	3.75	3.50	3.30	
		F Y. B. A. SEM-II	Compulsory English	C. Eng.	3.83	3.25	3.60	
			Optional English	Gen. Eng.	3.60	3.25	3.62	
2	2021-2022	S. Y. B. A. SEM-I	16th and 17th Cent. Eng. Lit.	DSE-1 A	3.75	3.66	2.33	
			18th and 19th Cent. Eng. Lit.	DSE-2 A	3.75	3.60	3.25	
			The study of Novel and Drama	DSC 1 C	3.83	3.25	2.91	
		S. Y. B. A. SEM-II	16th and 17th Cent. Eng. Lit.	DSE-1 B	3.75	3.5	2.30	
			18th and 19th Cent Eng. Lit.	DSE-2 B	3.25	3.75	3.25	
			The study of Novel and drama	DSC 1 C	3.83	3.25	2.91	
3	2021-2022	T. Y. B. A. SEM-I	Twenticth Cent Eng. Lit.	DSE 3 Eng. A	3.62	3.25	3.62	
			The study of English lang.	DSE 4 Eng. A	3.83	3.25	2.75	
			Indian Writing in English	DSC Eng. 1 E	3.83	3.5	3.25	
		T. Y. B. A. SEM-II	Twenticth Cent. Eng. Lit.	DSE 3 Eng. B	3.60	3.25	3.62	
			The study of English lang.	DSE 4 Eng. B	3.83	3.25	2.75	
			Indian Writing in English	DSC 1 B.F	3.50	3.5	3.25	

Head,

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ARTS-FACULTY

DEPRTMENT: English

(2022-2023)

Sr. No	Year	Class	Name of course	Course code	CO-1	CO-2	CO-3	CO-4
1	2021-2022	F. Y. B. A. SEM-I	Compulsory English	C. Eng.	3.25	3.50	2.30	
			Optional English	Gen. Eng. I	3.75	3.30	3.50	
		F Y. B. A. SEM-II	Compulsory English	C. Eng.	3.83	3.25	3.25	
			Optional English	Gen. Eng. I	3.60	3.25	3.60	
2	2021-2022	S. Y. B. A. SEM-I	16th and 17th cent. Eng. Lit.	DSE 1 A	3.75	3.66	2.33	
			18th and 19th Cent. Eng. Lit.	DSE 2 A	3.25	3.50	3.66	
			The study of Novel and Drama	DSC 1 C	3.88	3.25	2.91	
		S. Y. B. A. SEM-II	16th and 17th Cent. Eng. Lit.	DSE-1 B	3.75	3.5	2.30	
			18th and 19th Cent. Eng. Lit.	DSE 2 B	3.25	3.75	3.25	
			The study of Novel and Drama	DSC 1 C	3.83	3.20	2.35	
3	2021-2022	T. Y. B. A. SEM-I	Twentieth Cen. Eng. Lit.	DSE 3 Eng. A	3.62	3.60	3.75	
			The study of English lang.	DSE 4 Eng A	3.83	3.25	2.75	
			Indian Writing in Eglish	DSC 3 E Eng.	3.80	3.5	3.25	
		T. Y. B. A. SEM-II	Twentieth Cent. Eng. Lit	DSE 3 B Eng.	3.60	3.25	3.62	
			The study of English lang.	DSE 4 Eng. B.	3.80	3.25	2.75	
			Indian Writing in Eglish	DSC F 1	3.60	3.25	3.25	

Head,
Department of: English

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Percentage of course outcomes

Faculty of Arts

Samples of files of percentage course outcomes

Name of Department: - History **Academic Year: -2022-23**

Sr. No.	Year	Class	Name of Course	Course code	CO 1	CO 2	CO 3
1	2021-22 Arts	F.Y.B.A	History of Indian Freedom Movement	His.G-101A	1.93	1.93	1.06
		F.Y.B.A	History of Indian Freedom Movement	His.G-201A	1.73	1.46	1.08
		S.Y.B.A	History of Marathas	DSE-His-231	2.13	2.06	2.13
		S.Y.B.A	History of Marathas	DSE-His-241	2.13	2.06	2.06
		S.Y.B.A	History of USA	DSE-His-232	2.72	2.36	2.27
		S.Y.B.A	History of USA	DSE-His-242	2.45	2.45	3.36
		S.Y.B.A	History of Ancient India	DSE-His-233	2.21	2.71	1.57
		S.Y.B.A	History of Ancient India	DSE-His-243	2.21	1.71	1.57
		T.Y.B.A	History of Modern Europe	DSE-1EHis-351	1.08	1.53	1.06
		T.Y.B.A	History of Modern Europe	DSE-1EHis-361	1.06	1.86	1.06
		T.Y.B.A	History of India	DSE-1CHis-352	1.86	1.04	1.66
		T.Y.B.A	History of India	DSE-1CHis-362	1.08	1.73	1.66
		T.Y.B.A	History of India	DSE-1CHis-353	1.93	1.46	1.04
		T.Y.B.A	History of India	DSE-1CHis-363	1.73	1.86	1.46

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IQAC, Coordinator

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Percentage of course outcomes

Faculty of Arts

Samples of files of percentage course outcomes

Name of Department: - History **Academic Year: -2021-22**

Sr. No.	Year	Class	Name of Course	Course code	CO 1	CO 2	CO 3
1	2021-22 Arts	F.Y.B.A	History of Indian Freedom Movement	His.G-101A	1.93	1.66	1.08
		F.Y.B.A	History of Indian Freedom Movement	His.G-201A	2.06	1.86	2.06
		S.Y.B.A	History of Marathas	DSE-His-231	2.26	2.04	2.02
		S.Y.B.A	History of Marathas	DSE-His-241	2.04	2.33	2.00
		S.Y.B.A	History of USA	DSE-His-232	2.81	2.09	2.63
		S.Y.B.A	History of USA	DSE-His-242	2.06	2.54	2.27
		S.Y.B.A	History of Ancient India	DSE-His-233	2.13	2.33	2.02
		S.Y.B.A	History of Ancient India	DSE-His-243	2.33	2.02	2.33
		T.Y.B.A	History of Modern Europe	DSE-1EHis-351	2.04	2.02	1.86
		T.Y.B.A	History of Modern Europe	DSE-1EHis-361	1.86	2.53	2.13
		T.Y.B.A	History of India	DSE-1CHis-352	2.16	2.75	2.08
		T.Y.B.A	History of India	DSE-1CHis-362	2.05	2.33	2.16
		T.Y.B.A	History of India	DSE-1CHis-353	2.23	2.15	2.13
		T.Y.B.A	History of India	DSE-1CHis-363	2.07	2.23	2.23

Head of the Department

Dept. of History
Rani Laxmibai Mahavidyalaya
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Coordinator IQAC
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ESTD: 1992

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Academic Year 2022-2023

Name of Department: Computer Science

Sr. No	Year	Class	Name of course	Corse code	PO1	PO2	PO3	PO4	PO5	PO6	PO6	PO7	PO8
1	2022-2023	F. Y. B. Sc. SEM-I	Essentials of Computer	CS-101	3.51	3.73	3.46	3.44	---	---	---	---	---
			Programming in C-I	CS -102	3.60	3.5	3.0	1.71	---	---	---	---	---
		F. Y. B. Sc. SEM-II	Internet Computing	CS -201	3.21	3.5	2.26	3.55	---	---	---	---	---
			Programming in C-II	CS -202	2.41	3.45	3.48	3.5	---	---	---	---	---
2	2022-2023	S. Y. B. Sc. SEM-I	Data Structure-I	CS -301	3.08	3.5	3.56	3.5	---	---	---	---	---
			Programming in C++-I	CS -302	3.5	3.5	3.2	3.56	---	---	---	---	---
		S. Y. B. Sc. SEM-II	Data Structure-II	CS -401	3.7	3.7	3.72	3.58	---	---	---	---	---
			Programming in C++-II	CS -402	2.84	3.63	3.4	3.5	---	---	---	---	---
3	2022-2023	T. Y. B. Sc. SEM-I	System Programming	CS -501	3.86	3.87	3.87	3.86	---	---	---	---	---
			Database Management System	CS -502	3.87	3.85	3.86	3.87	---	---	---	---	---
			Software Engineering	CS -503	3.81	3.80	3.83	3.74	---	---	---	---	---
			Computer Aided Graphics	CS -504	3.85	3.87	3.85	3.87	---	---	---	---	---
			Python Programming-I	CS -505	3.84	3.87	3.88	3.84	---	---	---	---	---
			Programming in Java-I	CS - 506(B)	3.89	3.89	3.87	3.89	---	---	---	---	---
4	2022-2023	T. Y. B. Sc. SEM-II	Operating System	CS -601	3.88	3.87	3.9	3.88	---	---	---	---	---
			Relational Database Mangament System	CS -602	3.87	3.86	3.87	3.87	---	---	---	---	---
			Computer Networks	CS -603	3.87	3.87	3.88	3.86	---	---	---	---	---
			Theoretical computer Science	CS -604	3.86	3.88	3.86	3.87	---	---	---	---	---
			Python Programming-II	CS -605	3.87	3.85	3.87	3.84	---	---	---	---	---
			Programming in Java-II	CS -606 (B)	3.89	3.88	3.89	3.88	---	---	---	---	---

Coordinator, IQAC
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Academic Year 2021-2022 **Name of Department: Computer Science**

Sr. No	Year	Class	Name of course	Corse code	PO1	PO2	PO3	PO4	PO5	PO6	PO6	PO7	PO8
1	2021-2022	F. Y. B. Sc. SEM-I	Essentials of Computer	CS-101	3.60	3.58	3.66	3.37	---	---	---	---	---
			Programming in C-I	CS -102	3.65	3.70	3.56	3.71	---	---	---	---	---
		F. Y. B. Sc. SEM-II	Internet Computing	CS -201	3.71	3.56	3.52	3.57	---	---	---	---	---
			Programming in C-II	CS -202	3.29	3.40	3.57	3.47	---	---	---	---	---
2	2021-2022	S. Y. B. Sc. SEM-I	Data Structure-I	CS -301	3.65	3.65	3.40	3.49	---	---	---	---	---
			Programming in C++-I	CS -302	3.76	3.49	3.42	3.51	---	---	---	---	---
		S. Y. B. Sc. SEM-II	Data Structure-II	CS -401	3.47	3.52	3.52	3.51	---	---	---	---	---
			Programming in C++-II	CS -402	3.43	3.42	3.51	3.12	---	---	---	---	---
3	2021-2022	T. Y. B. Sc. SEM-I	System Programming	CS -501	3.52	3.57	3.41	3.59	---	---	---	---	---
			Database Management System	CS -502	3.51	3.12	3.43	3.28	---	---	---	---	---
			Software Engineering	CS -503	3.51	3.48	3.37	3.31	---	---	---	---	---
			Computer Aided Graphics	CS -504	3.37	3.33	3.42	3.44	---	---	---	---	---
			Python Programming-I	CS -505	3.71	3.68	3.65	3.28	---	---	---	---	---
			Programming in Java-I	CS - 506(B)	3.43	3.29	3.26	3.11	---	---	---	---	---
4	2021-2022	T. Y. B. Sc. SEM-II	Operating System	CS -601	3.48	3.40	3.43	3.29	---	---	---	---	---
			Relational Database Mangament System	CS -602	3.53	3.54	3.42	3.40	---	---	---	---	---
			Computer Networks	CS -603	3.62	3.52	3.48	3.44	---	---	---	---	---
			Theoretical computer Science	CS -604	3.52	3.47	3.32	3.62	---	---	---	---	---
			Python Programming-II	CS -605	3.62	3.44	3.60	3.48	---	---	---	---	---
			Programming in Java-II	CS -606 (B)	3.49	3.40	3.28	3.37	---	---	---	---	---

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Academic Year 2021-2022

Name of Department: Physics

Sr. No	Year	Class	Name of course	Corse code	PO1	PO2	PO3	PO4	PO5	PO6	PO6	PO7	PO8
1	2021-2022	F. Y. B. Sc. SEM-I	Basic Mechanics	PHY-101	3.60	3.58	3.66	3.37	---	---	---	---	---
			Dynamics and Properties of Matter	PHY-102	3.65	3.70	3.56	3.71	---	---	---	---	---
		F. Y. B. Sc. SEM-II	Electricity and Electrostatics	PHY-201	3.71	3.56	3.52	3.57	---	---	---	---	---
			Dielectrics, Magnetism and Electromagnetism	PHY-202	3.29	3.40	3.57	3.47	---	---	---	---	---
2	2021-2022	S. Y. B. Sc. SEM-I	Thermodynamics and Kinetic theory of gases	PHY-301	3.65	3.65	3.40	3.49	---	---	---	---	---
			Electronics-I	PHY-302	3.76	3.49	3.42	3.51	---	---	---	---	---
		S. Y. B. Sc. SEM-II	Waves, Oscillations and acoustics	PHY-401	3.47	3.52	3.52	3.51	---	---	---	---	---
			Optics and LASERS	PHY-402	3.43	3.42	3.51	3.12	---	---	---	---	---
3	2021-2022	T. Y. B. Sc. SEM-I	Mathematical Physics	PHY-501	3.52	3.57	3.41	3.59	---	---	---	---	---
			Solid State Physics	PHY-502	3.51	3.12	3.43	3.28	---	---	---	---	---
			Atomic and molecular physics	PHY-503	3.51	3.48	3.37	3.31	---	---	---	---	---
			Electronics-II	PHY-504	3.37	3.33	3.42	3.44	---	---	---	---	---
			Solar Energy and applications	PHY-505	3.71	3.68	3.65	3.28	---	---	---	---	---
			Technical Electronics- I	PHY-506	3.43	3.29	3.26	3.11	---	---	---	---	---
4	2021-2022	T. Y. B. Sc. SEM-II	Quantum mechanics	PHY-601	3.48	3.40	3.43	3.29	---	---	---	---	---
			Material Science	PHY-602	3.53	3.54	3.42	3.40	---	---	---	---	---
			Nuclear Physics	PHY-603	3.62	3.52	3.48	3.44	---	---	---	---	---
			Modern Physics	PHY-604	3.52	3.47	3.32	3.62	---	---	---	---	---
			Basic Instrumentation Skills	PHY-605	3.62	3.44	3.60	3.48	---	---	---	---	---
			Technical Electronics- I	PHY-606	3.49	3.40	3.28	3.37	---	---	---	---	---

Coordinator, IQAC
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Academic Year 2022-2023

Name of Department: Physics

Sr. No	Year	Class	Name of course	Corse code	PO1	PO2	PO3	PO4	PO5	PO6	PO6	PO7	PO8
1	2022-2023	F. Y. B. Sc. SEM-I	Basic Mechanics	PHY-101	3.51	3.73	3.46	3.44	---	---	---	---	---
			Dynamics and Properties of Matter	PHY-102	3.00	3.5	3.00	1.71	---	---	---	---	---
		F. Y. B. Sc. SEM-II	Electricity and Electrostatics	PHY-201	3.21	3.5	2.26	3.55	---	---	---	---	---
			Dielectrics, Magnetism and Electromagnetism	PHY-202	2.41	3.45	3.48	3.5	---	---	---	---	---
2	2022-2023	S. Y. B. Sc. SEM-I	Thermodynamics and Kinetic theory of gases	PHY-301	3.08	3.5	3.56	3.5	---	---	---	---	---
			Electronics-I	PHY-302	3.5	3.5	3.2	3.56	---	---	---	---	---
		S. Y. B. Sc. SEM-II	Waves, Oscillations and acoustics	PHY-401	3.7	3.7	3.72	3.58	---	---	---	---	---
			Optics and LASERS	PHY-402	2.84	3.63	3.4	3.5	---	---	---	---	---
3	2022-2023	T. Y. B. Sc. SEM-I	Mathematical Physics	PHY-501	3.57	3.66	3.75	3.71	---	---	---	---	---
			Solid State Physics	PHY-502	3.88	3.72	3.71	3.91	---	---	---	---	---
			Atomic and molecular physics	PHY-503	3.85	3.85	3.85	3.95	---	---	---	---	---
			Electronics-II	PHY-504	3.37	3.95	3.8	3.6	---	---	---	---	---
			Solar Energy and applications	PHY-505	3.66	3.49	3.53	3.47	---	---	---	---	---
			Technical Electronics- I	PHY-506	3.91	3.76	3.58	3.47	---	---	---	---	---
4	2022-2023	T. Y. B. Sc. SEM-II	Quantum mechanics	PHY-601	3.31	3.33	3.80	3.38	---	---	---	---	---
			Material Science	PHY-602	2.78	3.75	3.79	3.42	---	---	---	---	---
			Nuclear Physics	PHY-603	2.78	3.27	3.46	3.77	---	---	---	---	---
			Modern Physics	PHY-604	3.21	3.6	3.41	3.75	---	---	---	---	---
			Basic Instrumentation Skills	PHY-605	3.44	3.41	3.37	3.37	---	---	---	---	---
			Technical Electronics- I	PHY-606	3.81	3.75	3.75	3.83	---	---	---	---	---

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Academic Year 2021-2022

Name of Department: Chemistry

Sr. No	Year	Class	Name of course	Corse code	PO1	PO2	PO3	PO4	PO5	PO6	PO6	PO7	PO8
1	2021-2022	F. Y. B. Sc. SEM-I	Physical & Inorganic	CH-101	3.60	3.58	3.66	3.37	---	---	---	---	---
			Organic & Inorganic	CH -102	3.65	3.70	3.56	3.71	---	---	---	---	---
		F. Y. B. Sc. SEM-II	Physical & Inorganic	CH -201	3.71	3.56	3.52	3.57	---	---	---	---	---
			Organic & Inorganic	CH -202	3.29	3.40	3.57	3.47	---	---	---	---	---
2	2021-2022	S. Y. B. Sc. SEM-I	Physical & Inorganic	CH -301	3.65	3.65	3.40	3.49	---	---	---	---	---
			Organic & Inorganic	CH -302	3.76	3.49	3.42	3.51	---	---	---	---	---
		S. Y. B. Sc. SEM-II	Physical & Inorganic	CH -401	3.47	3.52	3.52	3.51	---	---	---	---	---
			Organic & Inorganic	CH -402	3.43	3.42	3.51	3.12	---	---	---	---	---
3	2021-2022	T. Y. B. Sc. SEM-I	Principle of Physical Chemistry	CH -501	3.52	3.57	3.41	3.59	---	---	---	---	---
			Inorganic Chemistry	CH -502	3.51	3.12	3.43	3.28	---	---	---	---	---
			Organic Reaction Mechanism	CH -503	3.51	3.48	3.37	3.31	---	---	---	---	---
			Industrial Chemistry	CH -504	3.37	3.33	3.42	3.44	---	---	---	---	---
			Analytical Instrumentation	CH -505	3.71	3.68	3.65	3.28	---	---	---	---	---
			Biochemistry	CH - 506(A)	3.43	3.29	3.26	3.11	---	---	---	---	---
4	2021-2022	T. Y. B. Sc. SEM-II	Principle of Physical Chemistry	CH -601	3.48	3.40	3.43	3.29	---	---	---	---	---
			Inorganic Chemistry	CH -602	3.53	3.54	3.42	3.40	---	---	---	---	---
			Organic Reaction Mechanism	CH -603	3.62	3.52	3.48	3.44	---	---	---	---	---
			Industrial Chemistry	CH -604	3.52	3.47	3.32	3.62	---	---	---	---	---
			Analytical Instrumentation	CH -605	3.62	3.44	3.60	3.48	---	---	---	---	---
			Biochemistry	CH -606	3.49	3.40	3.28	3.37	---	---	---	---	---

