

**BHAUSAHEB BIRAJDAR SENIOR COLLEGE, BALSOOR  
Tq. OMERGA Dist. OSMANABAD**

**PROGRAM OUTCOMES**

Our college is committed to its students learning and success. Educational process and outcomes are aimed at transformational learning that support students all round and holistic development. The college has clearly stated Program outcomes, program specific outcomes and course outcomes for all programs offered by the institution through website which is intended to help prospective students and others to evaluate the college educational goals and student outcomes of the education we provide. The vision, mission and goals of the institution are clearly displayed on website, prospectus and at the main entrance of the college. The staff and students are made aware of the aims and objectives and Program out comes through meetings, orientation programs for teachers, staff members and students. University and affiliated colleges organize workshops on new syllabus and give insights on Program outcomes and course outcomes/objectives and communicate the same to the teachers. University states Program outcomes and course outcomes/objectives along with syllabus. At the college level concern teachers go through the syllabus and frames some outcomes/ objectives and communicate to the students.

**Program outcomes: (B.A., B.Sc.)**

**B.A.**

- **Critical Thinking:** Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
- **Effective Communication:** Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media and technology.
- **Social Interaction:** Elicit views of others, mediate disagreements and help reach conclusions in group setting.

- **Ethics:** Recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.
- **Environment and Sustainability:** Understand the issues of environmental context and sustainable development.
- **Self-directed and Life-long Learning:** Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes.
- **Employability:** After completion of the programme students become employable on the basis of their qualification, acquired knowledge and skills.
- **Leadership Quality:** In the graduation programme students are inculcated moral and ethical values, managerial skills, adoptability, problem solving, taking initiative, decision making, risk taking to make them confident leader.

## **B.Sc.**

- Explain, evaluate and effectively interpret factual claims, theories and assumptions in the student's disciplines (especially in one or more of the college's priority areas of Physics, Chemistry, Botany, Zoology, Mathematics and more broadly in the sciences and life.
- Find, access, critically evaluate, and ethically use information.
- Integrate quantitative and qualitative information to reach defensible and creative conclusions.
- Communicate effectively through writing, speech and visual information to the scientific community and to the community at large.
- Respectfully articulate the views of people with diverse perspectives.
- Demonstrate the capability to work both independently and in cooperation with others.
- Apply concepts of sustainability to the analysis of one of more major challenges facing humans and the Earth's resources.

**Department of English**

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**1. Program Specific Outcomes**

1. Critically and analytically read works of literature produced in many different cultures and historical periods.
2. Employ a variety of methods to respond to, evaluate, analyse, and understand literary and non-literary texts.
3. Examine various literary techniques that writers use in constructing their texts, and demonstrate an understanding of these techniques.
4. Demonstrate, through discussion and writing, an understanding of significant cultural and societal issues presented in literature.
5. Apply critical and technical vocabulary to describe and analyse, and formulate an argument about, literary and other texts.
6. Write clearly and effectively in a variety of forms, adapting writing and analytical skills to all situations.
7. Identify and evaluate appropriate research sources, incorporating the sources into documented academic writing, and formulate original arguments in response to those sources.
8. Recognize and write in accordance with a standardized system (such as MLA) for formatting research papers and citing resources.
9. Adapt literary, critical, and oral skills to communicate effectively in business and graduate school environments.
10. Appreciate literature as a source of practical wisdom, aesthetic pleasure, and knowledge of the diversity of human experience.

## 2. Course Outcomes

### **B.A. I- Compulsory English Title of the Paper: Learning Language Skills I (Paper No. I & II)**

1. 1) The students will be well acquainted with the grammatical properties.
2. 2) They will be able to write and speak English fluently and consciously.
3. 3) The students will be well trained in precision and also in appropriate use of language through prose reading.
4. 4) They will be well acquainted with a keen and subtle ways of using English language.

### **5. B.A. I- Optional English**

#### **6. Title of the Paper: The Structure of English (Paper No. I & III)**

7. 1) The students will be able to develop their pronunciation.
8. 2) They will know the nuances of the written and spoken communication.
9. 3) They will be able to acquire the structure of English.

### **10. B.A. I- Optional English**

#### **11. Title of the Paper: Reading Literature (Paper No. II & IV)**

12. 1) The students will be well acquainted with various forms of literature.
13. 2) They will be able to critically interact with others about different aspects of literature.
14. 3) The students will be able to differentiate between literary language and ordinary language.
15. 4) They can unravel many meanings in literary texts.

### **16. B.A. II- Compulsory English**

#### **17. Title of the Paper: Learning Language Skills II (Paper No. III & IV)**

18. 1) The students will be well developed in the skills of listening, speaking, reading and writing.
19. 2) The students will be well acquainted with the grammatical properties English language.
20. 3) They will be able to read, write and speak English fluently and consciously.
21. 4) The students will acquire accuracy and will be trained in appropriate use of language through prose reading.

22. 5) They will be well acquainted with a keen and subtle ways of using English language.

**23. B.A. II- Optional English**

**24. Title of the Paper: Literature in English 1550-1750 (Paper No. V & VII)**

25. 1) The students will be able to read and appreciate various forms of literature.