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Academic Year 2022-2023

Name of Department: Chemistry

Sr. No	Year	Class	Name of course	Corse code	PO1	PO2	PO3	PO4	PO5	PO6	PO6	PO7	PO8
1	2022-2023	F. Y. B. Sc. SEM-I	Physical & Inorganic	CH-101	3.51	3.73	3.46	3.44	---	---	---	---	---
			Organic & Inorganic	CH -102	3.60	3.5	3.0	1.71	---	---	---	---	---
		F. Y. B. Sc. SEM-II	Physical & Inorganic	CH -201	3.21	3.5	2.26	3.55	---	---	---	---	---
			Organic & Inorganic	CH -202	2.41	3.45	3.48	3.5	---	---	---	---	---
2	2022-2023	S. Y. B. Sc. SEM-I	Physical & Inorganic	CH -301	3.08	3.5	3.56	3.5	---	---	---	---	---
			Organic & Inorganic	CH -302	3.5	3.5	3.2	3.56	---	---	---	---	---
		S. Y. B. Sc. SEM-II	Physical & Inorganic	CH -401	3.7	3.7	3.72	3.58	---	---	---	---	---
			Organic & Inorganic	CH -402	2.84	3.63	3.4	3.5	---	---	---	---	---
3	2022-2023	T. Y. B. Sc. SEM-I	Principle of Physical Chemistry	CH -501	3.86	3.87	3.87	3.86	---	---	---	---	---
			Inorganic Chemistry	CH -502	3.87	3.85	3.86	3.87	---	---	---	---	---
			Organic Reaction Mechanism	CH -503	3.81	3.80	3.83	3.74	---	---	---	---	---
			Industrial Chemistry	CH -504	3.85	3.87	3.85	3.87	---	---	---	---	---
			Analytical Instrumentation	CH -505	3.84	3.87	3.88	3.84	---	---	---	---	---
			Biochemistry	CH - 506(A)	3.89	3.89	3.87	3.89	---	---	---	---	---
4	2022-2023	T. Y. B. Sc. SEM-II	Principle of Physical Chemistry	CH -601	3.88	3.87	3.9	3.88	---	---	---	---	---
			Inorganic Chemistry	CH -602	3.87	3.86	3.87	3.87	---	---	---	---	---
			Organic Reaction Mechanism	CH -603	3.87	3.87	3.88	3.86	---	---	---	---	---
			Industrial Chemistry	CH -604	3.86	3.88	3.86	3.87	---	---	---	---	---
			Analytical Instrumentation	CH -605	3.87	3.85	3.87	3.84	---	---	---	---	---
			Polymer Chemistry	CH -606	3.89	3.88	3.89	3.88	---	---	---	---	---

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Academic Year 2021-2022

Name of Department: Botany

Sr. No	Year	Class	Name of course	Corse code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
1	2021-2022	F. Y. B. Sc. SEM-I	Diversity of Lower Cryptograms	BOT-101	3.51	3.73	3.46	3.44	---	---	---	---
			Morphology of Angiosperms	BOT-102	3.00	3.5	3.00	1.71	---	---	---	---
		F. Y. B. Sc. SEM-II	Diversity of Higher Cryptograms	BOT-201	3.21	3.5	2.26	3.55	---	---	---	---
			Taxonomy of Angiosperms	BOT-202	2.41	3.45	3.48	3.5	---	---	---	---
2	2021-2022	S. Y. B. Sc. SEM-I	Plant Anatomy	BOT-301	3.08	3.5	3.56	3.5	---	---	---	---
			Plant Physiology	BOT-302	3.5	3.5	3.2	3.56	---	---	---	---
		S. Y. B. Sc. SEM-II	Plant Embryology	BOT 401	3.7	3.7	3.72	3.58	---	---	---	---
			Plant Metabolism	BOT 402	2.84	3.63	3.4	3.5	---	---	---	---
3	2021-2022	T. Y. B. Sc. SEM-I	Lower Cryptograms	BOT 501	3.0	2.75	2.5	3.0	2.75	3.0	---	---
			Morphology and Systematics of Angiosperms	BOT 502	3.0	2.75	2.50	2.75	3.0	2.75	---	---
			Cell Biology and Genetics	BOT-503	2.75	3.0	2.75	3.0	3.0	2.75	---	---
			Plant Physiology and Biochemistry	BOT-504	3.0	2.75	3.0	2.75	3.0	2.75	---	---
			Biofertilizers	BOT-505	3.0	2.75	2.75	3.0	3.0	2.75	---	---
			Horticulture	BOT-506	2.75	2.75	3.0	2.75	3.0	2.75	---	---
4	2021-2022	T. Y. B. Sc. SEM-II	Higher Cryptogams	BOT-601	3.0	2.75	2.75	2.75	3.0	3.0	---	---
			Gymnosperm and Paleobotany	BOT-602	3.0	3.0	2.75	3.0	2.75	3.0	---	---
			Molecular Biology	BOT-603	3.0	2.75	3.0	3.0	2.75	3.0	---	---
			Economic Botany	BOT-604	3.0	2.50	2.75	3.0	3.0	2.75	---	---
			Floriculture	BOT-605	3.0	2.50	2.75	3.0	2.75	3.0	---	---
			Plant Breeding	BOT-606	2.5	2.5	3.0	3.0	2.75	2.75	---	---

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Academic Year 2022-2023

Name of Department: Botany

Sr. No	Year	Class	Name of course	Course code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
1	2022-2023	F. Y. B. Sc. SEM-I	Diversity of Lower Cryptograms	BOT-101	3.0	2.75	2.75	3.0	---	---	---	---
			Morphology of Angiosperms	BOT-102	2.75	2.75	3.0	2.75	---	---	---	---
		F. Y. B. Sc. SEM-II	Diversity of Higher Cryptograms	BOT-201	3.0	2.75	2.75	2.75	---	---	---	---
			Taxonomy of Angiosperms	BOT-202	3.0	3.0	2.75	3.0	---	---	---	---
2	2022-2023	S. Y. B. Sc. SEM-I	Plant Anatomy	BOT-301	3.0	2.75	3.0	3.0	---	---	---	---
			Plant Physiology	BOT-302	3.0	2.50	2.75	3.0	---	---	---	---
		S. Y. B. Sc. SEM-II	Plant Embryology	BOT 401	3.0	2.50	2.75	3.0	---	---	---	---
			Plant Metabolism	BOT 402	2.5	2.5	3.0	3.0	---	---	---	---
3	2022-2023	T. Y. B. Sc. SEM-I	Lower Cryptograms	BOT 501	2.75	2.75	2.5	3.0	3.0	3.0	---	---
			Morphology and Systematics of Angiosperms	BOT 502	3.0	3.0	2.5	2.75	3.0	3.0	---	---
			Cell Biology and Genetics	BOT-503	3.0	3.0	2.75	3.0	3.0	3.0	---	---
			Plant Physiology and Biochemistry	BOT-504	3.0	2.75	3.0	3.0	3.0	2.75	---	---
			Biofertilizers	BOT-505	3.0	2.75	3.0	3.0	3.0	2.75	---	---
			Horticulture	BOT-506	2.75	2.75	3.0	2.75	3.0	2.75	---	---
4	2022-2023	T. Y. B. Sc. SEM-II	Higher Cryptogams	BOT-601	3.0	2.75	2.75	2.75	3.0	3.0	---	---
			Gymnosperm and Paleobotany	BOT-602	3.0	3.0	2.75	3.0	3.0	3.0	---	---
			Molecular Biology	BOT-603	3.0	2.75	3.0	3.0	3.0	3.0	---	---
			Economic Botany	BOT-604	3.0	2.5	2.75	3.0	3.0	3.0	---	---
			Floriculture	BOT-605	3.0	2.5	2.75	3.0	2.75	3.0	---	---
			Plant Breeding	BOT-606	2.5	2.5	3.0	3.0	2.75	2.75	---	---

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CO – PO ATTAINMENT
Dept. of Computer Science

Name of Teacher: Mr. Narendra K. Bhavsar Class: T. Y. B. Sc. A. Y: 2021-22

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Computer Science
	PO2	To enhance the skill of problem solving by analytical and logical techniques.
	PO3	To enable the students to correlate the problems I Computer Science with the problems of society at real ground and make awareness of the society for its betterment.
	PO4	To introduce the students, few modern techniques and instrumentations to make few basic, simple and innovative models in Computer Science; and to involve the students in science cultivation and research programs.
	PO5	To enable the students to know the basic concepts of Computer Science in depth.
	PO6	To enrich the knowledge of students to understand good laboratory practices and safety, that is useful in the laboratory.
	PO7	To enable the students to solve the problems in real life by applying various laws of Computer Science.
	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
CS- 503: Software Engineering	1	CO 1: Students are able to perform the DFD, Data dictionary Etc.
	2	CO 2: Decisiontree about software.
	3	CO 3: They can also design the software in learned language using the course content.
	4	CO 4: Get the knowledge of types of testing & how testing is performed in industry.

CO1	CO2	CO3	CO4
3.58	3.75	4	4

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	2	2	3	---	---	---	---
CO2	1	2	2	2	---	---	---	---
CO3	2	2	2	1	---	---	---	---
CO4	1	1	2	1	---	---	---	---
CO-PO	3.81	3.80	3.83	3.74	---	---	---	---

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CO – PO ATTAINMENT

Dept. of Computer Science

Name of Teacher: Mr. Narendra K. Bhavsar Class: T. Y. B. Sc. A. Y: 2021-22

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Computer Science
	PO2	To enhance the skill of problem solving by analytical and logical techniques.
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	PO5	To enable the students to know the basic concepts of Computer Science in depth.
	PO6	To enrich the knowledge of students to understand good laboratory practices and safety, that is useful in the laboratory.
	PO7	To enable the students to solve the problems in real life by applying various laws of Computer Science.
	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
CS- 504: Computer Graphics	1	CO 1: Differentiate between interactive and non-interactive graphics.
	2	CO 2: Study line Drawing and Circle Drawing techniques and algorithms.
	3	CO 3: Perform 2D and 3D transformation on different images.
	4	CO 4: Know about detail working of 2D and 3D clipping and windowing.

CO1	CO2	CO3	CO4
3.83	3.91	3.83	3.91

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	2	3	1	---	---	---	---
CO2	1	2	1	1	---	---	---	---
CO3	2	2	2	1	---	---	---	---
CO4	1	2	1	1	---	---	---	---
CO-PO	3.85	3.87	3.85	3.87	---	---	---	---

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CO – PO ATTAINMENT
Dept. of Computer Science

Name of Teacher: Ms. Arati S. Patil Class: T. Y. B. Sc. A. Y: 2021-22

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Computer Science
	PO2	To enhance the skill of problem solving by analytical and logical techniques.
	PO3	To enable the students to correlate the problems I Computer Science with the problems of society at real ground and make awareness of the society for its betterment.
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	PO5	To enable the students to know the basic concepts of Computer Science in depth.
	PO6	To enrich the knowledge of students to understand good laboratory practices and safety, that is useful in the laboratory.
	PO7	To enable the students to solve the problems in real life by applying various laws of Computer Science.
	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
CS- 505: Python Programming	1	CO 1: Explain basic principles of Python programming language
	2	CO 2: Construct and apply various filters for a specific task.
	3	CO 3: Apply the best features of mathematics, engineering to real world.
	4	CO 4: Apply natural sciences to program for real life problem solving.

CO1	CO2	CO3	CO4
3.75	4	3.83	3.91

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	2	1	2	---	---	---	---
CO2	1	2	2	1	---	---	---	---
CO3	2	2	2	1	---	---	---	---
CO4	1	2	1	1	---	---	---	---
CO-PO	3.84	3.87	3.88	3.84	---	---	---	---

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CO – PO ATTAINMENT

Dept. of Computer Science

Name of Teacher: Ms. Arati S. Patil Class: T. Y. B. Sc. A. Y: 2021-22

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Computer Science
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	PO3	To enable the students to correlate the problems I Computer Science with the problems of society at real ground and make awareness of the society for its betterment.
	PO4	To introduce the students, few modern techniques and instrumentations to make few basic, simple and innovative models in Computer Science; and to involve the students in science cultivation and research programs.
	PO5	To enable the students to know the basic concepts of Computer Science in depth.
	PO6	To enrich the knowledge of students to understand good laboratory practices and safety, that is useful in the laboratory.
	PO7	To enable the students to solve the problems in real life by applying various laws of Computer Science.
	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
CS- 506 (B): Programming in Java-I	1	CO 1: Get knowledge of JDK environment.
	2	CO 2: Explore polymorphism using method overloading and method overriding.
	3	CO 3: Understand the different aspects of hierarchy of classes.
	4	CO 4: Understands the concept of streams and files.

CO1	CO2	CO3	CO4
3.91	3.83	3.91	3.91

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	2	1	1	---	---	---	---
CO2	1	2	2	1	---	---	---	---
CO3	2	2	1	1	---	---	---	---
CO4	1	2	1	1	---	---	---	---
CO-PO	3.89	3.89	3.87	3.89	---	---	---	---

PO1 = [(2.8 X 3) + (2.5 X 2) + (2.7 X 1) + (2.9 X 0)] / (3+2+1+0) = 2.78 (say)

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CO – PO ATTAINMENT
Dept. of Computer Science
ACADEMIC YEAR 2021-2022

Name of Teacher: Mr. Amit N. Shinde Class: T. Y. B. Sc. A. Y: 2021-22

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Computer Science
	PO2	To enhance the skill of problem solving by analytical and logical techniques.
	PO3	To enable the students to correlate the problems I Computer Science with the problems of society at real ground and make awareness of the society for its betterment.
	PO4	To introduce the students, few modern techniques and instrumentations to make few basic, simple and innovative models in Computer Science; and to involve the students in science cultivation and research programs.
	PO5	To enable the students to know the basic concepts of Computer Science in depth.
	PO6	To enrich the knowledge of students to understand good laboratory practices and safety, that is useful in the laboratory.
	PO7	To enable the students to solve the problems in real life by applying various laws of Computer Science.
	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
CS- 601: Operating Systems	1	CO 1: Students should familiar with Operating System Services.
	2	CO 2: Understand CPU scheduling algorithms, memory Management Techniques.
	3	CO 3: Disk and Drum scheduling algorithms, Deadlock prevention and avoidance.
	4	CO 4: Introduction to android operating systems – its architecture, applications.

CO1	CO2	CO3	CO4
3.91	3.83	3.83	3.91

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	2	3	3	---	---	---	---
CO2	3	2	2	3	---	---	---	---
CO3	2	1	1	2	---	---	---	---
CO4	1	2	2	1	---	---	---	---
CO-PO	3.88	3.87	3.9	3.88	---	---	---	---

Coordinator

Coordinator, IQAC
Rani Laxmibai Mahavidyalaya
Parola, Dist. Jalgaon

Rani Laxmibai Mahavidyalaya PAROLA Dist. Jalgaon

Principal

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Rani Laxmibai Mahavidyalaya,
Parola, Tal. Parola Dist. Jalgaon

Sahajivan Shikshan Prasarak Mandal (Tehu) Sanchalit

RANI LAXMIBAI MAHAVIDYALAYA

PAROLA, DIST - JALGAON, 425111

CO – PO ATTAINMENT

Dept. of Computer Science

Name of Teacher: Mr. Amit N. Shinde Class: T. Y. B. Sc. A. Y: 2021-22

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Computer Science
	PO2	To enhance the skill of problem solving by analytical and logical techniques.
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	PO6	To enrich the knowledge of students to understand good laboratory practices and safety, that is useful in the laboratory.
	PO7	To enable the students to solve the problems in real life by applying various laws of Computer Science.
	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
CS-602: Relational Database Mgmt. System	1	CO 1: Design E-R Model for given requirements.
	2	CO 2: Use database techniques such as SQL & PL/SQL.
	3	Co 3: Explain transaction Management in relational database System.
	4	CO 4: Use advanced database Programming concepts.

CO1	CO2	CO3	CO4
3.91	3.83	3.83	3.91

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	2	2	2	---	---	---	---
CO2	2	3	2	2	---	---	---	---
CO3	2	1	1	2	---	---	---	---
CO4	2	1	2	2	---	---	---	---
CO-PO	3.87	3.86	3.87	3.87	---	---	---	---

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Laxmibai Mahavidyalaya PAROLA Jalgaon

Principal
Acting Principal
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Parola,Tal.Parola Dist.Jalgaon

CO – PO ATTAINMENT

Dept. of Computer Science

Name of Teacher: Mr. Narendra K. Bhavsar Class: T. Y. B. Sc. A. Y: 2021-22

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Computer Science
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Course	Outcomes	
CS- 603: Computer Networks	1	CO 1: Students understand the information exchange done across the network.
	2	CO 2: Study of OSI and TCP/ IP Model.
	3	CO 3: Student understands how errors are captured & handled in network.
	4	CO 4:Student understands various attack & its prevention techniques.

CO1	CO2	CO3	CO4
3.83	3.83	3.91	3.91

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	3	3	3	---	---	---	---
CO2	2	2	2	2	---	---	---	---
CO3	2	1	1	2	---	---	---	---
CO4	2	1	2	2	---	---	---	---
CO-PO	3.87	3.87	3.88	3.86	---	---	---	---

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Parola, Tal.Parola Dist.Jalgaon

Sahajivan Shikshan Prasarak Mandal (Tehu) Sanchalit
RANI LAXMIBAI MAHAVIDYALAYA
PAROLA, DIST - JALGAON, 425111

CO – PO ATTAINMENT

Dept. of Computer Science

Name of Teacher: Mr. Narendra K. Bhavsar Class: T. Y. B. Sc. A. Y: 2021-22

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Computer Science
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	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
CS- 604: Theoretical Computer Science	1	CO 1: Understanding the use of Sets, Relations and Graphs.
	2	CO 2: Understand Languages in TCS.
	3	CO 3: Introduction of Regular Languages and Expressions.
	4	CO 4: Understanding Pumping Lemma and its applications

CO1	CO2	CO3	CO4
3.83	3.91	3.83	3.91

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	3	1	3	1	---	---	---	---
CO2	2	2	2	1	---	---	---	---
CO3	1	1	1	1	---	---	---	---
CO4	1	2	1	1	---	---	---	---
CO-PO	3.86	3.88	3.86	3.87	---	---	---	---

Coordinator

Rani Laxmibai Mahavidyalaya PAROLA Dist.Jalgaon

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Parola, Tal.Parola Dist.Jalgaon

Principal

Sahajivan Shikshan Prasarak Mandal (Tehu) Sanchalit

RANI LAXMIBAI MAHAVIDYALAYA

PAROLA, DIST - JALGAON, 425111

CO – PO ATTAINMENT

Dept. of Computer Science

Name of Teacher: Ms. Arati S. Patil Class: T. Y. B. Sc. A. Y: 2021-22

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Computer Science
	PO2	To enhance the skill of problem solving by analytical and logical techniques.
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	PO7	To enable the students to solve the problems in real life by applying various laws of Computer Science.
	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
CS- 605: Python Programming	1	CO 1: Explain basic principles of Python programming language.
	2	CO 2: Implement object-oriented concepts, database applications.
	3	CO 3: Construct regular expressions for pattern matching and apply them to various filters for a specific task.
	4	CO 4: Design and implement Database Application and Content providers.

CO1	CO2	CO3	CO4
3.75	4	3.83	3.91

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	3	2	2	---	---	---	---
CO2	2	2	2	1	---	---	---	---
CO3	2	1	2	2	---	---	---	---
CO4	2	1	2	1	---	---	---	---
CO-PO	3.87	3.85	3.87	3.84	---	---	---	---

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Parola, Dist. Jalgaon

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Acting Principal

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PAROLA, DIST - JALGAON, 425111

CO – PO ATTAINMENT
Dept. of Computer Science

Name of Teacher: Ms. Arati S. Patil Class: T. Y. B. Sc. A. Y: 2021-22

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Course		Outcomes
CS- 606(B): Prog. In Java II	1	CO 1: Program using graphical user interface with Swing classes
	2	CO 2: Handle different kinds of events generated while handling GUI components
	3	CO 3: Create programs using menus and dialog boxes & Applets Etc.
	4	CO 4: Understand advanced java concepts like JDBC, Java Beans.

CO1	CO2	CO3	CO4
3.91	3.83	3.91	3.91

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	3	2	2	---	---	---	---
CO2	1	2	1	2	---	---	---	---
CO3	2	1	2	1	---	---	---	---
CO4	1	1	1	1	---	---	---	---
CO-PO	3.89	3.88	3.89	3.88	---	---	---	---

Coordinator

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Rani Laxmibai Mahavidyalaya,
Parola,Dist.Jalgaon

Rani Laxmibai Mahavidyalaya PAROLA Dist.Jalgaon

Principal
Acting Principal
Rani Laxmibai Mahavidyalaya,
Parola,Tal.Parola Dist.Jalgaon

Established : June 1992 Sahajivan Shikshan Prasarak Mandal (Tehu) Sanchalit

Rani Laxmibai Mahavidyalaya Parola
Dist. Jalgaon 425111 Tel: (02597) 292666
NAAC Accredited "B" Grade
Web : www.rlcollegeparola.com
Email : principalrlcparola@gmail.com
Prin. Dr. V. R. Patil
M.Sc., Ph. D.

Outward No. Date : / /20

CO – PO ATTAINMENT

Dept. of Computer Science

Name of Teacher: Mr. Amit N. Shinde Class: T. Y. B. Sc. A. Y: 2022-23

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Computer Science
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	PO5	To enable the students to know the basic concepts of Computer Science in depth.
	PO6	To enrich the knowledge of students to understand good laboratory practices and safety, that is useful in the laboratory.
	PO7	To enable the students to solve the problems in real life by applying various laws of Computer Science.
	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
CS- 501: System Programming	1	CO 1: Understand details about system software
	2	CO 2: To do basic system program like development of editors lexical analysers etc.
	3	CO 3: Students are familiar with language processing activities.
	4	CO 4: functions of translators, loader and linkers.

CO1	CO2	CO3	CO4
3.91	3.83	3.83	3.91

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	3	2	1	---	---	---	---
CO2	2	2	2	2	---	---	---	---
CO3	2	3	2	2	---	---	---	---
CO4	1	2	2	2	---	---	---	---
CO-PO	3.86	3.87	3.87	3.86	---	---	---	---

Coordinator

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Rani Laxmibai Mahavidyalaya
Parola,Dist.Jalgaon

Rani Laxmibai Mahavidyalaya PAROLA Dist.Jalgaon

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RANI LAXMIBAI MAHAVIDYALAYA
PAROLA, DIST - JALGAON, 425111

CO – PO ATTAINMENT

Dept. of Computer Science

Name of Teacher: Mr. Amit N. Shinde Class: T. Y. B. Sc. A. Y: 2022-23

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Computer Science
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	PO6	To enrich the knowledge of students to understand good laboratory practices and safety, that is useful in the laboratory.
	PO7	To enable the students to solve the problems in real life by applying various laws of Computer Science.
	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
CS- 502: Database Management System	1	CO 1: Solve real world problems using appropriate set, functions etc.
	2	CO 2: Study of Relational model.
	3	CO 3: Design E-R Model for given requirements.
	4	CO 4: Use SQL.

CO1	CO2	CO3	CO4
3.91	3.83	3.83	3.91

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	3	1	2	2	---	---	---	---
CO2	2	2	1	1	---	---	---	---
CO3	3	3	3	2	---	---	---	---
CO4	2	1	1	1	---	---	---	---
CO-PO	3.87	3.85	3.86	3.87	---	---	---	---

Coordinator

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Rani Laxmibai Mahavidyalaya
Parola, Dist. Jalgaon

Rani Laxmibai Mahavidyalaya PAROLA Dist. Jalgaon

Principal
Acting Principal
Rani Laxmibai Mahavidyalaya,
Parola, Tal. Parola Dist. Jalgaon

CO – PO ATTAINMENT
Dept. of Computer Science

Name of Teacher: Mr. Narendra K. Bhavsar Class: T. Y. B. Sc. A. Y: 2022-23

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Computer Science
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	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
CS- 503: Software Engineering	1	CO 1: Students are able to perform the DFD, Data dictionary Etc.
	2	CO 2: Decisiontree about software.
	3	CO 3: They can also design the software in learned language using the course content.
	4	CO 4: Get the knowledge of types of testing & how testing is performed in industry.

CO1	CO2	CO3	CO4
3.58	3.75	4	4

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	2	2	3	---	---	---	---
CO2	1	2	2	2	---	---	---	---
CO3	2	2	2	1	---	---	---	---
CO4	1	1	2	1	---	---	---	---
CO-PO	3.81	3.80	3.83	3.74	---	---	---	---

Coordinator, IQAC
Rani Laxmibai Mahavidyalaya
Parola, Dist. Jalgaon

Coordinator

Rani Laxmibai Mahavidyalaya PAROLA Dist. Jalgaon

Principal
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Parola, Tal. Parola Dist. Jalgaon

Sahajivan Shikshan Prasarak Mandal (Tehu) Sanchalit
RANI LAXMIBAI MAHAVIDYALAYA
PAROLA, DIST - JALGAON, 425111

CO – PO ATTAINMENT

Dept. of Computer Science

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	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
CS- 504: Computer Graphics	1	CO 1: Differentiate between interactive and non-interactive graphics.
	2	CO 2: Study line Drawing and Circle Drawing techniques and algorithms.
	3	CO 3: Perform 2D and 3D transformation on different images.
	4	CO 4: Know about detail working of 2D and 3D clipping and windowing.

CO1	CO2	CO3	CO4
3.83	3.91	3.83	3.91

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	2	3	1	---	---	---	---
CO2	1	2	1	1	---	---	---	---
CO3	2	2	2	1	---	---	---	---
CO4	1	2	1	1	---	---	---	---
CO-PO	3.85	3.87	3.85	3.87	---	---	---	---

Coordinator

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Rani Laxmibai Mahavidyalaya PAROLA Dist. Jalgaon

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RANI LAXMIBAI MAHAVIDYALAYA
PAROLA, DIST - JALGAON, 425111

CO – PO ATTAINMENT
Dept. of Computer Science

Name of Teacher: Ms. Arati S. Patil Class: T. Y. B. Sc. A. Y: 2022-23

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Computer Science
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	PO7	To enable the students to solve the problems in real life by applying various laws of Computer Science.
	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
CS- 505: Python Programming	1	CO 1: Explain basic principles of Python programming language
	2	CO 2: Construct and apply various filters for a specific task.
	3	CO 3: Apply the best features of mathematics, engineering to real world.
	4	CO 4: Apply natural sciences to program for real life problem solving.

CO1	CO2	CO3	CO4
3.75	4	3.83	3.91

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	2	1	2	---	---	---	---
CO2	1	2	2	1	---	---	---	---
CO3	2	2	2	1	---	---	---	---
CO4	1	2	1	1	---	---	---	---
CO-PO	3.84	3.87	3.88	3.84	---	---	---	---

Coordinator

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Rani Laxmibai Mahavidyalaya PAROLA Dist.Jalgaon

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Sahajivan Shikshan Prasarak Mandal (Tehu) Sanchalit

RANI LAXMIBAI MAHAVIDYALAYA

PAROLA, DIST - JALGAON, 425111

CO – PO ATTAINMENT

Dept. of Computer Science

Name of Teacher: Ms. Arati S. Patil Class: T. Y. B. Sc. A. Y: 2022-23

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	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
CS- 506 (B): Programming in Java-I	1	CO 1: Get knowledge of JDK environment.
	2	CO 2: Explore polymorphism using method overloading and method overriding.
	3	CO 3: Understand the different aspects of hierarchy of classes.
	4	CO 4: Understands the concept of streams and files.

CO1	CO2	CO3	CO4
3.91	3.83	3.91	3.91

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	2	1	1	---	---	---	---
CO2	1	2	2	1	---	---	---	---
CO3	2	2	1	1	---	---	---	---
CO4	1	2	1	1	---	---	---	---
CO-PO	3.89	3.89	3.87	3.89	---	---	---	---

PO1 = [(2.8 X 3) + (2.5 X 2) + (2.7 X 1) + (2.9 X 0)] / (3+2+1+0) = 2.78 (say)

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CO – PO ATTAINMENT
Dept. of Computer Science
ACADEMIC YEAR 2021-2022

Name of Teacher: Mr. Amit N. Shinde Class: T. Y. B. Sc. A. Y: 2022-23

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Computer Science
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	PO7	To enable the students to solve the problems in real life by applying various laws of Computer Science.
	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
CS- 601: Operating Systems	1	CO 1: Students should familiar with Operating System Services.
	2	CO 2: Understand CPU scheduling algorithms, memory Management Techniques.
	3	CO 3: Disk and Drum scheduling algorithms, Deadlock prevention and avoidance.
	4	CO 4: Introduction to android operating systems – its architecture, applications.

CO1	CO2	CO3	CO4
3.91	3.83	3.83	3.91

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	2	3	3	---	---	---	---
CO2	3	2	2	3	---	---	---	---
CO3	2	1	1	2	---	---	---	---
CO4	1	2	2	1	---	---	---	---
CO-PO	3.88	3.87	3.9	3.88	---	---	---	---

Coordinator

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Rani Laxmibai Mahavidyalaya PAROLA Dist.Jalgaon

Principal

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Parola,Tal.Parola Dist.Jalgaon

Sahajivan Shikshan Prasarak Mandal (Telhi) Sanchalit

RANI LAXMIBAI MAHAVIDYALAYA

PAROLA, DIST - JALGAON, 425111

CO – PO ATTAINMENT

Dept. of Computer Science

Name of Teacher: Mr. Amit N. Shinde Class: T. Y. B. Sc. A. Y: 2022-23

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Computer Science
	PO2	To enhance the skill of problem solving by analytical and logical techniques.
	PO3	To enable the students to correlate the problems I Computer Science with the problems of society at real ground and make awareness of the society for its betterment.
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	PO6	To enrich the knowledge of students to understand good laboratory practices and safety, that is useful in the laboratory.
	PO7	To enable the students to solve the problems in real life by applying various laws of Computer Science.
	PO8	To involve the UG students in research projects, certificate courses, etc.

Course		Outcomes
CS-602: Relational Database Mgmt. System	1	CO 1: Design E-R Model for given requirements.
	2	CO 2: Use database techniques such as SQL & PL/SQL.
	3	Co 3: Explain transaction Management in relational database System.
	4	CO 4: Use advanced database Programming concepts.

CO1	CO2	CO3	CO4
3.91	3.83	3.83	3.91

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	2	2	2	---	---	---	---
CO2	2	3	2	2	---	---	---	---
CO3	2	1	1	2	---	---	---	---
CO4	2	1	2	2	---	---	---	---
CO-PO	3.87	3.86	3.87	3.87	---	---	---	---

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RANI LAXMIBAI MAHAVIDYALAYA

PAROLA, DIST - JALGAON, 425111

CO – PO ATTAINMENT

Dept. of Computer Science

Name of Teacher: Mr. Narendra K. Bhavsar Class: T. Y. B. Sc. A. Y: 2022-23

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Computer Science
	PO2	To enhance the skill of problem solving by analytical and logical techniques.
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	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
CS- 603: Computer Networks	1	CO 1: Students understand the information exchange done across the network.
	2	CO 2: Study of OSI and TCP/ IP Model.
	3	CO 3: Student understands how errors are captured & handled in network.
	4	CO 4:Student understands various attack & its prevention techniques.

CO1	CO2	CO3	CO4
3.83	3.83	3.91	3.91

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	3	3	3	---	---	---	---
CO2	2	2	2	2	---	---	---	---
CO3	2	1	1	2	---	---	---	---
CO4	2	1	2	2	---	---	---	---
CO-PO	3.87	3.87	3.88	3.86	---	---	---	---

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PAROLA, DIST - JALGAON, 425111

CO – PO ATTAINMENT

Dept. of Computer Science

Name of Teacher: Mr. Narendra K. Bhavsar Class: T. Y. B. Sc. A. Y: 2022-23

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Computer Science
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	PO7	To enable the students to solve the problems in real life by applying various laws of Computer Science.
	PO8	To involve the UG students in research projects, certificate courses, etc.

Course		Outcomes
CS- 604: Theoretical Computer Science	1	CO 1: Understanding the use of Sets, Relations and Graphs.
	2	CO 2: Understand Languages in TCS.
	3	CO 3: Introduction of Regular Languages and Expressions.
	4	CO 4: Understanding Pumping Lemma and its applications

CO1	CO2	CO3	CO4
3.83	3.91	3.83	3.91

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	3	1	3	1	---	---	---	---
CO2	2	2	2	1	---	---	---	---
CO3	1	1	1	1	---	---	---	---
CO4	1	2	1	1	---	---	---	---
CO-PO	3.86	3.88	3.86	3.87	---	---	---	---

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Sahajivan Shikshan Prasarak Mandal (Telu) Sanchalit

RANI LAXMIBAI MAHAVIDYALAYA

PAROLA, DIST - JALGAON, 425111

CO – PO ATTAINMENT

Dept. of Computer Science

Name of Teacher: Ms. Arati S. Patil Class: T. Y. B. Sc. A. Y: 2022-23

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Computer Science
	PO2	To enhance the skill of problem solving by analytical and logical techniques.
	PO3	To enable the students to correlate the problems I Computer Science with the problems of society at real ground and make awareness of the society for its betterment.
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	PO5	To enable the students to know the basic concepts of Computer Science in depth.
	PO6	To enrich the knowledge of students to understand good laboratory practices and safety, that is useful in the laboratory.
	PO7	To enable the students to solve the problems in real life by applying various laws of Computer Science.
	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
CS- 605: Python Programming	1	CO 1: Explain basic principles of Python programming language.
	2	CO 2: Implement object-oriented concepts, database applications.
	3	CO 3: Construct regular expressions for pattern matching and apply them to various filters for a specific task.
	4	CO 4: Design and implement Database Application and Content providers.

CO1	CO2	CO3	CO4
3.75	4	3.83	3.91

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	3	2	2	---	---	---	---
CO2	2	2	2	1	---	---	---	---
CO3	2	1	2	2	---	---	---	---
CO4	2	1	2	1	---	---	---	---
CO-PO	3.87	3.85	3.87	3.84	---	---	---	---

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PAROLA, DIST - JALGAON, 425111

CO – PO ATTAINMENT
Dept. of Computer Science

Name of Teacher: Ms. Arati S. Patil Class: T. Y. B. Sc. A. Y: 2022-23

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Computer Science
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	PO7	To enable the students to solve the problems in real life by applying various laws of Computer Science.
	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
CS- 606(B): Prog. In Java II	1	CO 1: Program using graphical user interface with Swing classes
	2	CO 2: Handle different kinds of events generated while handling GUI components
	3	CO 3: Create programs using menus and dialog boxes & Applets Etc.
	4	CO 4: Understand advanced java concepts like JDBC, Java Beans.

CO1	CO2	CO3	CO4
3.91	3.83	3.91	3.91

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	3	2	2	---	---	---	---
CO2	1	2	1	2	---	---	---	---
CO3	2	1	2	1	---	---	---	---
CO4	1	1	1	1	---	---	---	---
CO-PO	3.89	3.88	3.89	3.88	---	---	---	---

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Established : June 1992 Sahajivan Shikshan Prasarak Mandal (Tehu) Sanchalit

Rani Laxmibai Mahavidyalaya Parola

Dist. Jalgaon 425111 Tel: (02597) 292666

NAAC Accredited "B" Grade

Web : www.rlcollegeparola.com
Email : principalrlcparola@gmail.com

Prin. Dr. V. R. Patil
M.Sc., Ph. D.

Outward No.

Date : / /20

CO – PO ATTAINMENT
DEPT. OF Chemistry

Name of Teacher: Dr. Gokul Punju Borse Class: T. Y. B. Sc.