26. 2) They will be able to critically analyse different aspects of literature.

27. 3) The students will be able to pinpoint the difference between literary language and ordinary language.

28. 4) They can unfold many meanings in literary texts.

**29. B.A. II- Optional English**

**30. Title of the Paper: Literature in English 1750-1900 (Paper No. VI & VIII)**

31. 1) The students will be able to read and appreciate various forms of literature.

32. 2) They will be able to discuss and critically analyse different aspects of literature.

33. 3) The students will be able to point out the difference between literary language and ordinary language.

34. 4) They will be well trained to unfold many meanings in literary texts.

**35. B.A. III- Optional English**

**36. Title of the Paper: Twentieth Century Literature (Paper No. IX & XIII)**

37. 1) The students will know and understand the literature of modern period.

38. 2) They will be able to critically interact with others about different aspects of literature.

39. 3) The students will be able to differentiate between literary language and ordinary language.

40. 4) They can unravel many meanings in literary texts.

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**42. B.A. III- Optional English**

**43. Title of the Paper: Introduction to Literary Criticism and Terms (Paper No. X & XIV)**

44. 1) The students will understand literary terms, theories and literary devices.

45. 2) The students will be well acquainted with various forms literary criticism.

46. 3) They will be able to critically interact with others about different aspects of literature.

47. 4) The students will be able to differentiate between literary language and ordinary language.

**48. B.A. III- Main**

**49. Title of the Paper: Indian Writing in English (Paper No. XI & XV)**

50. 1) They will be familiar with the Indian literature in English.

51. 2) The students will come to know culture, tradition and ethics in society through Indian literature.

52. 3) The students will be well acquainted with various forms of literature.

53. 4) They will be able to critically interact with others about different aspects of literature.

54. 5) The students will be able to differentiate between literary language and ordinary language.

**55. B.A. III- Main**

**56. Title of the Paper: Project Work on History of English Literature (Paper No. XII & XVI)**

57. 1) The students will be well acquainted with the history of English literature and different authors.

58. 2) They will understand the aspects of research in literature.

59. 3) They will develop analytical and critical thinking.

60. 4) The students will develop writing skills by using appropriate research methodologies.



Head Dept. of English  
prof. Wakode G.K.

**PRINCIPAL**  
Bhausahab Birajdar Sr. College  
Balsoor Tq. Omerga Dist. Osmanabad

**1. Programme Specific Outcomes**

- To create interest in Hindi literature.
- To provide basic and essential knowledge in Hindi Grammar, History of Literature and Social and Cultural History of India.
- To develop awareness about life through the study of literature.
- To increase creativity in constructing different literary forms.
- To develop sensitivity and respect towards regional and folk literature.
- To teach and create knowledge of the poetry, short stories, drama and prose.

**बी .ए. पेपर क्र.1 उपन्यास साहित्य**

- उपन्यास साहित्य के अध्ययन के लिए प्रेरित करना।
- हिंदी उपन्यास साहित्य से छात्रों को परिचित करा देना।
- साहित्य समाज का दर्पण है। इसीलिए सामाजिक, सांस्कृतिक, राजनीतिक, साहित्यिक परिस्थिति से परिचित करना।
- उपन्यास साहित्य के आस्वादन एवं अभिरुचि का परिष्कार करा देना।

**बी ए पेपर क्र.ii नाटक साहित्य**

- हिंदी नाटक का परिचय कराते हुए रंगमंच का महत्व प्रतिपादित करना
- छात्रों के अभी नए गत कुशलता का विकास कराने हेतु आस्वादन और अभिरुचि की वृद्धि नाटक का अध्ययन करने के बाद छात्र नाटक, सिनेमा के

क्षेत्र में अपना योगदान देकर स्वयं का और समाज का हित साधे कर सकते हैं ।

- बी ए पेपर क्र.iii हिंदी गद्य साहित्य
- गद्य विधाओं से परिचित कराना ।
- छात्रों में वैचारिक क्षमता को बढ़ावा देना या निर्माण करना ।
- जीवन मूल्यों के प्रति आस्था निर्माण करना और सभ्यता से अवगत करना ।
- बी ए पेपर क्र.iv एकांकी साहित्य
- हिंदी एकांकी का परिचय कराते हुए रंगमंच के महत्व को प्रतिपादित करना ।
- अभिनय कुशलता का विकास करना ।
- आस्वादन और अभिरुचि की वृद्धि करना ।
- अभिनय से परिपक्व होकर छात्र रोजगार की चिंता से मुक्त हो सकते हैं ।
- बी ए पेपर क्र.v कथित गद्य साहित्य
- कतर गद्य की विधाओं से परिचित कराना ।
- छात्रों में वैचारिक क्षमता बढ़ाना ।
- जीवन मूल्यों के प्रति आस्था निर्माण करना ।
- छात्रों में कठेतर गद्य साहित्य के प्रति रुचि बढ़ाना ।
- छात्रों में एक विचारशील लेखक की क्षमता निर्माण करना ।
- बी ए पेपर क्र.vi प्रयोजन मूल्य हिंदी
- हिंदी भाषा के विविध रूपों का पहेलियों का और पारिभाषिक शब्दों का परिचय करा देना ।
- प्रयोजनमूलक एवं व्यापारिक हिंदी के अध्ययन के माध्यम से रोजगार के अवसरों की जानकारी देना ।