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Chemistry.
	PO2	To enhance the skill of problem solving by analytical and logical techniques.
	PO3	To enable the students to correlate the problems I Chemistry with the problems of society at real ground and make awareness of the society for its betterment.
	PO4	To introduce the students, few modern techniques and instrumentations to make few basic, simple and innovative models in Chemistry; and to involve the students in science cultivation and research programs.
	PO5	To enable the students to know the basic concepts of Chemistry in depth.
	PO6	To enrich the knowledge of students to understand good laboratory practices and safety, that is useful in the laboratory.
	PO7	To enable the students to solve the problems in real life by applying various laws of Chemistry.
	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
CH- 501: Principle of Physical Chemistry	1	To orient and acquaint the students towards the basic concepts of Quantum Chemistry
	2	To acquire knowledge about rates of chemical reactions and distinguishing the reaction of different order and their characteristics.
	3	To understand the basic principles of phase rules and phase diagrams.
	4	To learn the underlying principles of electrode reactions, electrochemical cells and applications of EMF.

CO1	CO2	CO3	CO4
3.91	3.83	3.83	3.91

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	3	2	1	----	----	---	---
CO2	2	2	2	2	----	----	---	---
CO3	2	3	2	2	----	----	---	---
CO4	1	2	2	2	----	----	---	---
CO-PO	3.86	3.87	3.87	3.86	----	----	---	---

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Rani Laxmibai Mahavidyalaya IQAC PAROLA Dist.Jalgaon

Principal

Acting Principal
Rani Laxmibai Mahavidyalaya,
Parola,Tal.Parola Dist.Jalgaon

CO – PO ATTAINMENT
DEPT. OF Chemistry

Name of Teacher: Prof. Pankaj H. Bhavsar Class: T. Y. B. Sc.

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Chemistry.
	PO2	To enhance the skill of problem solving by analytical and logical techniques.
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	PO5	To enable the students to know the basic concepts of Chemistry in depth.
	PO6	To enrich the knowledge of students to understand good laboratory practices and safety, that is useful in the laboratory.
	PO7	To enable the students to solve the problems in real life by applying various laws of Chemistry.
	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
CH- 502: Inorganic Chemistry	1	To describe the VSEPR theory to predict shape of molecules from electron pairs.
	2	To describe the bonding in simple compounds using VBT.
	3	To describe the principles of VBT to predict hybridization of orbitals.
	4	To understand how CFT explains electronic structure, colour and magnetic properties of co-ordination compounds.

CO1	CO2	CO3	CO4
3.91	3.83	3.83	3.91

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	3	1	2	2	----	----	---	---
CO2	2	2	1	1	----	----	---	---
CO3	3	3	3	2	----	----	---	---
CO4	2	1	1	1	----	----	---	---
CO-PO	3.87	3.85	3.86	3.87	----	----	---	---

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RANI LAXMIBAI MAHAVIDYALAYA
PAROLA, DIST - JALGAON, 425111

CO – PO ATTAINMENT
DEPT. OF Chemistry

Name of Teacher: Prof. P. B. Patil Class: T. Y. B. Sc.

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Chemistry.
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	PO7	To enable the students to solve the problems in real life by applying various laws of Chemistry.
	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
CH- 503: Organic Reaction Mechanism	1	To study different types of organic reactions.
	2	To understand the mechanisms of different types of reactions.
	3	To distinguish between types of substrates and types of reagents.
	4	To understand ways of attack of reagent, breaking and formation of bonds in different reaction mechanisms.

CO1	CO2	CO3	CO4
3.58	3.75	4	4

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	2	2	3	----	----	---	---
CO2	1	2	2	2	----	----	---	---
CO3	2	2	2	1	----	----	---	---
CO4	1	1	2	1	----	----	---	---
CO-PO	3.81	3.80	3.83	3.74	----	----	---	---

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CO – PO ATTAINMENT
DEPT. OF Chemistry

Name of Teacher: Prof. Pankaj H. Bhavsar Class: T. Y. B. Sc.

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	PO5	To enable the students to know the basic concepts of Chemistry in depth.
	PO6	To enrich the knowledge of students to understand good laboratory practices and safety, that is useful in the laboratory.
	PO7	To enable the students to solve the problems in real life by applying various laws of Chemistry.
	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
CH- 504: Industrial Chemistry	1	To produce graduates with enhanced skills, applied knowledge, aptitude to carry out higher studies or research and development in the various industrial areas.
	2	To make the student cognizant about important aspects of Chemical Industries, Industrial work culture and environment.
	3	To prepare the students for immediate entry to the workplace with sound theoretical knowledge and some basic experimental concepts in the area of various industries viz. Sugar Industry, Fermentation Industry, Petroleum and Petrochemicals.
	4	To offers the synergism between basic concepts of Chemistry with Industrial applications.

CO1	CO2	CO3	CO4
3.83	3.91	3.83	3.91

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	2	3	1	----	----	---	---
CO2	1	2	1	1	----	----	---	---
CO3	2	2	2	1	----	----	---	---
CO4	1	2	1	1	----	----	---	---
CO-PO	3.85	3.87	3.85	3.87	----	----	---	---

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PAROLA, DIST - JALGAON, 425111

CO – PO ATTAINMENT
DEPT. OF Chemistry

Name of Teacher: Dr. Sanjay V. Chavan Class: T. Y. B. Sc.

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Chemistry.
	PO2	To enhance the skill of problem solving by analytical and logical techniques.
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	PO7	To enable the students to solve the problems in real life by applying various laws of Chemistry.
	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
CH- 505: Analytical Instrumentation	1	To develop an understanding of the range and uses of analytical methods in chemistry.
	2	To understand and establish the role of chemistry in quantitative analysis
	3	To enhance the Analytical instrumental skill of the students.
	4	To introduce the students, few modern techniques and instrumentations to make few basic, simple and innovative models in Analytical Chemistry; and to involve the students in science cultivation and research programs, viz. Projects, workshops, certificate courses, etc.

CO1	CO2	CO3	CO4
3.75	4	3.83	3.91

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	2	1	2	----	----	---	---
CO2	1	2	2	1	----	----	---	---
CO3	2	2	2	1	----	----	---	---
CO4	1	2	1	1	----	----	---	---
CO-PO	3.84	3.87	3.88	3.84	----	----	---	---

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CO – PO ATTAINMENT
DEPT. OF Chemistry

Name of Teacher: Dr. Sanjay V. Chavan Class: T. Y. B. Sc.

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Chemistry.
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	PO5	To enable the students to know the basic concepts of Chemistry in depth.
	PO6	To enrich the knowledge of students to understand good laboratory practices and safety, that is useful in the laboratory.
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	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
CH- 506(A): Biochemistry	1	To study different types of biomolecules.
	2	To study structure of biomolecules.
	3	To study classification of each type of biomolecules.
	4	To study reactions of the biomolecules.

CO1	CO2	CO3	CO4
3.91	3.83	3.91	3.91

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	2	1	1	----	----	---	---
CO2	1	2	2	1	----	----	---	---
CO3	2	2	1	1	----	----	---	---
CO4	1	2	1	1	----	----	---	---
CO-PO	3.89	3.89	3.87	3.89	----	----	---	---

PO1 = [(2.8 X 3) + (2.5 X 2) + (2.7 X 1) + (2.9 X 0)] / (3+2+1+0) = 2.78 (say)

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CO – PO ATTAINMENT
DEPT. OF Chemistry
ACADEMIC YEAR 2021-2022

Name of Teacher: Dr. Gokul Punju Borse Class: T. Y. B. Sc.

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Chemistry.
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	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
CH- 601: Principles of Physical Chemistry-II	1	To learn the basics of molecular spectroscopy and rotational spectra.
	2	To understand the basic principles and applications of nuclear chemistry.
	3	To learn the consequences of light absorption by atoms and molecules and photochemical reactions.
	4	To learn the laws of crystallography and basics of crystal structure.

CO1	CO2	CO3	CO4
3.91	3.83	3.83	3.91

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	2	3	3	----	----	---	---
CO2	3	2	2	3	----	----	---	---
CO3	2	1	1	2	----	----	---	---
CO4	1	2	2	1	----	----	---	---
CO-PO	3.88	3.87	3.9	3.88	----	----	---	---

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CO – PO ATTAINMENT
DEPT. OF Chemistry

Name of Teacher: Prof. Pankaj H. Bhavsar Class: T. Y. B. Sc.

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Chemistry.
	PO2	To enhance the skill of problem solving by analytical and logical techniques.
	PO3	To enable the students to correlate the problems i Chemistry with the problems of society at real ground and make awareness of the society for its betterment.
	PO4	To introduce the students, few modern techniques and instrumentations to make few basic, simple and innovative models in Chemistry; and to involve the students in science cultivation and research programs.
	PO5	To enable the students to know the basic concepts of Chemistry in depth.
	PO6	To enrich the knowledge of students to understand good laboratory practices and safety, that is useful in the laboratory.
	PO7	To enable the students to solve the problems in real life by applying various laws of Chemistry.
	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
CH-602: Chemistry of Inorganic Solids	1	To describe basic principles of nanomaterial's.
	2	To describe basic synthesis of nanoparticles.
	3	To describe composition and technological importance ofinorganic solids.
	4	To describe composition of cement, lime and alloys. To describe manufacture of fertilizers

CO1	CO2	CO3	CO4
3.91	3.83	3.83	3.91

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	2	2	2	----	----	---	---
CO2	2	3	2	2	----	----	---	---
CO3	2	1	1	2	----	----	---	---
CO4	2	1	2	2	----	----	---	---
CO-PO	3.87	3.86	3.87	3.87	----	----	---	---

Coordinator

Coordinator, IQAC
Rani Laxmibai Mahavidyalaya
Parola, Dist. Jalgaon

Rani Laxmibai Mahavidyalaya IQAC PAROLA Dist. Jalgaon

Principal

Acting Principal
Rani Laxmibai Mahavidyalaya,
Parola, Tal. Parola Dist. Jalgaon

Sahajivan Shikshan Prasarak Mandal (Tehn) Sanchalit
RANI LAXMIBAI MAHAVIDYALAYA
PAROLA, DIST - JALGAON, 425111

CO – PO ATTAINMENT
DEPT. OF Chemistry

Name of Teacher: Prof. P. B. Patil

Class: T. Y. B. Sc.

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Chemistry.
	PO2	To enhance the skill of problem solving by analytical and logical techniques.
	PO3	To enable the students to correlate the problems I Chemistry with the problems of society at real ground and make awareness of the society for its betterment.
	PO4	To introduce the students, few modern techniques and instrumentations to make few basic, simple and innovative models in Chemistry; and to involve the students in science cultivation and research programs.
	PO5	To enable the students to know the basic concepts of Chemistry in depth.
	PO6	To enrich the knowledge of students to understand good laboratory practices and safety, that is useful in the laboratory.
	PO7	To enable the students to solve the problems in real life by applying various laws of Chemistry.
	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
CH- 603: Spectroscopic Methods of Structure Determination	1	To study principle of spectroscopy and to understand wave parameters and terms involved in spectroscopy.
	2	To study different types of spectroscopy. To understand principle, concept and the terms used in each type of spectroscopy.
	3	Interpretation of UV, IR, NMR spectra.
	4	Use of spectral data for determination of structure of unknown organic compounds. To study different applications of each type of spectroscopy.

CO1	CO2	CO3	CO4
3.83	3.83	3.91	3.91

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	3	3	3	----	----	---	---
CO2	2	2	2	2	----	----	---	---
CO3	2	1	1	2	----	----	---	---
CO4	2	1	2	2	----	----	---	---
CO-PO	3.87	3.87	3.88	3.86	----	----	---	---

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Acting Principal
Rani Laxmibai Mahavidyalaya,
Parola, Tal. Parola Dist.Jalgaon

CO – PO ATTAINMENT
DEPT. OF Chemistry

Name of Teacher: Prof. Pankaj H. Bhavsar Class: T. Y. B. Sc.

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Chemistry.
	PO2	To enhance the skill of problem solving by analytical and logical techniques.
	PO3	To enable the students to correlate the problems I Chemistry with the problems of society at real ground and make awareness of the society for its betterment.
	PO4	To introduce the students, few modern techniques and instrumentations to make few basic, simple and innovative models in Chemistry; and to involve the students in science cultivation and research programs.
	PO5	To enable the students to know the basic concepts of Chemistry in depth.
	PO6	To enrich the knowledge of students to understand good laboratory practices and safety, that is useful in the laboratory.
	PO7	To enable the students to solve the problems in real life by applying various laws of Chemistry.
	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
CH- 604: Chemistry of Industrially Important Products	1	To make student perceptive about various commodity industries viz. Cosmetics and Perfumes, Dyes and Pharmaceuticals, Pesticides, Soaps and Detergents, related diversified and multidisciplinary fields of chemical industry.
	2	To produce graduates with enhanced skills, knowledge and research aptitude to carry out higher studies or research and development in the various industrial areas.
	3	To equip students with advance knowledge about various industrially important products.
	4	To makes students ready for immediate entry to the workplace with sound theoretical and basic experimental knowledge in the areas of various industries.

CO1	CO2	CO3	CO4
3.83	3.91	3.83	3.91

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	3	1	3	1	----	----	---	---
CO2	2	2	2	1	----	----	---	---
CO3	1	1	1	1	----	----	---	---
CO4	1	2	1	1	----	----	---	---
CO-PO	3.86	3.88	3.86	3.87	----	----	---	---

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Parola, Tal. Parola Dist. Jalgaon

CO – PO ATTAINMENT
DEPT. OF Chemistry

Name of Teacher: Dr. Sanjay V. Chavan Class: T. Y. B. Sc.

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Chemistry.
	PO2	To enhance the skill of problem solving by analytical and logical techniques.
	PO3	To enable the students to correlate the problems I Chemistry with the problems of society at real ground and make awareness of the society for its betterment.
	PO4	To introduce the students, few modern techniques and instrumentations to make few basic, simple and innovative models in Chemistry; and to involve the students in science cultivation and research programs.
	PO5	To enable the students to know the basic concepts of Chemistry in depth.
	PO6	To enrich the knowledge of students to understand good laboratory practices and safety, that is useful in the laboratory.
	PO7	To enable the students to solve the problems in real life by applying various laws of Chemistry.
	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
CH- 605: Analytical Techniques	1	To provide knowledge of instruments which are used inChemical, Pharma, Petroleum, and insecticide and pesticide industry
	2	To increase student technical skill as per industry need.
	3	To develop an understanding of the range and uses of analyticalmethods in chemistry.
	4	To introduce the students, few modern techniques and instrumentations to make few basic, simple and innovative models in Analytical Techniques; and to involve the students in science cultivation and research programs, viz. Projects, workshops, certificate courses, etc.

CO1	CO2	CO3	CO4
3.75	4	3.83	3.91

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	3	2	2	----	----	---	---
CO2	2	2	2	1	----	----	---	---
CO3	2	1	2	2	----	----	---	---
CO4	2	1	2	1	----	----	---	---
CO-PO	3.87	3.85	3.87	3.84	----	----	---	---

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Rani Laxmibai Mahavidyalaya IQAC PAROLA Dist. Jalgaon

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Acting Principal
Rani Laxmibai Mahavidyalaya,
Parola, Tal. Parola Dist. Jalgaon

CO – PO ATTAINMENT
DEPT. OF Chemistry

Name of Teacher: Dr. Sanjay Chavan Class: T. Y. B. Sc.

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Chemistry.
	PO2	To enhance the skill of problem solving by analytical and logical techniques.
	PO3	To enable the students to correlate the problems I Chemistry with the problems of society at real ground and make awareness of the society for its betterment.
	PO4	To introduce the students, few modern techniques and instrumentations to make few basic, simple and innovative models in Chemistry; and to involve the students in science cultivation and research programs.
	PO5	To enable the students to know the basic concepts of Chemistry in depth.
	PO6	To enrich the knowledge of students to understand good laboratory practices and safety, that is useful in the laboratory.
	PO7	To enable the students to solve the problems in real life by applying various laws of Chemistry.
	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
CH- 606(A): Polymer Chemistry	1	The course offers the basic concepts of polymer, polymerization, classes of polymers, important properties, and poly(lactic acid) as a biodegradable polymer.
	2	The course also offers to study preparation, properties, and applications of industrially important selected polymers.
	3	The course will give chance to study various mechanisms of polymerization and learn different techniques of polymerization.
	4	The student will be able to understand glass transition temperature and factors affecting on it and various ways to express molecular weight of polymers.

CO1	CO2	CO3	CO4
3.91	3.83	3.91	3.91

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	3	2	2	----	----	---	---
CO2	1	2	1	2	----	----	---	---
CO3	2	1	2	1	----	----	---	---
CO4	1	1	1	1	----	----	---	---
CO-PO	3.89	3.88	3.89	3.88	----	----	---	---

Coordinator

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Rani Laxmibai Mahavidyalaya IQAC PAROLA Dist. Jalgaon

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Parola,Tal.Parola Dist.Jalgaon

CO – PO ATTAINMENT
DEPT. OF PHYSICS
ACADEMIC YEAR 2022-2023

Name of Teacher: Prof. D. R. Patil Class: F. Y. B. Sc.

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Physics.
	PO2	To enhance the skill of problem solving by analytical and logical techniques.
	PO3	To enable the students to correlate the problems of Physics with the problems of society at real ground and make awareness of the society for its betterment.
	PO4	To introduce the students, few modern techniques and instrumentations to make few basic, simple and innovative models in Physics; and to involve the students in science cultivation and research programs.
	PO5	To enable the students to know the basic concepts of Physics in depth.
	PO6	To enrich the knowledge of students to understand good laboratory practices and safety, that is useful in the laboratory.
	PO7	To enable the students to solve the problems in real life by applying various laws of Physics.
	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
PHY 101: Basic Mechanics	CO1	To work out on the basic laws of motion, rotational motion, vector algebra, differential equations, linear and angular momentum, energy, etc. and to solve the problems.
	CO2	To apply these basic concepts to make the innovative models and to create the scientific temperament among the students.
	CO3	To understand the course knowledge in detail.
	CO4	To create the interests among the students through different teaching methods for this course and its application at societal level.

CO1	CO2	CO3	CO4
3.63	3.63	3.47	3.56

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	3	2	3	2	---	---	---	---
CO2	2	3	3	3	---	---	---	---
CO3	1	3	1	2	---	---	---	---
CO4	--	1	1	---	---	---	---	---
	3.51	3.73	3.46	3.44	---	---	---	---

PO1 = [(2.8 X 3) + (2.5 X 2) + (2.7 X 1) + (2.9 X 0)] / (3+2+1+0) = 2.78 (say)

Coordinator Principal

CO – PO ATTAINMENT
DEPT. OF PHYSICS
ACADEMIC YEAR 2022-2023

Name of Teacher: Dr. D. N. Suryawanshi Class: F. Y. B. Sc.