- शासकीय शासकीय कार्यालयों में प्रयोग की जाने वाली भाषा से अवगत कराना ।
- रोजगार के अवसरों से अवगत कराना ।
- बी ए पेपर क्र. VII आधुनिक हिंदी कविता
- हिंदी कविता की परंपरा से छात्रों को अवगत कराना ।
- छात्रों में कविता के प्रति रुचि निर्माण करना ।
- विचार करने की क्षमता को बढ़ावा देना ।
- जीवन मूल्यों के प्रति आस्था और सभ्यता से अवगत कराना ।
- छात्रों में अच्छा कवि बनने की क्षमता बढ़ाना ।
- बी ए पेपर क्र. VIII प्रयोजनमूलक हिंदी
- हिंदी भाषा के विविध रूपों का पहलुओं का और पारिभाषिक शब्दावली का परिचय करा देना ।
- अनुवाद का महत्व समझा कर अलग-अलग क्षेत्रों के रोजगार की जानकारी देना ।
- व्यवहार ज्ञान की छात्रों में वृद्धि करा देना ।
- शासकीय, नीम शासकीय कार्यालयों में प्रयोग की जाने वाली भाषा से अवगत कराना ।
- बी ए पेपर क्र. IX प्रादेशिक भाषा साहित्य
- प्रादेशिक भाषा और साहित्य से अवगत कराना ।
- संस्कृति और सभ्यता से परिचित कराना ।
- प्रादेशिक भाषा के साहित्य में अभिरुचि बनाना ।
- राष्ट्रीय एकात्मता की भावना को बढ़ावा देना ।
- राष्ट्रप्रेम की भावना को छात्रों में बढ़ाना ।

- जीवन मूल्यों में आस्था निर्माण करना ।
- बी ए पेपर क्र. X आदि तथा मध्यकालीन हिंदी साहित्य का इतिहास
- साहित्य इतिहास लेखन तथा परंपरा का अध्ययन करना ।
- इतिहास बोध का अध्ययन ।
- ऐतिहासिक अध्ययन की दृष्टि का विकास करना ।
- साहित्य और युगबोध के अंतर संबंधों का अध्ययन करना ।
- भाषा और साहित्य के बीते हुए कल का परिचय करा देना ।
- ऐतिहासिक धरोहर से परिचित करना ।
- बी. ए. पेपर क्र. XI साहित्य शास्त्र
- साहित्य निर्मिती विषयक संस्कारों का परिचय देकर साहित्यिक बनाने की प्रेरणा देना ।
- साहित्य चिंतन का अध्ययन कराना ।
- साहित्य लोचन क्षमता का परिचय देना ।
- साहित्य सृजन के लिए आवश्यक नियमों से अवगत करना ।
- बी ए पेपर क्र. XII प्रकल्प कार्य
- छात्रों को संशोधन के लिए प्रेरित करना ।
- छात्रों में संशोधन प्रवृत्ति को बढ़ावा देना ।
- शोध निबंध के माध्यम से चिकित्सक बुद्धि का विकास करना ।
- छात्रों में आकलन क्षमता का विकास कराना ।
- संशोधन सामग्री का ज्ञान बढ़ाना ।
- संशोधन कार्य के रुचि को बढ़ाना ।
- बी ए पेपर क्र. XIII मध्यकालीन काव्य
- मध्यकालीन काव्य की पृष्ठभूमि से परिचित करना ।

- विविध काव्यधारा की विशेषताओं से अवगत करना ।
- भारतीय संस्कृति के उत्थान में मध्यकालीन कविता के योगदान से परिचित कराना ।
- मध्यकालीन सामाजिक राजनीतिक धार्मिक सांस्कृतिक साहित्यिक परिस्थितियों का परिचय करा देना ।
- काव्य इतिहास का परिचय करा देना ।
- बी ए पेपर क्र. XIV आधुनिक हिंदी साहित्य का इतिहास
- साहित्य और युगबोध के अंतर संबंधों का अध्ययन करना ।
- आधुनिक हिंदी साहित्य की परंपरा का अध्ययन करना ।
- ऐतिहासिक साहित्यिक संदर्भ और आधुनिक साहित्य इनके परस्पर संबंध से परिचित करना ।
- आधुनिक साहित्य के विविध विधा का परिचय देना ।
- साहित्य के नए आयामों से अवगत कराना ।
- बी ए पेपर क्र. साहित्य शास्त्र
- साहित्य निर्मिती विशेष संस्कारों का परिचय देकर साहित्यिक बनने की प्रेरणा देना ।
- साहित्य चिंतन का अध्ययन करना ।
- साहित्य लेखन क्षमता का परिचय देना ।
- साहित्य सृजन के लिए आवश्यक नियमों से अवगत कराना ।
- बी ए पेपर क्र. XVI प्रकल्प कार्य
- छात्रों को मंशोधन के लिए प्रेरित करना ।
- छात्रों में मंशोधन प्रवृत्ति को बढ़ावा देना ।
- शोध निबंध के माध्यम से चिकित्सक बुद्धि का विकास करना ।

- छात्रों में आकलन क्षमता का विकास करना ।
- संशोधन सामग्री का ज्ञान बढ़ाना ।
- संशोधन कार्य की रुचि को बढ़ाना ।

  
Head of Dept - Hindi  
Dr. Nagile M. J.