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Physics.
	PO2	To enhance the skill of problem solving by analytical and logical techniques.
	PO3	To enable the students to correlate the problems of Physics with the problems of society at real ground and make awareness of the society for its betterment.
	PO4	To introduce the students, few modern techniques and instrumentations to make few basic, simple and innovative models in Physics; and to involve the students in science cultivation and research programs.
	PO5	To enable the students to know the basic concepts of Physics in depth.
	PO6	To enrich the knowledge of students to understand good laboratory practices and safety, that is useful in the laboratory.
	PO7	To enable the students to solve the problems in real life by applying various laws of Physics.
	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
PHY 202: Dielectrics, Magnetism and Electromagnetism	1	To acquire the detailed knowledge on capacitance, dielectrics, magnetism, electromagnetic induction, Maxwell's equation, e.m. wave propagation, etc. and to solve the problems.
	2	To apply these basic concepts to make the innovative models and to create the scientific temperament among the students.
	3	To build few simple models.
	4	To create the interests among the students through different teaching methods for this course and its application at societal level and to involve them in research.

CO1	CO2	CO3	CO4
3.5	3.46	3.40	3.36

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	3	2	3	2	----	----	---	---
CO2	3	2	2	2	----	----	---	---
CO3	3	1	2	1	1	----	---	---
CO4	1	1	1	2	1	----	---	---
	2.41	3.45	3.48	3.5	3.38			

PO1 = [(2.8 X 3) + (2.5 X 2) + (2.7 X 1) + (2.9 X 0)] / (3+2+1+0) = 2.78 (say)

Coordinator Principal

CO – PO ATTAINMENT
DEPT. OF PHYSICS
ACADEMIC YEAR 2022-2023

Name of Teacher: Prof. D. R. Patil

Class: S. Y. B. Sc.

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Physics.
	PO2	To enhance the skill of problem solving by analytical and logical techniques.
	PO3	To enable the students to correlate the problems of Physics with the problems of society at real ground and make awareness of the society for its betterment.
	PO4	To introduce the students, few modern techniques and instrumentations to make few basic, simple and innovative models in Physics; and to involve the students in science cultivation and research programs.
	PO5	To enable the students to know the basic concepts of Physics in depth.
	PO6	To enrich the knowledge of students to understand good laboratory practices and safety, that is useful in the laboratory.
	PO7	To enable the students to solve the problems in real life by applying various laws of Physics.
	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
PHY 401: Waves, Oscillations and Acoustics	1	To acquire the highest quality education in Physics at UG level and to generate well trained human resource.
	2	To acquire the deep knowledge in fundamentals of Physics and basic knowledge in specialized areas, viz. Waves, wave propagation, oscillations, acoustics, etc.
	3	To develop the observational skills, confidence and motivate them to acquire the excess skills in basic and modern terms of practicals in Physics.
	4	To introduce the students, few modern techniques and instrumentations to make few basic, simple and innovative models in Physics; and to involve the students in science cultivation and research programs, viz. Projects, workshops, certificate courses, etc.

CO1	CO2	CO3	CO4
3.78	3.59	3.56	3.63

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	1	2	2	----	----	---	---
CO2	2	1	2	3	----	----	---	1
CO3	1	2	3	1	----	----	---	---
CO4	0	1	2	---	----	----	---	---
	3.7	3.7	3.72	3.58	—	—	—	—

PO1 = [(2.8 X 3) + (2.5 X 2) + (2.7 X 1) + (2.9 X 0)] / (3+2+1+0) = 2.78 (say)

Coordinator

Principal

CO – PO ATTAINMENT
DEPT. OF PHYSICS
ACADEMIC YEAR 2022-2023

Name of Teacher: Prof. D. R. Patil

Class: T. Y. B. Sc.

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Physics.
	PO2	To enhance the skill of problem solving by analytical and logical techniques.
	PO3	To enable the students to correlate the problems of Physics with the problems of society at real ground and make awareness of the society for its betterment.
	PO4	To introduce the students, few modern techniques and instrumentations to make few basic, simple and innovative models in Physics; and to involve the students in science cultivation and research programs.
	PO5	To enable the students to know the basic concepts of Physics in depth.
	PO6	To enrich the knowledge of students to understand good laboratory practices and safety, that is useful in the laboratory.
	PO7	To enable the students to solve the problems in real life by applying various laws of Physics.
	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
PHY 503: Atomic and Molecular Physics	1	To acquire the highest quality education in Physics at UG level and to generate well trained human resource.
	2	To acquire the deep knowledge in fundamentals of Physics and basic knowledge in specialized areas, viz. Vector atom model, valence electron system, Zeeman and Paschen Back effect, X-Ray and molecular spectra, etc.
	3	To develop the observational skills, confidence and motivate them to acquire the excess skills in basic and modern terms of practicals in Physics.
	4	To introduce the students, few modern techniques and instrumentations to make few basic, simple and innovative models in Physics; and to involve the students in science cultivation and research programs, viz. Projects, workshops, certificate courses, etc.

CO1	CO2	CO3	CO4
3.67	4	3.83	4

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	3	2	1	----	----	---	---
CO2	1	2	2	2	----	----	---	---
CO3	2	1	2	1	----	----	---	---
CO4	2	2	1	1	----	----	---	---
	3.85	3.85	3.85	3.95	-	-	-	-

PO1 = [(2.8 X 3) + (2.5 X 2) + (2.7 X 1) + (2.9 X 0)] / (3+2+1+0) = 2.78 (say)

Coordinator

Principal

CO – PO ATTAINMENT
DEPT. OF PHYSICS
ACADEMIC YEAR 2022-2023

Name of Teacher: Dr. D. N. Suryawanshi — Class: T. Y. B. Sc.

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Physics.
	PO2	To enhance the skill of problem solving by analytical and logical techniques.
	PO3	To enable the students to correlate the problems of Physics with the problems of society at real ground and make awareness of the society for its betterment.
	PO4	To introduce the students, few modern techniques and instrumentations to make few basic, simple and innovative models in Physics; and to involve the students in science cultivation and research programs.
	PO5	To enable the students to know the basic concepts of Physics in depth.
	PO6	To enrich the knowledge of students to understand good laboratory practices and safety, that is useful in the laboratory.
	PO7	To enable the students to solve the problems in real life by applying various laws of Physics.
	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
PHY 504: Electronics-II	1	To acquire the highest quality education in Physics at UG level and to generate well trained human resource.
	2	To acquire the deep knowledge in fundamentals of Physics and basic knowledge in specialized areas, viz. Transistors, amplifiesr, oscillators, switches, digital instrumentations, etc.
	3	To develop the observational skills, confidence and motivate them to acquire the excess skills in basic and modern terms of practicals in Physics.
	4	To introduce the students, few modern techniques and instrumentations to make few basic, simple and innovative models in Physics; and to involve the students in science cultivation and research programs, viz. Projects, workshops, certificate courses, etc.

CO1	CO2	CO3	CO4
4	3.67	3.83	4

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	2	3	2	----	----	---	---
CO2	2	2	2	2	----	----	---	---
CO3	1	2	3	2	----	----	---	---
CO4	2	2	2	2	----	----	---	---
	3.37	3.96	3.8	3.6				

PO1 = [(2.8 X 3) + (2.5 X 2) + (2.7 X 1) + (2.9 X 0)] / (3+2+1+0) = 2.78 (say)

Coordinator

Principal

CO – PO ATTAINMENT
DEPT. OF PHYSICS
ACADEMIC YEAR 2022-2023

Name of Teacher: Mr. Harshal A. Nikam Class: T. Y. B. Sc.

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Physics.
	PO2	To enhance the skill of problem solving by analytical and logical techniques.
	PO3	To enable the students to correlate the problems of Physics with the problems of society at real ground and make awareness of the society for its betterment.
	PO4	To introduce the students, few modern techniques and instrumentations to make few basic, simple and innovative models in Physics; and to involve the students in science cultivation and research programs.
	PO5	To enable the students to know the basic concepts of Physics in depth.
	PO6	To enrich the knowledge of students to understand good laboratory practices and safety, that is useful in the laboratory.
	PO7	To enable the students to solve the problems in real life by applying various laws of Physics.
	PO8	To involve the UG students in research projects, certificate courses, etc.
Course		**Outcomes**
PHY 602: Materials Science	1	To acquire the highest quality education in Physics at UG level and to generate well trained human resource.
	2	To acquire the deep knowledge in fundamentals of Physics and basic knowledge in specialized areas, viz. materials and their properties, atomic disorders in materials, diffusion of materials, phase diagram, organic materials, etc.
	3	To develop the observational skills, confidence and motivate them to acquire the excess skills in basic and modern terms of practicals in Physics.
	4	To introduce the students, few modern techniques and instrumentations to make few basic, simple and innovative models in Physics; and to involve the students in science cultivation and research programs, viz. Projects, workshops, certificate courses, etc.

CO1	CO2	CO3	CO4
3.67	3.67	4	3.83

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	3	2	2	1	—	—	—	—
CO2	2	2	2	2	—	—	—	—
CO3	1	1	3	2	—	—	—	—
CO4	0	1	2	2	—	—	—	—
	2.78	3.75	3.79	3.42				

PO1 = [(2.8 X 3) + (2.5 X 2) + (2.7 X 1) + (2.9 X 0)] / (3+2+1+0) = 2.78 (say)

Coordinator **Principal**

CO – PO ATTAINMENT
DEPT. OF PHYSICS
ACADEMIC YEAR 2022-2023

Name of Teacher: Prof. D. R. Patil Class: T. Y. B. Sc.

Programme Outcomes	**PO1**	To know, understand and think upon the basic concepts of all courses in Physics.
	PO2	To enhance the skill of problem solving by analytical and logical techniques.
	PO3	To enable the students to correlate the problems of Physics with the problems of society at real ground and make awareness of the society for its betterment.
	PO4	To introduce the students, few modern techniques and instrumentations to make few basic, simple and innovative models in Physics; and to involve the students in science cultivation and research programs.
	PO5	To enable the students to know the basic concepts of Physics in depth.
	PO6	To enrich the knowledge of students to understand good laboratory practices and safety, that is useful in the laboratory.
	PO7	To enable the students to solve the problems in real life by applying various laws of Physics.
	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	**Outcomes**	
PHY 603: Nuclear Physics	1	To acquire the highest quality education in Physics at UG level and to generate well trained human resource.
	2	To acquire the deep knowledge in fundamentals of Physics and basic knowledge in specialized areas, viz. nucleus, nuclear forces, radioactivity, nuclear models, nuclear reactions, nuclear energy, nuclear detectors and accelerators, etc.
	3	To develop the observational skills, confidence and motivate them to acquire the excess skills in basic and modern terms of practicals in Physics.
	4	To introduce the students, few modern techniques and instrumentations to make few basic, simple and innovative models in Physics; and to involve the students in science cultivation and research programs, viz. Projects, workshops, certificate courses, etc.

CO1	CO2	CO3	CO4
3.67	3.83	4	4

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	3	3	2	3	----	----	---	---
CO2	2	2	2	2	----	----	---	---
CO3	1	2	2	2	----	----	---	---
CO4	0	1	1	2	----	----	---	---
	2.78	3.27	3.46	3.77	—	—	—	—

PO1 = [(2.8 X 3) + (2.5 X 2) + (2.7 X 1) + (2.9 X 0)] / (3+2+1+0) = 2.78 (say)

Coordinator Principal

CO – PO ATTAINMENT
DEPT. OF PHYSICS
ACADEMIC YEAR 2022-2023

Name of Teacher: Prof. D. R. Patil Class: T. Y. B. Sc.

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Physics.
	PO2	To enhance the skill of problem solving by analytical and logical techniques.
	PO3	To enable the students to correlate the problems of Physics with the problems of society at real ground and make awareness of the society for its betterment.
	PO4	To introduce the students, few modern techniques and instrumentations to make few basic, simple and innovative models in Physics; and to involve the students in science cultivation and research programs.
	PO5	To enable the students to know the basic concepts of Physics in depth.
	PO6	To enrich the knowledge of students to understand good laboratory practices and safety, that is useful in the laboratory.
	PO7	To enable the students to solve the problems in real life by applying various laws of Physics.
	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	**Outcomes**	
PHY 603: Nuclear Physics	1	To acquire the highest quality education in Physics at UG level and to generate well trained human resource.
	2	To acquire the deep knowledge in fundamentals of Physics and basic knowledge in specialized areas, viz. nucleus, nuclear forces, radioactivity, nuclear models, nuclear reactions, nuclear energy, nuclear detectors and accelerators, etc.
	3	To develop the observational skills, confidence and motivate them to acquire the excess skills in basic and modern terms of practicals in Physics.
	4	To introduce the students, few modern techniques and instrumentations to make few basic, simple and innovative models in Physics; and to involve the students in science cultivation and research programs, viz. Projects, workshops, certificate courses, etc.

CO1	CO2	CO3	CO4
3.67	3.83	4	4

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	3	3	2	3	----	----	---	---
CO2	2	2	2	2	----	----	---	---
CO3	1	2	2	2	----	----	---	---
CO4	0	1	1	2	----	----	---	---
	2.78	3.27	3.46	3.77	—	—	—	—

PO1 = [(2.8 X 3) + (2.5 X 2) + (2.7 X 1) + (2.9 X 0)] / (3+2+1+0) = 2.78 (say)

Coordinator Principal

Sahajivan Shikshan Prasarak Mandal (Tehsil) Sanchalit
RANI LAXMIBAI MAHAVIDYALAYA
PAROLA, DIST - JALGAON, 425111

CO – PO ATTAINMENT
DEPT. OF PHYSICS
ACADEMIC YEAR 2021-2022

Name of Teacher: DR.D.R.PATIL Class: F. Y.B. Sc.

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Physics.
	PO2	To enhance the skill of problem solving by analytical and logical techniques.
	PO3	To enable the students to correlate the problems of Physics with the problems of society at real ground and make awareness of the society for its betterment.
	PO4	To introduce the students, few modern techniques and instrumentations to make few basic, simple and innovative models in Physics; and to involve the students in science cultivation and research programs.
	PO5	To enable the students to know the basic concepts of Physics in depth.
	PO6	To enrich the knowledge of students to understand good laboratory practices and safety, that is useful in the laboratory.
	PO7	To enable the students to solve the problems in real life by applying various laws of Physics.
	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
PHY 101: Basic Mechanics	CO1	To work out on the basic laws of motion, rotational motion, vector algebra, differential equations, linear and angular momentum, energy, etc. and to solve the problems.
	CO2	To apply these basic concepts to make the innovative models and to create the scientific temperament among the students.
	CO3	To understand the course knowledge in detail.
	CO4	To create the interests among the students through different teaching methods for this course and its application at societal level.

CO1	CO2	CO3	CO4
3.72	3.75	3.5	3.63

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	2	3	3	---	---	---	---
CO2	2	2	2	3	---	---	---	---
CO3	1	3	2	3	---	---	---	---
CO4	2	2	1	1	---	---	---	---
	3.60	3.58	3.66	3.37	---	---	---	---

PO1 = [(2.8 X 3) + (2.5 X 2) + (2.7 X 1) + (2.9 X 0)] / (3+2+1+0) = 2.78 (say)

Coordinator Principal

CO – PO ATTAINMENT
DEPT. OF PHYSICS
ACADEMIC YEAR 2021-2022

Name of Teacher: Prof. D. N. Suryawanshi Class: F. Y. B. Sc.

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Physics.
	PO2	To enhance the skill of problem solving by analytical and logical techniques.
	PO3	To enable the students to correlate the problems of Physics with the problems of society at real ground and make awareness of the society for its betterment.
	PO4	To introduce the students, few modern techniques and instrumentations to make few basic, simple and innovative models in Physics; and to involve the students in science cultivation and research programs.
	PO5	To enable the students to know the basic concepts of Physics in depth.
	PO6	To enrich the knowledge of students to understand good laboratory practices and safety, that is useful in the laboratory.
	PO7	To enable the students to solve the problems in real life by applying various laws of Physics.
	PO8	To involve the UG students in research projects, certificate courses, etc.

Course		Outcomes
PHY 202: Dielectrics, Magnetism and Electromagnetism	1	To acquire the detailed knowledge on capacitance, dielectrics, magnetism, electromagnetic induction, Maxwell's equation, e.m. wave propagation, etc. and to solve the problems.
	2	To apply these basic concepts to make the innovative models and to create the scientific temperament among the students.
	3	To build few simple models.
	4	To create the interests among the students through different teaching methods for this course and its application at societal level and to involve them in research.

CO1	CO2	CO3	CO4
3.7	3.37	3.37	3.5

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	3	3	2	3	---	---	---	---
CO2	2	3	2	3	---	---	---	---
CO3	2	3	2	2	---	---	---	---
CO4	2	2	1	1	---	---	---	---
	3.29	3.40	3.57	3.47	---	---	---	---

PO1 = [(2.8 X 3) + (2.5 X 2) + (2.7 X 1) + (2.9 X 0)] / (3+2+1+0) = 2.78 (say)

Coordinator Principal

CO – PO ATTAINMENT
DEPT. OF PHYSICS
ACADEMIC YEAR 2021-2022

Name of Teacher: Mr. Harshal Aadhar Nikam Class: T. Y. B. Sc.

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Physics.
	PO2	To enhance the skill of problem solving by analytical and logical techniques.
	PO3	To enable the students to correlate the problems of Physics with the problems of society at real ground and make awareness of the society for its betterment.
	PO4	To introduce the students, few modern techniques and instrumentations to make few basic, simple and innovative models in Physics; and to involve the students in science cultivation and research programs.
	PO5	To enable the students to know the basic concepts of Physics in depth.
	PO6	To enrich the knowledge of students to understand good laboratory practices and safety, that is useful in the laboratory.
	PO7	To enable the students to solve the problems in real life by applying various laws of Physics.
	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
PHY 501: Mathematical Physics	1	To acquire the highest quality education in Physics at UG level and to generate well trained human resource.
	2	To acquire the deep knowledge in fundamentals of Physics and basic knowledge in specialized areas, viz. Vector algebra, differential equations, special functions, complex analysis, special theory of relativity, etc.
	3	To develop the observational skills, confidence and motivate them to acquire the excess skills in basic and modern terms of practical in Physics.
	4	To introduce the students, few modern techniques and instrumentations to make few basic, simple and innovative models in Physics; and to involve the students in science cultivation and research programs, viz. Projects, workshops, certificate courses, etc.

CO1	CO2	CO3	CO4
3.91	3.91	3.83	3.83

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	3	2	1	---	---	---	---
CO2	2	2	2	2	---	---	---	---
CO3	2	3	2	2	---	---	---	---
CO4	1	2	2	2	---	---	---	---
	3.52	3.57	3.41	3.59	---	---	---	---

PO1 = [(2.8 X 3) + (2.5 X 2) + (2.7 X 1) + (2.9 X 0)] / (3+2+1+0) = 2.78 (say)

Coordinator Principal

CO – PO ATTAINMENT
DEPT. OF PHYSICS
ACADEMIC YEAR 2021-2022

Name of Teacher: Ms. Dipali R. Patil Class: T. Y. B. Sc.