  
**PRINCIPAL**  
Bhausahab Birajdar Sr. College  
Balsoor Tq. Omerga Dist. Osmanabad

**Department of Marathi**

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**1. Program Specific Outcomes**

1. To develop interest in Marathi literature.
2. To develop awareness about life through the study of literature.
4. To increase creativity in constructing different literary forms.
5. To develop sensitivity and respect towards regional and folk literature.
6. To provide basic and essential knowledge in Marathi Grammar, History of Literature and Social and Cultural History of Maharashtra
7. To teach and create knowledge of the poetry, short stories, drama and prose.

**2. Course Outcomes**

**B.A.F.Y. I & III काव्यात्म साहित्य / कथात्म साहित्य**

After completing the course, students are expected to

1. Acquaint with oriental poetry & story.
2. Understand the nature and features of poetry & story.
3. Create the skill of critical appreciation of a poem & story.
4. Develop the poetic devices and their usages.

**B.A.F.Y. II & IV नाट्यात्म / मुद्रित माध्यमासाठी लेखन कौशल्य**

After completing the course, students are expected to

1. Understand Emergence and history of the drama.
2. Understand Literary and aesthetic values in the drama; structure, formats and types of the drama.

3. Understand Socio-cultural, political and financial problems of that era.
4. Understand Study News Writing for Media. Nurture themselves in soft skills and develop research aptitude.

**B.A.S.Y. V & VII आधुनिक मराठी वाङ्मयचा इतिहास १८८० -१९२०**

After completing the course, students are expected to

1. Understand the historical survey of medieval Marathi literature.
2. Understand literary forms in medieval literature.
3. Understand the trends and structure of medieval Marathi literature.

**B.A.S.Y. VI & VIII दृक - श्राव्य माध्यमांसाठी लेखन कौशल्य / साहित्य प्रकारानंतर आणि साहित्याचे माध्यमांतर**

After completing the course, students are expected to

1. Advanced writing skills in Marathi.
2. Understanding of cultural values of Maharashtra in literature.
3. Understanding of creative writing as a means of expression
4. Marathi writings skill in electronic media

**B.A.T.Y. X & IV भाषाविज्ञान / व्याकरण व निबंधलेखन**

After completing the course, students are expected to

1. To know the importance of language in human life.
2. To know the various methods to the study of language.
3. To understand the communication process and method.

**B.A.T.Y. XI & XV मध्ययुगीन मराठी वाङ्मयचा इतिहास प्रारंभ ते १८१८**

After completing the course, students are expected to

1. know history of Medieval Marathi Literature.

2. be proficient with Medieval Marathi Literature Forms.
3. understand social change effect on Medieval Marathi Literature.
4. understand socio-Cultural & Political Impact on Medieval Marathi Literature.

**B.A. T.Y. XV मध्ययुगीन मराठी वाङ्मयचा इतिहास (1650 to 1818)**

On completion of the course, students are able to:

1. know Sant, Pandit & Shahir Medieval Marathi Literature.
2. know Medieval Marathi Literature Forms.
3. know well Known poet Sant Tukaram & Ramdas

**B.A.T.Y. IX & XIII भारतीय साहित्यविचार / पाश्चात्य साहित्यविचार**

After completing the course, students are expected to

1. Understand Literature: Concept of literature, genres of literature.
2. Understand Elements of literature, objectives of literature, processes of literary creativity.
3. Be familiar with Indian Literary theories, notions of Rasa, Dhvani, etc.
4. Be familiar with modern Marathi critical approaches, Madhukar's aesthetics, principles of literary appreciation.
5. Be familiar with Western influences and perceptions in Marathi literature.
6. Understand literary theories of Plato and Aristotle; notions of imitation and catharsis.
7. Understand theoretical approaches of Coleridge, Wordsworth, Richards and Eliot.

**B.A.T.Y.P- XII & XVI प्रकल्प कार्यभाग (Project writing)**

On completion of the course, students are able to:

1. to develop of critical approach about Art & literature.
2. To know the research methodology & process.

3. To know the importance of research.

**B.A., B.Sc., S.L. गद्य-पद्य, व्यावहारीक व उपयोजित मराठी**

After completing the course, students are expected to

1. Develop effective communication through Marathi in a variety of situations.
2. Develop of linguistic skills in Marathi.
3. Understand national and social issues.
4. Master effective use of language in business situations.
5. Understand of key Marathi writers and their roles in social awareness.
6. Understand cultural values of Maharashtra in literature.