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Physics.
	PO2	To enhance the skill of problem solving by analytical and logical techniques.
	PO3	To enable the students to correlate the problems of Physics with the problems of society at real ground and make awareness of the society for its betterment.
	PO4	To introduce the students, few modern techniques and instrumentations to make few basic, simple and innovative models in Physics; and to involve the students in science cultivation and research programs.
	PO5	To enable the students to know the basic concepts of Physics in depth.
	PO6	To enrich the knowledge of students to understand good laboratory practices and safety, that is useful in the laboratory.
	PO7	To enable the students to solve the problems in real life by applying various laws of Physics.
	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
PHY 505: Solar Energy and Applications	1	To acquire the highest quality education in Physics at UG level and to generate well trained human resource.
	2	To acquire the deep knowledge in fundamentals of Physics and basic knowledge in specialized areas, viz. solar radiation, clean and green energy, solar collectors, solar photovoltaics, solar thermal applications, solar PV systems, energy storage, etc.
	3	To develop the observational skills, confidence and motivate them to acquire the excess skills in basic and modern terms of practicals in Physics.
	4	To introduce the students, few modern techniques and instrumentations to make few basic, simple and innovative models in Physics; and to involve the students in science cultivation and research programs, viz. Projects, workshops, certificate courses, etc.

CO1	CO2	CO3	CO4
3.91	3.83	3.83	3.91

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	2	1	2	---	---	---	---
CO2	1	2	2	1	---	---	---	---
CO3	2	2	2	1	---	---	---	---
CO4	1	2	1	1	---	---	---	---
	3.71	3.68	3.65	3.28	---	---	---	---

PO1 = [(2.8 X 3) + (2.5 X 2) + (2.7 X 1) + (2.9 X 0)] / (3+2+1+0) = 2.78 (say)

Coordinator Principal

CO – PO ATTAINMENT
DEPT. OF PHYSICS
ACADEMIC YEAR 2021-2022

Name of Teacher: Prof. D. R. Patil Class: T. Y. B. Sc.

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Physics.
	PO2	To enhance the skill of problem solving by analytical and logical techniques.
	PO3	To enable the students to correlate the problems of Physics with the problems of society at real ground and make awareness of the society for its betterment.
	PO4	To introduce the students, few modern techniques and instrumentations to make few basic, simple and innovative models in Physics; and to involve the students in science cultivation and research programs.
	PO5	To enable the students to know the basic concepts of Physics in depth.
	PO6	To enrich the knowledge of students to understand good laboratory practices and safety, that is useful in the laboratory.
	PO7	To enable the students to solve the problems in real life by applying various laws of Physics.
	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
PHY 603: Nuclear Physics	1	To acquire the highest quality education in Physics at UG level and to generate well trained human resource.
	2	To acquire the deep knowledge in fundamentals of Physics and basic knowledge in specialized areas, viz. nucleus, nuclear forces, radioactivity, nuclear models, nuclear reactions, nuclear energy, nuclear detectors and accelerators, etc.
	3	To develop the observational skills, confidence and motivate them to acquire the excess skills in basic and modern terms of practicals in Physics.
	4	To introduce the students, few modern techniques and instrumentations to make few basic, simple and innovative models in Physics; and to involve the students in science cultivation and research programs, viz. Projects, workshops, certificate courses, etc.

CO1	CO2	CO3	CO4
3.83	3.83	3.91	3.91

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	3	3	3	---	---	---	---
CO2	2	2	2	2	---	---	---	---
CO3	2	1	1	2	---	---	---	---
CO4	2	1	2	2	---	---	---	---
	3.62	3.52	3.48	3.44	---	---	---	---

PO1 = [(2.8 X 3) + (2.5 X 2) + (2.7 X 1) + (2.9 X 0)] / (3+2+1+0) = 2.78 (say)

Coordinator Principal

CO – PO ATTAINMENT
DEPT. OF PHYSICS
ACADEMIC YEAR 2021-2022

Name of Teacher: Dr. D. N. Suryawanshi Class: T. Y. B. Sc.

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Physics.
	PO2	To enhance the skill of problem solving by analytical and logical techniques.
	PO3	To enable the students to correlate the problems of Physics with the problems of society at real ground and make awareness of the society for its betterment.
	PO4	To introduce the students, few modern techniques and instrumentations to make few basic, simple and innovative models in Physics; and to involve the students in science cultivation and research programs.
	PO5	To enable the students to know the basic concepts of Physics in depth.
	PO6	To enrich the knowledge of students to understand good laboratory practices and safety, that is useful in the laboratory.
	PO7	To enable the students to solve the problems in real life by applying various laws of Physics.
	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
PHY 606: Technical electronics-II	1	To acquire the highest quality education in Physics at UG level and to generate well trained human resource.
	2	To acquire the deep knowledge in fundamentals of Physics and basic knowledge in specialized areas, viz. sound system, public address system, medical instruments, transducers, remote control, microwave oven, cellular phone, washing machine, electronic weighing machine, IR thermometer, etc.
	3	To develop the observational skills, confidence and motivate them to acquire the excess skills in basic and modern terms of practicals in Physics.
	4	To introduce the students, few modern techniques and instrumentations to make few basic, simple and innovative models in Physics; and to involve the students in science cultivation and research programs, viz. Projects, workshops, certificate courses, etc.

CO1	CO2	CO3	CO4
3.91	3.83	3.91	3.91

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	3	2	2	---	---	---	---
CO2	1	2	1	2	---	---	---	---
CO3	2	1	2	1	---	---	---	---
CO4	1	1	1	1	---	---	---	---
	3.49	3.40	3.28	3.37	---	---	---	---

PO1 = [(2.8 X 3) + (2.5 X 2) + (2.7 X 1) + (2.9 X 0)] / (3+2+1+0) = 2.78 (say)

Coordinator Principal

Established: June 1992 Sahajivan Shikshan Prasarak Mandal (Tehu) Sanchalit

Rani Laxmibai Mahavidyalaya Parola

Dist. Jalgaon 425111 Tel: (02597) 292666

Bachelor of Science (B.Sc)

After completion of B.Sc Programme Students will be able to:

Botany- 501 LOWER CRYPTOGAMS **Academic Year- 2021-22**

	Programme Outcomes
PO 1	Acquire Knowledge with facts and figures related to various subject in pure science.
PO 2	Learn the basic concepts, scientific phenomena and their relevance in the day to day life.
PO 3	Adopt the skills in handling scientific instruments, phenomena, chemicals, glassware, planning and performance in laboratory experiments.
PO 4	Analyze the given scientific data critically and systematically and the ability to draw objective conclusions
PO 5	Apply scientific temperament to address the social and global issues by sustainable development and solutions.
PO 6	Contribute for growth and development of nation through scientific research.

	Course outcomes
CO 1	To study salient features of cryptogamic plants.
CO 2	To make students aware about the status of cryptogams as a group in plant kingdom.
CO 3	To study the life cycles of selected genera.
CO 4	To study economic and ecological importance of cryptogramic plants.

CO and PO Mapping

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	04	03	03	03	03	03
CO 2	03	03	02	03	02	03
CO 3	02	03	02	03	03	03
CO 4	03	02	03	03	03	03
Sum	12	11	10	12	11	12
Average	3	2.75	2.5	3	2.75	03
Percentage	100	91.66	83.33	100	91.66	100

Head
Dept. of Botany
Rani Laxmibai Mahavidyalaya
Parola,Tal. Parola Dist. Jalgaon

Rani Laxmibai Mahavidyalaya IQAC PAROLA Dist.Jalgaon

Coordinator, IQAC
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Rani Laxmibai Mahavidyalaya
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Established: June 1992 Sahajivan Shikshan Prasarak Mandal (Tehu) Sanchalit

Rani Laxmibai Mahavidyalaya Parola

Dist. Jalgaon 425111 Tel: (02597) 292666

Bachelor of Science (B.Sc)

After completion of B.Sc Programme Students will be able to:

Botany- 502 MORPHOLOGY AND SYSTEMATICS OF ANGIOSPERMS

Academic Year- 2021-22

	Programme Outcomes
PO 1	Acquire Knowledge with facts and figures related to various subject in pure science.
PO 2	Learn the basic concepts, scientific phenomena and their relevance in the day to day life.
PO 3	Adopt the skills in handling scientific instruments, phenomena, chemicals, glassware, planning and performance in laboratory experiments.
PO 4	Analyze the given scientific data critically and systematically and the ability to draw objective conclusions
PO 5	Apply scientific temperament to address the social and global issues by sustainable development and solutions.
PO 6	Contribute for growth and development of nation through scientific research.

	Course outcomes
CO 1	To study vegetative and floral morphology of angiospermic plants
CO 2	To study the status of angiosperm in plant kingdom
CO 3	To study the origin of angiosperm with respect to age and probable ancestors
CO 4	To study various angiosperm families emphasizing their morphology, salient features etc.

CO and PO Mapping

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	03	03	03	03	03	03
CO 2	03	03	02	03	03	02
CO 3	03	03	02	03	03	03
CO 4	03	02	03	03	03	03
Sum	12	11	10	11	12	11
Average	03	2.75	2.5	2.75	03	2.75
Percentage	100	91.66	83.33	100	100	91.66

Head
Dept. of Botany
Rani Laxmibai Mahavidyalaya
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Rani Laxmibai Mahavidyalaya Parola

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Bachelor of Science (B.Sc)

After completion of B.Sc Programme Students will be able to:

Botany- 505 BIOFERTILIZERS **Academic Year- 2021-22**

	Programme Outcomes
PO 1	Acquire Knowledge with facts and figures related to various subject in pure science.
PO 2	Learn the basic concepts, scientific phenomena and their relevance in the day to day life.
PO 3	Adopt the skills in handling scientific instruments, phenomena, chemicals, glassware, planning and performance in laboratory experiments.
PO 4	Analyze the given scientific data critically and systematically and the ability to draw objective conclusions
PO 5	Apply scientific temperament to address the social and global issues by sustainable development and solutions.
PO 6	Contribute for growth and development of nation through scientific research.

	Course outcomes
CO 1	To introduce application of Biofertilizer technology in
CO 2	To familiarize students with microbes used as biofertilizers Agriculture
CO 3	To demonstrate the low cost media preparation and cultural practices in biofertilizers
CO 4	To aware the students about benefits of applications of biofertilizers

CO and PO Mapping

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	03	03	03	03	03	03
CO 2	03	03	02	03	03	03
CO 3	03	03	03	03	03	03
CO 4	03	02	03	03	03	02
Sum	12	11	11	12	12	11
Average	03	2.75	2.75	3	03	2.75
Percentage	100	91.66	91.66	100	100	91.66

Head
Dept. of Botany
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Rani Laxmibai Mahavidyalaya Parola

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Bachelor of Science (B.Sc)

After completion of B.Sc Programme Students will be able to:

Botany- 603 MOLECULAR BIOLOGY **Academic Year- 2021-22**

	Programme Outcomes
PO 1	Acquire Knowledge with facts and figures related to various subject in pure science.
PO 2	Learn the basic concepts, scientific phenomena and their relevance in the day to day life.
PO 3	Adopt the skills in handling scientific instruments, phenomena, chemicals, glassware, planning and performance in laboratory experiments.
PO 4	Analyze the given scientific data critically and systematically and the ability to draw objective conclusions
PO 5	Apply scientific temperament to address the social and global issues by sustainable development and solutions.
PO 6	Contribute for growth and development of nation through scientific research.

	Course outcomes
CO 1	To study molecular biology in relation to genetic material, its inheritance, modification, replication.
CO 2	To study the mitochondria and chloroplast DNA
CO 3	To study transcription, translation post translation modification of protein.
CO 4	To study gene regulation in prokaryotes and eukaryotes

CO and PO Mapping

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	03	03	03	03	03	03
CO 2	03	03	03	03	03	03
CO 3	03	03	03	03	02	03
CO 4	03	02	03	03	03	03
Sum	12	11	12	12	11	12
Average	3	2.75	3	3	2.75	03
Percentage	100	91.66	100	100	91.66s	100

Head
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Bachelor of Science (B.Sc)

After completion of B.Sc Programme Students will be able to:

Botany- 606 B : PLANT BREEDING **Academic Year- 2021-22**

	Programme Outcomes
PO 1	Acquire Knowledge with facts and figures related to various subject in pure science.
PO 2	Learn the basic concepts, scientific phenomena and their relevance in the day to day life.
PO 3	Adopt the skills in handling scientific instruments, phenomena, chemicals, glassware, planning and performance in laboratory experiments.
PO 4	Analyze the given scientific data critically and systematically and the ability to draw objective conclusions
PO 5	Apply scientific temperament to address the social and global issues by sustainable development and solutions.
PO 6	Contribute for growth and development of nation through scientific research.

	Course outcomes
CO 1	To introduce the student with science of plant breeding.
CO 2	To introduce the student with branch of plant breeding for the survival of human being from starvation
CO 3	To study the techniques of production of new superior crop verities.
CO 4	To study the different plant breeding methods

CO and PO Mapping

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	03	03	03	03	03	03
CO 2	03	03	03	03	02	03
CO 3	03	02	03	03	03	02
CO 4	03	02	03	03	03	03
Sum	10	10	12	12	11	11
Average	2.5	2.5	3	3	2.75	2.75
Percentage	83.33	83.33	100	100	91.66	91.66

Head
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Rani Laxmibai Mahavidyalaya IQAC PAROLA Dist.Jalgaon

Bachelor of Science (B.Sc)

After completion of B.Sc Programme Students will be able to:

Botany- 501 LOWER CRYPTOGAMS **Academic Year- 2022-23**

	Programme Outcomes
PO 1	Acquire Knowledge with facts and figures related to various subject in pure science.
PO 2	Learn the basic concepts, scientific phenomena and their relevance in the day to day life.
PO 3	Adopt the skills in handling scientific instruments, phenomena, chemicals, glassware, planning and performance in laboratory experiments.
PO 4	Analyze the given scientific data critically and systematically and the ability to draw objective conclusions
PO 5	Apply scientific temperament to address the social and global issues by sustainable development and solutions.
PO 6	Contribute for growth and development of nation through scientific research.

	Course outcomes
CO 1	To study salient features of cryptogamic plants.
CO 2	To make students aware about the status of cryptogams as a group in plant kingdom.
CO 3	To study the life cycles of selected genera.
CO 4	To study economic and ecological importance of cryptogramic plants.

CO and PO Mapping

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	03	03	03	03	03	03
CO 2	03	03	02	03	03	03
CO 3	02	03	02	03	03	03
CO 4	03	02	03	03	03	03
Sum	11	11	10	12	12	12
Average	2.75	2.75	2.5	3	03	03
Percentage	91.66	91.66	83.33	100	100	100

Sum = Total Marks given by all students for CO

Average = Sum/ Total no of students

Percentage = (Average/4*100

Head
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Established: June 1992 Sahajivan Shikshan Prasarak Mandal (Tehu) Sanchalit

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Bachelor of Science (B.Sc)

After completion of B.Sc Programme Students will be able to:

Botany- 503 CELL BIOLOGY AND GENETICS **Academic Year- 2022-23**

	Programme Outcomes
PO 1	Acquire Knowledge with facts and figures related to various subject in pure science.
PO 2	Learn the basic concepts, scientific phenomena and their relevance in the day to day life.
PO 3	Adopt the skills in handling scientific instruments, phenomena, chemicals, glassware, planning and performance in laboratory experiments.
PO 4	Analyze the given scientific data critically and systematically and the ability to draw objective conclusions
PO 5	Apply scientific temperament to address the social and global issues by sustainable development and solutions.
PO 6	Contribute for growth and development of nation through scientific research.

	Course outcomes
CO 1	To study the Prokaryotic and eukaryotic cell
CO 2	To study the cell components and their functions
CO 3	To study the cell cycle
CO 4	To introduce the students with "Science of Heredity"

CO and PO Mapping

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	03	03	03	03	03	03
CO 2	03	03	02	03	03	03
CO 3	03	03	02	03	03	03
CO 4	03	02	03	03	03	03
Sum	12	12	11	12	12	12
Average	03	03	2.75	3	03	03
Percentage	100	100	83.33	100	100	100

Head
Dept. of Botany
Rani Laxmibai Mahavidyalaya
Parola,Tal. Parola Dist. Jalgaon

Coordinator, IQAC
Rani Laxmibai Mahavidyalaya
Parola,Dist.Jalgaon

Acting Principal
Rani Laxmibai Mahavidyalaya,
Parola,Tal.Parola Dist.Jalgaon

Established: June 1992 Sahajivan Shikshan Prasarak Mandal (Tehu) Sanchalit

Rani Laxmibai Mahavidyalaya Parola

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Rani Laxmibai Mahavidyalaya IQAC PAROLA Dist.Jalgaon

Bachelor of Science (B.Sc)

After completion of B.Sc Programme Students will be able to:

Botany- 505 BIOFERTILIZERS **Academic Year- 2022-23**

	Programme Outcomes
PO 1	Acquire Knowledge with facts and figures related to various subject in pure science.
PO 2	Learn the basic concepts, scientific phenomena and their relevance in the day to day life.
PO 3	Adopt the skills in handling scientific instruments, phenomena, chemicals, glassware, planning and performance in laboratory experiments.
PO 4	Analyze the given scientific data critically and systematically and the ability to draw objective conclusions
PO 5	Apply scientific temperament to address the social and global issues by sustainable development and solutions.
PO 6	Contribute for growth and development of nation through scientific research.

	Course outcomes
CO 1	To introduce application of Biofertilizer technology in
CO 2	To familiarize students with microbes used as biofertilizers Agriculture
CO 3	To demonstrate the low cost media preparation and cultural practices in biofertilizers
CO 4	To aware the students about benefits of applications of biofertilizers

CO and PO Mapping

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	03	03	03	03	03	03
CO 2	03	03	02	03	03	03
CO 3	02	03	02	03	03	03
CO 4	03	02	03	03	03	02
Sum	12	11	12	12	12	11
Average	03	2.75	3	3	03	2.75
Percentage	100	83.33	100	100	100	83.33

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Bachelor of Science (B.Sc)

After completion of B.Sc Programme Students will be able to:

Botany- 601 HIGHER CRYPTOGAMS **Academic Year- 2022-23**

	Programme Outcomes
PO 1	Acquire Knowledge with facts and figures related to various subject in pure science.
PO 2	Learn the basic concepts, scientific phenomena and their relevance in the day to day life.
PO 3	Adopt the skills in handling scientific instruments, phenomena, chemicals, glassware, planning and performance in laboratory experiments.
PO 4	Analyze the given scientific data critically and systematically and the ability to draw objective conclusions
PO 5	Apply scientific temperament to address the social and global issues by sustainable development and solutions.
PO 6	Contribute for growth and development of nation through scientific research.