*Signature*

सा. धोरे के. डी  
मराठी विभाग

*Signature*  
**PRINCIPAL**  
Bhausahab Birajdar Sr. College  
Balsoor Tq. Omerga Dist. Osmanabad



**Department of Geography**

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**1. Program Specific Outcomes**

1. After completion of this course the students are expected to Understand the interior of the earth and surface landforms types of the earth.
2. After completion of this course the students are expected to Under about the atmospheric disturbance and role of climate in human life.
3. After completion of this course the students are expected to understand Significance about ocean as a storehouse of resources for the future for us.
4. After completion of this course the students are expected to understand Introduced about Physical, agricultural, drainage, Natural vegetation and resources in India.
5. After completion of this course the students are expected to Understand about the natural calamities like that green House effects, Global warming, Ozone deflation etc.
6. After completion of this course the students are expected to Understand about geography and its environmental relationship ecosystem forms and functions.
7. After completion of this course the students are expected to understand the cartography techniques, Mechanism and uses of weather instruments.
8. After completion of this course the students are expected to understand the geographical statistical data analysis and field survey with instruments.

## 2. Course Outcomes

### **Paper No. I- Elements of Physical Geography**

1. Students will about Earth and its movements.
2. Student will acquaint of Branches of Physical Geography.
3. They will recognize various types of rocks available on the Earth.

### **Paper No. II- Human Geography**

1. Students will know the meaning and scope of Human geography.
2. They will come to know about the development of human being from monkeys.
3. They will acquaint about various concepts of human geography.

### **Paper No. III- Geography of Landforms**

1. Students will know the concept of erosion of land and excessive use of fertilizers cause in infertility of land.
2. They will know about landforms produced by River, Winds and sea waves.
3. The students will recognize land use pattern and remedies to overcome the problem of land pollution.

### **Paper No. IV- Regional Geography of Maharashtra**

1. Student will understand the concept of region and diversity in Maharashtra.
2. They will know the climate of Maharashtra and its impact upon human beings.
3. Students will learn about cotton, sugar and other industries in Maharashtra.

### **Paper No. V- Practical Geography**

1. Students will aware of the concept of cartography and its use.

2. Students will know the concept and classification of maps.
3. They will know various methods of showing relief.

### **Paper no. VI- Climatology**

1. Students will know importance temperature on animals and physical elements.
2. They will aware about pressure of Earth and its impact upon human beings.

### **Paper No. VII- Population Geography**

1. Students will know the problems of overpopulation and its impact upon the society.
2. They will know the concept of population growth.
3. Students will understand effective factors upon the population distribution.
4. They will acquaint the reasons of migration and its consequences

### **Paper No. VIII- Oceanography**

1. Students will understand the concept of oceanography.
2. Students will know about the temperature of Oceanic Water.
3. Students will acquaint of living animals in the ocean.

### **Paper No. IX- Settlement Geography**

1. Students will know various types of settlement and effective factors on settlement.
2. They will understand the hierarchy of settlement.
3. Students will know about the urban settlement.

### **Paper No. X- Practical Geography**

1. Students will know about the weather instruments.
2. They will understand about cartography and its use in making of maps.

3. Students will know about longitude and latitude.

### **Paper No. XI- Physical Geography of India**

1. Students will know various physical elements in the environment.

2. Students will aware of physical geography of India.

3. Students will understand various factors effecting on human beings.

### **Paper No. XII- Geography of Environment**

1. Students will know the concept of ecosystem.

2. Students will understand the relation between and environment and human beings.

3. Students will aware of their duties regarding the conservation of resources.

### **Paper No. XIII- Industrial Geography of Maharashtra**

1. Student will know about industrial development of Maharashtra.

2. Student will be aware of various Agro based industries

3. Student will acquaint various job opportunities in Maharashtra.

### **Paper No. XIV- Agriculture Geography of India**

1. Student will understand the concept of agriculture geography.

2. Students will know the cropping pattern in India.

3. Students will know the Green Revolution in India.

### **Paper No. XV- Geography of Natural Calamity**

1. Students will know the concept and nature of natural calamity.

2. Students will aware of earthquake and reasons of outbroke.

3. Students will understand man made factors responsible for occurring these calamities.

### **Paper No. XVI- Geography Practical**

1. Students will know about statistics and their value in business.
2. Students will aware of extension activities and report writing.
3. Students will aware of survey and use of instruments.

### **Paper No. XVII- Biogeography**

- 1 The essence of biogeography will know the students.
2. Student will recognize the essence of plant geography
3. They will know the geo-geography and its Environmental Relationship.

### **Paper No. XVIII(Main)- Geography Practical**

1. Students will know the various types of surveys.
2. They will understand about chain tape survey.
3. Students will come to know Various theories of surveys.

*putet:*

Head of. Dept. Geography  
prof. pandhara R.S.

*Jadao*  
**PRINCIPAL**  
Bhauasaheb Birajdar Sr. College  
Balsoor Tq. Omerga Dist. Osmanabad



**1. Program Specific Outcomes**

1. At the end of the course the students will be able to understand the theories and concepts of Political Science.
2. The students will be able to think and make an inquiry into the socio-economic and political problems.
3. The awareness will be created among the students about the changing nature of the international relations.
4. Students will acquire the knowledge about the Indian constitution and they will follow the ethics, values and duties prescribed by the constitution.
5. They will understand the nature and working procedure of Government India and will be well acquainted with the politics of India.
6. Student will be able to understand and explain the political ideologies and ideas which are broadly considered as political creeds usually termed „Political Ideology“.
7. Student will be able to understand the basic concepts of Research.
8. The awareness will be created among the students about the latest and scientific techniques of research.
9. They will be able to recognize and acquire modern trends in Political research.
10. Help students achieve competence in understanding, critically assessing, and using major political concepts.

## 2 Course outcomes

### **B. A. I Pol 101 & Pol 103 Basic Concepts in Political Science**

- 1 Students will understand and explain the basic concepts in Political Science.
- 2 Students will be able to criticize present political system by using the political ideas.
- 3 Students will know different political system and understand the importance of democracy.
- 4 Developed the student's personality as a responsible citizen.

### **Pol 102 & Pol 104 Government and Politics of Maharashtra.**

1. Student will get information about the reformation of state and about Sanyukta Maharashtra Movement.
2. Student will understand the rules, regulations, structure and nature of Maharashtra Government & Political System.
3. Student will understand various constitutional rights and duties of the Citizen of India.
4. Student will understand the structure and system of the Local Self Governance of Maharashtra.
5. Student will get acquainted with the different social, political, peasant, cooperative and feminist movement.

### **BA II Pol 105 & Pol 107 Government and Politics of India**

1. Student will understand the structure, nature and system of the Government and Politics of India.
- 2 Student will understand the basic structure and various features of the Indian Constitution
- 3 Student will understand various provisions in the Indian constitution about fundamental rights, duties of the citizens and directive principles of the state policy

4. Student will become aware of secularism, liberty, fraternity, equality, justice and brotherhood.
5. Student will understand the relation between centre and state government in India.
6. Student will well be acquainted with the structure and function of the Judiciary in India.
7. Student will become aware about the party politics in India.

#### **Pol 106 & Pol 108 International Relations.**

1. Student will be able to understand and explain the concepts in international politics.
2. The awareness will be created among the students about the changing nature of the international relations.
3. Student will integrate with international current issues and become sensitive and increase his analytical ability.
4. Student will get information about the international and regional organizations and will become aware about the international politics.

#### **BA III Pol 109 & Pol 113 Indian Political Thinkers**

1. Student will get the information about the work and thoughts of Indian Political Thinkers.
2. Student will be able to express their thoughts and ideas regarding the contents.
3. Student will get inculcated by the thoughts of political thinkers.

#### **BA III Pol 110 & Pol 114 Western Political Thinkers.**

1. Student will understand the contribution in Political Science of the western thinkers.
2. Student will be familiarized with basic concepts generated by the western political thinkers.
3. Student will get inculcated by the thoughts of western political thinkers.
4. Student will compare and contrast between Indian and Western Political Thinkers.



### **BA III -Pol 111 & Pol 115 Political Ideology**

1. Student will be able to understand and explain the political ideologies and ideas which are broadly considered as political creeds usually termed Political Ideology.
2. Student will compare and contrast between various Political Ideologies.
3. Student will understand the different aspects of traditional and contemporary Ideologies.

### **BA III- Pol 112 & Pol 116 Project.**

1. Students will study at their own by selecting topic related to Contemporary Social and political issues.
2. Student will be able to understand the basic concepts of Research Methodology.
3. The awareness will be created among the students about the latest and scientific techniques of research.
4. Student will be able to write a project report in scientific manner.

*Patil*

Head of Dept. Political Science,  
Prof. Patil G.V.

*Patil*  
**PRINCIPAL**  
Bhauasaheb Birajdar Sr. College  
Balsoor Tq. Omerga Dist. Osmanabad

**Department of History**

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**1. Programme Specific Outcomes**

1. Student will be able to learn a basic narrative of historical events in a specific region of the world.
2. Student can distinguish primary and secondary sources.
3. Understand and evaluate historical ideas, arguments, and points of view.
4. Evaluate competing interpretations and multiple narratives of the past.
5. Student will be able to assess primary historical evidence.
6. Student will be able to compile a bibliography.
7. Student can present clear and compelling arguments, based on critical analysis of diverse historical sources, and effectively communicate his interpretations in written essays and/or other media.
8. To develop a research question and complete a well-supported piece of historical writing about it.

**2. Course Outcomes**

**Paper I. Shivaji and his Times. (A.D. 1630 to A.D. 1707)**

1. This course informs students about political history of Chhatrapati Shivaji.
2. Orients them to acquire understanding of Chhatrapati Shivaji's Administration.
3. Student will understand the importance of Shivaji's Policy regarding agriculture, trade and religion.

### **Optional Paper II. History of Modern Maharashtra. (A.D. 1818 to 1905)**

1. Student will understand the early socio, religious & economic condition of Maharashtra in 19th century.
2. Student will get information about British Rule in early phase and work about Christian Missionaries.
3. Student will understand the role of Socio Religious Reformers in the development of 19th century of Maharashtra.
4. Student will know the importance of Early resistance to colonial rule.
5. Student will get information about National Movement in Maharashtra.