	Course outcomes
CO 1	To study salient features of cryptogamic plants..
CO 2	To make students aware of the status of cryptogams as a group in plant kingdom
CO 3	To study the life cycles of selected genera.
CO 4	To study economic importance of cryptogamic plants

CO and PO Mapping

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	03	03	03	02	03	03
CO 2	03	03	02	03	03	03
CO 3	03	03	03	03	03	03
CO 4	03	02	03	03	03	03
Sum	12	11	11	11	12	12
Average	3	2.75	2.75	2.75	03	03
Percentage	100	83.33	83.33	83.33	100	100

Head
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Bachelor of Science (B.Sc)

After completion of B.Sc Programme Students will be able to:

Botany- 604 ECONOMIC BOTANY **Academic Year- 2022-23**

	Programme Outcomes
PO 1	Acquire Knowledge with facts and figures related to various subject in pure science.
PO 2	Learn the basic concepts, scientific phenomena and their relevance in the day to day life.
PO 3	Adopt the skills in handling scientific instruments, phenomena, chemicals, glassware, planning and performance in laboratory experiments.
PO 4	Analyze the given scientific data critically and systematically and the ability to draw objective conclusions
PO 5	Apply scientific temperament to address the social and global issues by sustainable development and solutions.
PO 6	Contribute for growth and development of nation through scientific research.

	Course outcomes
CO 1	To know useful bio resources of prime importance to mankind. 2. To acknowledge students about various groups of plants of the world as well of India. 3. To know botanical, chemical and nutritional values and value additions of food grains, legumes, sugars, vegetable, fruits, spices, etc. 3) To reveal new vis-a-vis forgotten food sources and their current practices.
CO 2	To acknowledge students about various groups of plants of the world as well of India
CO 3	To know botanical, chemical and nutritional values and value additions of food grains, legumes, sugars, vegetable, fruits, spices, etc.
CO 4	To know botanical, chemical and nutritional values and value additions of food grains, legumes, sugars, vegetable, fruits, spices, etc.

CO and PO Mapping

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	03	03	02	03	03	03
CO 2	03	03	03	03	03	03
CO 3	03	02	03	03	03	03
CO 4	03	02	03	03	03	03
Sum	12	10	11	12	12	12
Average	3	2.5	2.75	3	03	03
Percentage	100	83.33	91.66	100	100	100

Head
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Bachelor of Science (B.Sc)

After completion of B.Sc Programme Students will be able to:

Botany- 606 B : PLANT BREEDING **Academic Year- 2022-23**

	Programme Outcomes
PO 1	Acquire Knowledge with facts and figures related to various subject in pure science.
PO 2	Learn the basic concepts, scientific phenomena and their relevance in the day to day life.
PO 3	Adopt the skills in handling scientific instruments, phenomena, chemicals, glassware, planning and performance in laboratory experiments.
PO 4	Analyze the given scientific data critically and systematically and the ability to draw objective conclusions
PO 5	Apply scientific temperament to address the social and global issues by sustainable development and solutions.
PO 6	Contribute for growth and development of nation through scientific research.

	Course outcomes
CO 1	To introduce the student with science of plant breeding.
CO 2	To introduce the student with branch of plant breeding for the survival of human being from starvation
CO 3	To study the techniques of production of new superior crop verities.
CO 4	To study the different plant breeding methods

CO and PO Mapping

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO 1	03	03	02	03	03	03
CO 2	03	03	03	03	03	03
CO 3	03	02	03	03	03	02
CO 4	03	02	03	03	03	03
Sum	10	10	12	12	11	11
Average	2.5	2.5	3	3	2.75	2.75
Percentage	83.33	83.33	100	100	91.66	91.66

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DEPRTMENTOF MATHEMATICS

ACADEMIC YEAR 2021-2022

Sr. No	Year	Class	Name of course	Corse code	C0-1	C0-2	C0-3	C0-4
	2021-2022	F. Y. B. Sc. SEM-I	Matrix Algebra	MTH-101	3.63	3.5	3.6	3.43.6
			Calculus of single variable	MTH-102	3.6	3.6	3.4	3.5
			Discrete Mathematics	MTH-103B	3.62	3.46	3.62	3.53
		F. Y. B. Sc. SEM-II	Ordinary Diff. Equations	MTH-201	3.56	3.56	3.4	3.46
			Theory of Equations	MTH-202	3.19	3.39	3.56	3.36
			Numerical Analysis	MTH-203B	3.56	3.45	3.7	3.51
2	2021-2022	S. Y. B. Sc. SEM-I	Calculus of Several variable	MTH-301	3.6	3.5	3.5	3.5
			Group Theory	MTH-302A	3.43	3.53	3.43	3.6
			Practical Course	MTH-303	3.7	3.7	3.4	3.5
		S. Y. B. Sc. SEM-II	Complex Variables	MTH-401	3.46	3.5	3.36	3.6
			Differential Equations	MTH-402A	3.4	3.6	3.4	3.5
			Practical Course	MTH-403	3.7	3.6	3.3	3.5

Head
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Parola,Tal.Parola Dist.Jalgaon

DEPRTMENTOF MATHEMATICS

ACADEMIC YEAR 2022-2023

Sr. No	Year	Class	Name of course	Corse code	C0-1	C0-2	C0-3	C0-4
1	2022-2023	F. Y. B. Sc. SEM-I	Matrix Algebra	MTH-101	3.63	3.56	3.33	3.43
			Calculus of single variable	MTH-102	3.1	2.98	2.78	3.09
			Discrete Mathematics	MTH-103B	3.03	3.26	3.1	2.9
		F. Y. B. Sc. SEM-II	Ordinary Diff. Equations	MTH-201	3.5	3.4	3.5	3.3
			Theory of Equations	MTH-202	3.5	3.6	3.5	3.6
			Numerical Analysis	MTH-203B	3.73	3.4	3.46	3.66
2	2022-2023	S. Y. B. Sc. SEM-I	Calculus of Several variable	MTH-301	3.6	3.5	3.3	3.3
			Group Theory	MTH-302A	3.48	3.5	3.26	3.63
			Practical Course	MTH-303	3.6	3.4	3.4	3.4
		S. Y. B. Sc. SEM-II	Complex Variables	MTH-401	3.56	3.36	3.5	3.36
			Differential Equations	MTH-402A	3.5	3.46	3.5	3.46
			Practical Course	MTH-403	3.56	3.63	3.36	3.43

Head
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Prin. Dr. V. R. Patil
M.Sc., Ph. D.

Outward No. Date : / /20

CO – PO ATTAINMENT

Dept. of Computer Science

Name of Teacher: Mr. Amit N. Shinde Class: T. Y. B. Sc. A. Y: 2021-22

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Computer Science
	PO2	To enhance the skill of problem solving by analytical and logical techniques.
	PO3	To enable the students to correlate the problems I Computer Science with the problems of society at real ground and make awareness of the society for its betterment.
	PO4	To introduce the students, few modern techniques and instrumentations to make few basic, simple and innovative models in Computer Science; and to involve the students in science cultivation and research programs.
	PO5	To enable the students to know the basic concepts of Computer Science in depth.
	PO6	To enrich the knowledge of students to understand good laboratory practices and safety, that is useful in the laboratory.
	PO7	To enable the students to solve the problems in real life by applying various laws of Computer Science.
	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
CS- 501: System Programming	1	CO 1: Understand details about system software
	2	CO 2: To do basic system program like development of editors lexical analysers etc.
	3	CO 3: Students are familiar with language processing activities.
	4	CO 4: functions of translators, loader and linkers.

CO1	CO2	CO3	CO4
3.91	3.83	3.83	3.91

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	3	2	1	---	---	---	---
CO2	2	2	2	2	---	---	---	---
CO3	2	3	2	2	---	---	---	---
CO4	1	2	2	2	---	---	---	---
CO-PO	3.86	3.87	3.87	3.86	---	---	---	---

Coordinator

Coordinator, IQAC
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Rani Laxmibai Mahavidyalaya PAROLA Dist.Jalgaon

Principal

Vice Principal
Rani Laxmibai Mahavidyalaya,
PAROLA Dist. Jalgaon

Sahajivan Shikshan Prasarak Mandal (Tehu) Sanchalit
RANI LAXMIBAI MAHAVIDYALAYA
PAROLA, DIST - JALGAON, 425111

CO – PO ATTAINMENT

Dept. of Computer Science

Name of Teacher: Mr. Amit N. Shinde Class: T. Y. B. Sc. A. Y: 2021-22

Programme Outcomes	PO1	To know, understand and think upon the basic concepts of all courses in Computer Science
	PO2	To enhance the skill of problem solving by analytical and logical techniques.
	PO3	To enable the students to correlate the problems I Computer Science with the problems of society at real ground and make awareness of the society for its betterment.
	PO4	To introduce the students, few modern techniques and instrumentations to make few basic, simple and innovative models in Computer Science; and to involve the students in science cultivation and research programs.
	PO5	To enable the students to know the basic concepts of Computer Science in depth.
	PO6	To enrich the knowledge of students to understand good laboratory practices and safety, that is useful in the laboratory.
	PO7	To enable the students to solve the problems in real life by applying various laws of Computer Science.
	PO8	To involve the UG students in research projects, certificate courses, etc.
Course	Outcomes	
CS- 502: Database Management System	1	CO 1: Solve real world problems using appropriate set, functions etc.
	2	CO 2: Study of Relational model.
	3	CO 3: Design E-R Model for given requirements.
	4	CO 4: Use SQL.

CO1	CO2	CO3	CO4
3.91	3.83	3.83	3.91

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	3	1	2	2	---	---	---	---
CO2	2	2	1	1	---	---	---	---
CO3	3	3	3	2	---	---	---	---
CO4	2	1	1	1	---	---	---	---
CO-PO	3.87	3.85	3.86	3.87	---	---	---	---

Coordinator

Coordinator, IQAC
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Parola Dist. Jalgaon

Rani Laxmibai Mahavidyalaya PAROLA Dist. Jalgaon

Principal

Principal
Rani Laxmibai Mahavidyalaya,
PAROLA Dist. Jalgaon

DEPRTMENTOF Chemistry

ACADEMIC YEAR 2022-2023

Sr. No	Year	Class	Name of course	Corse code	C0-1	C0-2	C0-3	C0-4
1	2022-2023	F. Y. B. Sc. SEM-I	Physical & Inorganic	CH-101	86.66	93.75	86.66	-----
			Organic & Inorganic	CH -102	86.66	86.50	86.66	----
		F. Y. B. Sc. SEM-II	Physical & Inorganic	CH -201	89.10	87.5	90.63	89.10
			Organic & Inorganic	CH -202	87.00	86.50	85.00	84.00
2	2022-2023	S. Y. B. Sc. SEM-I	Physical & Inorganic	CH -301	88.28	90.63	89.10	93.75
			Organic & Inorganic	CH -302	86.50	85.00	86.50	88.25
		S. Y. B. Sc. SEM-II	Physical & Inorganic	CH -401	94.53	89.84	89.10	90.63
			Organic & Inorganic	CH -402	83.25	85.00	87.50	87.50
3	2022-2023	T. Y. B. Sc. SEM-I	Principle of Physical Chemistry	CH -501	100	91.67	95.83	100
			Inorganic Chemistry	CH -502	95.83	91.67	100	100
			Organic Reaction Mechanism	CH -503	91.67	100	91.83	100
			Industrial Chemistry	CH -504	100	91.67	91.83	100
			Analytical Instrumentation	CH -505	91.83	91.83	91.83	100
			Biochemistry	CH -506	91.67	100	100	91.83
4	2022-2023	T. Y. B. Sc. SEM-II	Principle of Physical Chemistry	CH -601	91.86	100	95.83	95.83
			Inorganic Chemistry	CH -602	91.67	91.67	100	91.83
			Organic Reaction Mechanism	CH -603	91.67	91.83	100	100
			Industrial Chemistry	CH -604	100	100	91.83	91.67
			Analytical Instrumentation	CH -605	91.67	100	100	91.87
			Polymer Chemistry	CH -606(A)	91.67	100	100	91.83

Head,

Department of Chemistry

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DEPRTMENTOF Chemistry

ACADEMIC YEAR 2021-2022

Sr. No	Year	Class	Name of course	Corse code	C0-1	C0-2	C0-3	C0-4
1	2021-2022	F. Y. B.Sc. SEM-I	Physical & Inorganic	CH-101	86.66	93.75	86.66	----
			Organic & Inorganic	CH -102	86.66	93.75	86.66	----
		F. Y. B.Sc. SEM-II	Physical & Inorganic	CH -201	91.41	89.84	87.50	87.50
			Organic & Inorganic	CH -202	92.50	84.17	84.17	87.50
2	2021-2022	S. Y. B.Sc. SEM-I	Physical & Inorganic	CH -301	92.19	92.19	90.63	93.75
			Organic & Inorganic	CH -302	96.67	93.33	95.00	90.83
		S. Y. B.Sc. SEM-II	Physical & Inorganic	CH -401	92.97	93.75	89.85	92.19
			Organic & Inorganic	CH -402	100.00	95.00	90.00	95.00
3	2021-2022	T. Y. B.Sc. SEM-I	Principle of Physical Chemistry	CH -501	97.91	97.91	95.75	95.75
			Inorganic Chemistry	CH -502	95.83	95.83	97.91	100
			Organic Reaction Mechanism	CH -503	89.58	93.75	100	100
			Industrial Chemistry	CH -504	93.75	97.75	97.75	95.83
			Analytical Instrumentation	CH -505	97.91	97.91	95.83	95.83
			Biochemistry	CH -506(A)	97.91	95.83	95.83	100
4	2021-2022	T. Y. B.Sc. SEM-II	Principle of Physical Chemistry	CH -601	97.91	95.83	95.83	97.91
			Inorganic Chemistry	CH -602	97.91	95.83	95.83	97.91
			Organic Reaction Mechanism	CH -603	95.83	95.83	97.91	97.91
			Industrial Chemistry	CH -604	95.83	97.91	95.83	97.91
			Analytical Instrumentation	CH -605	93.75	100	95.83	97.91
			Biochemistry	CH -606	97.91	95.83	97.91	97.91

Head,
Department of Chemistry

IQAC-Coordinator

Coordinator, IQAC
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DEPRTMENTOF Chemistry

ACADEMIC YEAR 2022-2023

Sr. No	Year	Class	Name of course	Corse code	C0-1	C0-2	C0-3	C0-4
1	2021-2022	F. Y. B. Sc. SEM-I	Physical & Inorganic	CH-101	86.66	93.75	86.66	-----
			Organic & Inorganic	CH -102	86.66	86.50	86.66	----
		F. Y. B. Sc. SEM-II	Physical & Inorganic	CH -201	89.10	87.5	90.63	89.10
			Organic & Inorganic	CH -202	87.00	86.50	85.00	84.00
2	2021-2022	S. Y. B. Sc. SEM-I	Physical & Inorganic	CH -301	88.28	90.63	89.10	93.75
			Organic & Inorganic	CH -302	86.50	85.00	86.50	88.25
		S. Y. B. Sc. SEM-II	Physical & Inorganic	CH -401	94.53	89.84	89.10	90.63
			Organic & Inorganic	CH -402	83.25	85.00	87.50	87.50
3	2021-2022	T. Y. B. Sc. SEM-I	Principle of Physical Chemistry	CH -501	100	91.67	95.83	100
			Inorganic Chemistry	CH -502	95.83	91.67	100	100
			Organic Reaction Mechanism	CH -503	91.67	100	91.83	100
			Industrial Chemistry	CH -504	100	91.67	91.83	100
			Analytical Instrumentation	CH -505	91.83	91.83	91.83	100
			Biochemistry	CH -506	91.67	100	100	91.83
4	2021-2022	T. Y. B. Sc. SEM-II	Principle of Physical Chemistry	CH -601	91.86	100	95.83	95.83
			Inorganic Chemistry	CH -602	91.67	91.67	100	91.83
			Organic Reaction Mechanism	CH -603	91.67	91.83	100	100
			Industrial Chemistry	CH -604	100	100	91.83	91.67
			Analytical Instrumentation	CH -605	91.67	100	100	91.87
			Polymer Chemistry	CH -606(A)	91.67	100	100	91.83

Head,
Department of Chemistry

IQAC-Coordinator

Principal

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CO ATTAINMENT

DEPARTMENT OF PHYSICS

ACADEMIC YEAR 2021-2022

Sr. No	Year	Class	Name of course	Corse code	CO-1	CO-2	CO-3	CO-4
1	2021-2022	F. Y. B. Sc. SEM-I	Basic Mechanics	PHY-101	3.72	3.75	3.5	3.63
			Dynamics and Properties of Matter	PHY-102	4	3.33	3.63	----
		F. Y. B. Sc. SEM-II	Electricity and Electrostatics	PHY-201	3.66	3.59	3.5	3.5
			Dielectrics, Magnetism and Electromagnetism	PHY-202	3.7	3.37	3.37	3.5
2	2021-2022	S. Y. B. Sc. SEM-I	Thermodynamics and Kinetic theory of gases	PHY-301	3.69	3.69	3.63	3.75
			Electronics-I	PHY-302	3.87	3.73	3.80	3.63
		S. Y. B. Sc. SEM-II	Waves, Oscillations and acoustics	PHY-401	3.72	3.75	3.59	3.69
			Optics and LASERS	PHY-402	4	3.8	3.6	3.8
3	2021-2022	T. Y. B. Sc. SEM-I	Mathematical Physics	PHY-501	3.91	3.91	3.83	3.83
			Solid State Physics	PHY-502	3.83	3.83	3.91	4
			Atomic and molecular physics	PHY-503	3.58	3.75	4	4
			Electronics-II	PHY-504	3.75	3.91	3.91	3.83
			Solar Energy and applications	PHY-505	3.91	3.83	3.83	3.91
			Technical Electronics- I	PHY-506	3.91	3.83	3.83	4
4	2021-2022	T. Y. B. Sc. SEM-II	Quantum mechanics	PHY-601	3.91	3.83	3.83	3.91
			Material Science	PHY-602	3.91	3.83	3.83	3.91
			Nuclear Physics	PHY-603	3.83	3.83	3.91	3.91
			Modern Physics	PHY-604	3.83	3.91	3.83	3.91
			Basic Instrumentation Skills	PHY-605	3.75	4	3.83	3.91
			Technical Electronics- I	PHY-606	3.91	3.83	3.91	3.91