### **Optional Paper III. History of Maratha. (A.D. 1707 to A.D. 1818)**

1. This course informs students about 18th centuries political development of India and particular of Deccan.
2. This course also informs about the social and economic institutions expands in Maharashtra in 18th century.
3. It also brief about the political economy and architecture of the Maratha People.

### **Optional Paper IV. Twentieth Century Maharashtra. (A.D. 1905 to A.D. 1960)**

1. Student will get information about National and Revolutionary Movement in Maharashtra.
2. Student will know about the social movements in 20th Century Maharashtra
3. Student will get information about Hyderabad Freedom Struggle. (Particularly about Marathwada Region)
4. Student will understand about the Sanyukt Maharashtra Movement (Reformation of the Maharashtra State and Struggle for it.)

### **Optional Paper V. History of Early India. (Up to B.C. 300.)**

1. Student will be well acquainted with the Historical Sources and understand the importance of these sources in Historical Research.
2. Student will understand and know about the Indus Valley Civilization.
3. Student will understand and get information about the Vedic Culture.
4. Student will understand, Compare and Contrast the philosophy of Jainism, Buddhism, Upanishad, Shaddarshan and Philosophy of Charwak.
5. Student will get the information about Jan pada, Mahajan padas, Magadha and Mauryan Empire – especially about Chandragupta Maurya & Ashoka.

**Optional Paper VI. History of Delhi Saltanat.(A.D. 1200 to A.A. 1526.)**

1. This course introduce the theoretical concepts of Medieval Indian History.
2. Student will get know about various sources and historiography of Medieval Indian History. Optional Paper

**VII. History of India. (B.C. 300 to A.D 650)**

1. Student will well be acquainted with the Historical Sources and understand the importance of these sources in Historical Research.
2. Student will know about the Political Changes in the Ancient Indian History and develop their historical perspective.
3. Student will know socio economic life, religious life and development of arts and architecture, language and literature in Ancient India.

**Optional Paper VIII History of Mughal India. (A.D. 1526 to A.D. 1757)**

1. Student will know about recent approaches of Medieval Indian History by Modern Historians.
2. Student will understand the Political History and Administration of Mughal Empire.

3. Student will know and explain the characteristics of Administration in Medieval Indian History. Especially they will know about the trade, commerce, art & architecture and religious policy of Mughal Empire.

**Optional Paper No. IX – Hysterography**

1. Student will understand the definition, nature and scope of history.
2. Integrated and interdisciplinary approach will be developed.
3. Student will be well acquainted with the thoughts of modern historical thinkers and major trends in Indian History Writings.
4. Student will understand the use and abuse of history.
5. Student will be well acquainted with the scientific research methods in History.

**Optional Paper No. X – History of Indian Freedom Movement. (A.D. 1885 to A.D.1947)**

1. Student will understand the nature, policies and administration of British Rule in India.
2. Student will be able to explain the causes and development of Nationalism.
3. Student will know about the Indian National Movement and role of National Congress, especially under the leadership of Mahatma Gandhi in the national movement.
4. Student will know about the Revolutionary Movement.
5. Student will understand the history of partition and the historical events of the independence of India.

**Optional Paper No. XI–(Main) Women's Struggle in Modern India. (A.D. 1850 to A.D.1947)**

1. Student will understand the status of women in 19th century and the then major issues of women.

2. Student will get information about the Women's Problem and social progressive movement and struggle by Pt. Ramabai, Dhondo Keshav Karve, Mahatma Phule and Dr. Babasaheb Ambedkar.

3. Student will know the historical issues regarding the women progression.

**Optional Paper No. XIII– Fields of History (Archaeology, Musicology, Tourism.)**

1. Student will orient about the use and importance of various Historical Fields.

2. Student will understand the meaning and historical importance of archaeology, anthropology, archaeological sites and about the material science.

3. Student will know the importance of history museum.

4. He will know about the concept of Tourism.

**Optional Paper No. XIV – Landmarks in the History of Modern World.**

1. Student will understand the various landmarks in the history of Modern World.

2. Student will understand and explain the renaissance and reformation in various fields.

3. Student will know the importance of American War of Independence, French Revolution and Russian Revolution in the development of Modern Society and State.

4. Student will know the causes and effects of the World War I & II.

**Optional Paper No. XV (Main) – Glimpses of History of Marathwada. (Up to A.D. 1948)**

1. Student will know about the Political History of Marathwada.

2. Student will understand the various religious movements in Marathwada.

3. Student will get information about art, architecture and about forts in Marathwada.

4. Student will understand the history of Hyderabad Freedom Struggle and the role of SC Communities in this struggle.

**BA III History Optional Paper No. XII & XVI (Main) HIS 12 & HIS 16 Project.**

1. Students will study at their own by selecting topic related to the subject.
2. Student will be able to understand the basic concepts of research methodology.
3. The awareness will be created among the students about the latest and scientific techniques of research.
4. Student will be able to write a project report in scientific manner.



Head of Dept. History  
Prof. Sachin B.T.