Head,

Department of Physics

Dr. D.N. Suryawanshi

IQAC-Coordinator

Coordinator, IQAC
Rani Laxmibai Mahavidyalaya
Parola, Dist. Jalgaon

Principal

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Rani Laxmibai Mahavidyalaya PAROLA Dist. Jalgaon

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Rani Laxmibai Mahavidyalaya Parola

Dist. Jalgaon 425111 Tel: (02597) 292666

CO ATTAINMENT

DEPARTMENT OF PHYSICS

ACADEMIC YEAR 2022-2023

Sr. No	Year	Class	Name of course	Corse code	CO-1	CO-2	CO-3	CO-4
1	2022-2023	F. Y. B. Sc. SEM-I	Basic Mechanics	PHY-101	3.63	3.53	3.47	3.56
			Dynamics and Properties of Matter	PHY-102	3	3.5	3	---
		F. Y. B. Sc. SEM-II	Electricity and Electrostatics	PHY-201	3.56	3.5	3.63	3.56
			Dielectrics, Magnetism and Electromagnetism	PHY-202	3.5	3.46	3.40	3.36
2	2022-2023	S. Y. B. Sc. SEM-I	Thermodynamics and Kinetic theory of gases	PHY-301	3.53	3.63	3.56	3.75
			Electronics-I	PHY-302	3.46	3.4	3.46	3.53
		S. Y. B. Sc. SEM-II	Waves, Oscillations and acoustics	PHY-401	3.78	3.59	3.56	3.63
			Optics and LASERS	PHY-402	3.33	3.4	3.5	3.5
3	2022-2023	T. Y. B. Sc. SEM-I	Mathematical Physics	PHY-501	4	3.67	3.63	4
			Solid State Physics	PHY-502	3.83	3.67	4	4
			Atomic and molecular physics	PHY-503	3.67	4	3.83	4
			Electronics-II	PHY-504	4	3.67	3.83	4
			Solar Energy and applications	PHY-505	3.83	3.83	3.83	4
			Technical Electronics- I	PHY-506	3.67	4	4	3.83
4	2022-2023	T. Y. B. Sc. SEM-II	Quantum mechanics	PHY-601	3.83	4	3.83	3.83
			Material Science	PHY-602	3.67	3.67	4	3.83
			Nuclear Physics	PHY-603	3.67	3.83	4	4
			Modern Physics	PHY-604	4	4	3.83	3.67
			Basic Instrumentation Skills	PHY-605	3.67	4	4	3.87
			Technical Electronics- II	PHY-606	3.67	4	4	3.83

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CO ATTAINMENT

DEPARTMENT OF BOTANY

ACADEMIC YEAR 2021-2022

Sr. No	Year	Class	Name of course	Corse code	CO-1	CO-2	CO-3	CO-4
1	2021-2022	F. Y. B. Sc. SEM-I	Diversity of Lower Cryptograms	BOT-101	3.63	3.60	3.5	3.7
			Morphology of Angiosperms	BOT-102	3.46	3.50	3.43	3.7
		F. Y. B. Sc. SEM-II	Diversity of Higher Cryptograms	BOT-201	3.53	3.5	3.56	3.56
			Taxonomy of Angiosperms	BOT-202	3.56	3.46	3.43	3.56
2	2021-2022	S. Y. B. Sc. SEM-I	Plant Anatomy	BOT-301	3.23	3.32	3.2	3.3
			Plant Physiology	BOT-302	3.21	3.42	3.22	3.42
		S. Y. B. Sc. SEM-II	Plant Embryology	BOT 401	3.3	3.39	3.6	3.42
			Plant Metabolism	BOT 402	3.36	3.39	3.4	3.4
3	2021-2022	T. Y. B. Sc. SEM-I	Lower Cryptograms	BOT 501	3.5	3.5	3.33	3.33
			Morphology and Systematics of Angiosperms	BOT 502	3.5	3.66	3.33	3.5
			Cell Biology and Genetics	BOT-503	3.5	3.5	3.66	3.5
			Plant Physiology and Biochemistry	BOT-504	3.66	3.5	3.5	3.5
			Biofertilizers	BOT-505	3.5	3.5	3.5	3.5
			Horticulture	BOT-506	3.33	3.5	3.5	3.5
4	2021-2022	T. Y. B. Sc. SEM-II	Higher Cryptogams	BOT-601	3.3	3.5	3.33	3.33
			Gymnosperm and Paleobotany	BOT-602	3.33	3.5	3.16	3.5
			Molecular Biology	BOT-603	3.33	3.5	3.66	3.5
			Economic Botany	BOT-604	3.5	3.66	3.33	3.5
			Floriculture	BOT-605	3.5	3.33	3.5	3.66
			Plant Breeding	BOT-606	3.5	3.33	3.33	3.5

Head,
Department of Botany

Head
Dept. of Botany
Rani Laxmibai Mahavidyalaya
Parola,Tal. Parola Dist. Jalgaon

IQAC-Coordinator

Coordinator, IQAC
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Parola,Dist.Jalgaon

Principal

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IQAC PAROLA Rani Laxmibai Mahavidyalaya Dist.Jalgaon

CO ATTAINMENT

DEPARTMENT OF BOTANY

ACADEMIC YEAR 2022-2023

Sr. No	Year	Class	Name of course	Corse code	CO-1	CO-2	CO-3	CO-4
1	2022-2023	F. Y. B. Sc. SEM-I	Diversity of Lower Cryptograms	BOT-101	3.53	3.6	3.53	3.6
			Morphology of Angiosperms	BOT-102	3.56	3.56	3.6	3.63
		F. Y. B. Sc. SEM-II	Diversity of Higher Cryptograms	BOT-201	3.46	3.53	3.63	3.6
			Taxonomy of Angiosperms	BOT-202	3.56	3.56	3.6	3.63
2	2022-2023	S. Y. B. Sc. SEM-I	Plant Anatomy	BOT-301	3.4	3.3	3.3	3.5
			Plant Physiology	BOT-302	3.2	3.19	3.12	3.29
		S. Y. B. Sc. SEM-II	Plant Embryology	BOT 401	3.5	3.52	3.53	3.53
			Plant Metabolism	BOT 402	3.2	3.1	3.26	3.46
3	2022-2023	T. Y. B. Sc. SEM-I	Lower Cryptograms	BOT 501	3.3	3.1	3.2	3.3
			Morphology and Systematics of Angiosperms	BOT 502	3.3	3.4	3.5	3.4
			Cell Biology and Genetics	BOT-503	3.2	3.4	3.5	3.3
			Plant Physiology and Biochemistry	BOT-504	3.5	3.3	3.2	3.1
			Biofertilizers	BOT-505	3.3	3.5	3.3	3.4
			Horticulture	BOT-506	3.1	3.3	3.4	3.2
4	2022-2023	T. Y. B. Sc. SEM-II	Higher Cryptogams	BOT-601	3.2	3.3	3.1	3.2
			Gymnosperm and Paleobotany	BOT-602	3.1	3.3	3.3	3.2
			Molecular Biology	BOT-603	3.4	3.2	3.3	3.4
			Economic Botany	BOT-604	3.5	3.3	3.2	3.1
			Floriculture	BOT-605	3.3	3.3	3.2	3.3
			Plant Breeding	BOT-606	3.4	3.5	3.3	3.2

Head
Dept. of Botany
Rani Laxmibai Mahavidyalaya
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Head,
Department of Botany

Coordinator, IQAC
Rani Laxmibai Mahavidyalaya
Parola, Dist. Jalgaon

IQAC Coordinator

Acting Principal
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Principal

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Web : www.rlcollegeparola.org
Email : principalrlcparola@gmail.com

Outward No. Date : / /20

Attainment of Course Outcomes

Course End Survey (Indirect Analysis)

Branch: - B. Sc. **Semester: - III**

Name of the Course: - Biochemistry **Course Code: - ZOO -** 301

Name of the Teacher: - ***Prof. Sanjay Nilkanth Patil***

Designation: - Assistant Professor **Academic Year: - 2021 - 2022**

Sr. No.	Roll No.	Name of the Student	CO1	CO2	CO3	CO4
1		Patil Chandrkant V.	3	4	3.5	4
2		Patil Vivek Arun	3.5	3	4	3
3		Patil Neha Santosh.	4	3.5	3	4
4		Patil Divya Nana.	3.5	4	3	3.5
5		Patil Ashwini S.	4	3	3.5	4
6		Bobade Bhagyshri P	3.75	4	3	3.5
7		Chaudhari Rutuja A	4	3.5	3	4
8		Patil Pranjakta R.	3.5	3	4	4
9		Patil Apeksha M.	4	3.5	3	3.5
10		Patil Ashwini Ganesh	3.5	4	3	3.5
11		Shinde Komal S.	4	3.5	4	3
12		Patil Shubhangi N.	3	4	3	4
13		Patil Chandrakant R.	3.5	3.75	4	3
14		Patil Pooja A	4	4	3	4
15		Patil Harsha S.	4	3	3.5	4
		Sum	55.25	52.75	50.5	55
		Mean	3.6	3.51	3.3	3.6
		Percentage	90%	87.5%	82.5%	90%

- Sum = Total marks given by all student for co
- Mean = Sum / Total No. of students
- Percentage = (Mean * 4 /100)

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Outward No. Date : / /20

Attainment of Course Outcomes

Course End Survey (Indirect Analysis)

Branch: - B. Sc. **Semester: - IV**

Name of the Course: - Evolutionary Biology **Course Code: - ZOO -** 402

Name of the Teacher: - ***Prof. Sanjay Nilkanth Patil***

Designation: - Assistant Professor **Academic Year: - 2021 - 2022**

Sr. No.	Roll No.	Name of the Student	CO1	CO2	CO3	CO4
1		Patil Chandrakant V.	4	3.5	3	4
2		Vivek Arun Patil	3	4	3.5	3
3		Patil Neha Suresh	4	3	4	3.5
4		Patil Divya Nana	3	4	3	3.5
5		Patil Ashwini Sanjay	3.5	3	4	4
6		Bobade Bhagyshri R.	4	4	3	3
7		Chandheri Rajshri A.	4	3.5	3	3.5
8		Patil Pratiksha R.	3.5	4	3.5	4
9		Patil Harshada S.	4	3	4	3
10		Patil Apeksha M.	3.5	4	3.5	3
11		Patil Ashwini Ganesh	4	3	4	4
12		Shinde Komal S.	3.5	3	4	3.5
13		Patil Sushmahi N.	4	4	3	3
14		Patil Chandrakant R.	3	3	4	3.5
15		Patil Parag A.	4	3	4	3.5
		Sum	51	45	53.5	52
		Mean	3.4	3	3.5	3.4
		Percentage	85%	75%	87.5	85%

- Sum = Total marks given by all student for co
- Mean = Sum / Total No. of students
- Percentage = (Mean * 4 /100)

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Outward No. Date : / /20

Attainment of Course Outcomes

Course End Survey (Indirect Analysis)

Branch: - B. Sc. **Semester: - I**

Name of the Course: - Invertebrate Zoology **Course Code: -** ZOO - 101

Name of the Teacher: - *Prof. Sanjay Nilkanth Patil*

Designation: - Assistant Professor **Academic Year:-** 2022-23

Sr. No.	Roll No.	Name of the Student	CO1	CO2	CO3	CO4
1		Patil Divya Santosh	3.5	3.5	3.5	3.5
2		patil Gayatri Bhaskar	3.5	3.5	3.5	3.5
3		patil Gayatri Dhanraj	3.5	3.5	3	3.5
4		Patil Gayatri Dilip	3.5	3.5	3.5	3.5
5		patil Harshada M.	4	3	3.5	3.5
6		Patil Harshada S.	3	4	4	3.5
7		patil Indrayani D.	3	3.25	2.75	3.5
8		Patil Jayashree D.	3.5	3.75	3.5	3.75
9		patil Kalyani P.	4	3.	3.75	3.5
10		patil Kanchan H.	3.75	3.5	3.5	3.5
11		Patil Kanchan D.	3.5	3.5	3.25	4
12		patil Lalit Dhondu	4	3.75	4	3
13		patil Paresh Vijay	3.5	4	3.75	3.5
14		patil Priyanka J.	3.5	3.5	3.75	3.5
15		Patil Pushpal Sanjay	3.5	3.5	3.75	3.5
		Sum	53.25	52.75	53	52.75
		Mean	3.55	3.51	3.53	3.51
		Percentage	88.75	87.75	88.25	87.75

- Sum = Total marks given by all student for **CO**
- Mean = Sum / Total No. of students
- Percentage = (Mean * 4 /100)

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(Subject teacher)

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Outward No. Date : / /20

Attainment of Course Outcomes

Course End Survey (Indirect Analysis)

Branch: -B. Sc. **Semester: - II**

Name of the Course: - Vertebrate Zoology **Course Code: -** ZOO - 201

Name of the Teacher: - *Prof. Sanjay Nilkanth Patil*

Designation: - Assistant Professor **Academic Year** 2022-23

Sr. No.	Roll No.	Name of the Student	CO1	CO2	CO3	CO4
1		Patil Harshada D.	4	3.5	3	3.5
2		Patil Gayatri Dhanraj	4	3.5	3	4
3		Patil Harshada M.	3	4	3.5	3.5
4		Patil Gayatri Bhaskar	3.5	3.5	3.5	3.5
5		Patil Divya Santosh	3.5	3.5	3.5	3.5
6		Patil Narayani D	3.5	3	3.25	3.5
7		Patil Jayshri D.	3.5	3.25	3.5	3.75
8		Patil Kalyani P	4	3	3.75	3.5
9		Patil Krishna D	3.5	3.5	3.25	3.5
10		Patil Kanchan H.	3.5	3.5	3.75	3
11		Patil Priyanka J.	3.5	3.5	3.75	3.5
12		Patil Pushpal S.	3.5	3.75	3.5	3.5
13		Patil Lalit D	4	3.75	3.5	4
14		Patil Paresh V.	3.5	4	3.75	3.5
15		Patil Harshada S.	3.5	3.5	3.5	3.5
		Sum	54	52.75	52	53.25
		Mean	3.6	3.51	3.46	3.55
		Percentage	90	87.75	86.50	88.75

- Sum = Total marks given by all student for co
- Mean = Sum / Total No. of students
- Percentage = (Average * 4 /100)

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(Subject teacher)

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Percentage of Course Outcomes

Faculty of Arts/Science

Samples of Files of Percentage course Outcomes

Name of Department:

Sr. No	Year	Class	Name of Course	Course Code	CO1	CO2	CO3	CO4
		FYBA						
		SYBA						
		TYBA						

Head of Department IQAC Coordinator Principal

Co Percentage > 50% Attainment level 3

Co Percentage in between30 to 50% Attainment level 2<

Co Percentage < 30% Attainment level 1

Sr. No	Cos Number	CO Attainment
1	CO1	
2	CO2	
3	CO3	
4	CO4	

CO-PO Matrix

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1									
CO2									
CO3									
CO4									
CO5									
PO Attainment									

$$\text{PO} = \frac{(CO1attainment \times CO - PO\ mapping) + (CO2\ attainment \times CO - POmapping)}{(CO - PO\ Mapping)1 + (CO - PO\ mapping)2}$$

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Attainment of Course Outcome
Course End Survey

Branch: **Class:**

Name of Course: **Course Code:**

Name of Teacher: **Designation:**

Semester: **Academic Year**

Sr. No	Name of student	CO-1	CO-2	CO-3	CO-4
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
	Sum				
	Average				
	Percentage of CO				

Sum = Total Marks given by all students for CO
Average = Sum/ Total no of students
Percentage = (Average/4) x100

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Attainment of Course Outcome
Course End Survey

Department: Chemistry
Name of the course: Principles of Physical Chemistry -I
Course code: CH-501
Name of course Instructor: Dr. Gokul Punju Borse
Name of the students: Class: - T. Y B. Sc.

CO1: To orient and acquaint the students towards the basic concepts of Quantum Chemistry
CO2: To acquire knowledge about rates of chemical reactions and distinguishing the reaction of different order and their characteristics.
CO3: To learn the underlying principles of electrode reactions, electrochemical cells and applications of EMF.
co4: To understand the basic principles of phase rules and phase diagrams.

Course Outcomes- 1 1.1 Do you understand basic concepts of Quantum Chemistry?

Excellent	Very Good	Good	Average
4	3	2	1

1.2 Do you understand the principles of QN?

Excellent	Very Good	Good	Average
4	3	2	1

Course Outcomes- 2 2. 1 Do you understand the Orders of Chemical Kinetics?

Excellent	Very Good	Good	Average
4	3	2	1

2. 2 Do you understand relation between rate and order of chemical reaction?

Excellent	Very Good	Good	Average
4	3	2	1

Course Outcomes- 3 3.1 Do you understand concept of Electrochemistry?

Excellent	Very Good	Good	Average
4	3	2	1

3.2 Do you understand applications of EMF?

Excellent	Very Good	Good	Average
4	3	2	1

Course Outcomes-4 4.1 Do you understand concept of Phase rule?

Excellent	Very Good	Good	Average
4	3	2	1

4.2 Do you understand applications of Phase digram?

Excellent	Very Good	Good	Average
4	3	2	1

Course Outcomes	CO1.1	CO1.2	CO2.1	CO2.2	CO3.1	CO3.2	CO 4.1	CO 4.2
Response								
Average								

Date: -

Students Signature

Attainment of Course Outcomes:

Assessment methods are categorized in to two methods

I. **Indirect Method – To access Cos and POs (20%)**

II. **Direct Method (80%)**

Indirect Method – To access Cos and POs (20%)

I) **Indirect assessment method (Course end survey analysis):**

It is the technique to measure the attainment of Cos & POs in directly from the components of course outcomes. This technique is done through survey from the students to reflect their views on students learning. The HEI assess opinion about graduate knowledge or skill by different stakeholders. The student fills the following template and submitted to the course coordinator.

Sum = Total Score given by all students for CO

Average = Sum / Total number of students

Percentage of CO = (Sum / Total number of students × 4) × 100

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Cos and POs Mapping:

The various correlation levels for the measurement of Cos & POs mapping is measured in four scale.

- '-' is no co-relation
- '1' is slight co-relation
- '2' is moderate co-relation
- '3' is substantial co-relation

The format for Co and PO mapping as follows

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1									
CO2									
CO3									
CO4									
CO5									

Mapping analysis of each course should be maintained in the department. The questions are framed in such way that, it should satisfy Blooms taxonomy where each question is mapped to the appropriate course outcome of the respective course, which is evaluated based on set attainment levels by the department.