  
**PRINCIPAL**  
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### **1. Programme Specific Outcomes**

1. Provide instruction to enable students to understand human behaviour within a social context.
2. Make students knowledgeable consumers and producers of research applicable to social problems or issues
3. Introduce students to the varied theoretical perspectives of sociology.
4. Encourage in students an appreciation and respect for cultural diversity in societies.
5. Students should be able to demonstrate an understanding of human behavior within a social context.
6. Student can examine the roles and responsibilities of individuals, groups, and institutions in larger society, displaying understanding of the complex relationships between human behaviour and the social context; and
7. Student can analyze human behaviour within social context from different perspectives.
8. To develop competency in understanding, critically assessing, and using major sociological concepts.
9. Student will be able to define major sociological concepts involved in understanding social behavior, interaction and organization; and apply major sociological concepts to specific situations.

### **2. Course Outcomes**

#### **BAS 01, Introduction to Sociology.**

1. Student will know the Basic Concepts of Sociology.



2. Student will know the significance of the study of the sociology.
3. Student will be aware about the content and scope of the subject.

### **BAS 02, Individual and Society**

1. Student will know about reciprocal relationship between man and society.
2. Student will get information about various social values, norms and traditions.
3. Student will study the philosophy of different religion and compare and contrast.

### **BAS 03, Introduction of subfields of the Sociology.**

1. Student gets information about the rural, urban and tribal Sociology.
2. Student will know about the Political Sociology, Psychology, Anthropology and Industrial Sociology.
3. Student will study about various social cultures.

### **BAS 04, Indian Social Composition.**

1. Student will know about the features of Indian Society.
2. Student will be acquainted with the forms of diversity in India.
3. Student will familiarize with the concepts of Democracy and Secularism.

### **BA II BAS 05, Problems of Rural India.**

1. Students will get information about the problems and issues of Indian women.
2. Student will get information about the rural educational and health problem.
3. Student will study of Rural Economy.

### **BAS 06, Contemporary Urban Issues.**

1. Student will know the process of urbanizations.
2. Student will be aware about the problems of migration.
3. Student will know the effects of Globalization on Urban Society.

### **BAS 07, Population in India.**

1. Student will be aware about the issues regarding population.
2. Student will get information about the effects of population growth on environment.
3. Student will know about the India's Population Policy.

### **BAS 08, Sociology of Development**

1. Student will be aware about the social development issues
2. Student will get information about problems of weaker sections.
3. Student will get information about the different government schemes.

### **BA III BAS 09, Sociological Traditions**

1. Students will know about the different social theories and thoughts.
2. Student will get the information about thoughts of Social Thinkers.
3. Student will be able to express their thoughts and ideas regarding the various sociological Traditions.

### **BAS 10, Introduction to Research Methodology**

1. Student will be able to understand the basic concepts of Research.
2. They will be able to recognize and acquire modern trends in social research.
3. The awareness will be created among the students about the latest and scientific techniques of research.

### **BAS 11, Social Problems in Contemporary India.**

1. Student will come across various Social Problems and Issues and develop their critical thinking.
2. Student will know the challenges, weaknesses and threats in front of the Indian Society. And will try to put some solutions for them.

3. Student will study about the problems of displacement and rehabilitation.

#### **BAS 13, Sociological Theories.**

1. Student will understand the contribution in Sociology of the western thinkers.
2. Student will be familiarized with basic concepts generated by the western Sociological thinkers.
3. Student will get inculcated by the thoughts of Sociological Thinkers.

#### **BAS 14, Social Research Methods.**

1. Student will be able to understand the basic concepts of Research.
2. They will be able to recognize and acquire modern trends in social research.
3. The awareness will be created among the students about the latest and scientific techniques of research.

#### **BAS 15, Social Disorganization in Contemporary India.**

1. Student will be aware about the problems of terrorism, Naxalism, Violence against Women and regionalism and develop their critical thinking to put some solutions of the same problems.
2. Student will be able to analyse of Regional Imbalance.
3. Student will get information about the concepts and issues of Social Disorganization in contemporary India.

#### **BAS 15, Project.**

1. Students study at their own by selecting topic related to Contemporary Social issues.
2. Student will be able to understand the basic concepts of Research Methodology.
3. The awareness will be created among the students about the latest and scientific techniques of research.
4. Student will be able to write a project report in scientific manner.

*Bimahesh*  
Head of Dept - Sociology  
Prof - Kamble M. M.

*Jataw*  
**PRINCIPAL**  
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Balsoor Tq, Omerga Dist. Osmanabad

Shetkari Shikshan Prasarak Mandal Sanchalit

**BHAUSAHEB BIRAJDAR SENIOR COLLEGE, BALSOOR**

## **Department of Botany**

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### **1. Programme Specific Outcomes**

1. The programme gives knowledge of plants from primitive to evolutionary forms of plants.
- 2: It gives understanding of morphology, histology, anatomy and embryology of angiosperm plants.
- 3: It gives knowledge of identification of flowering plants and its classification system up to genus to species level and also describes economic importance.
- 4: It gives knowledge of physiological experimental process and ecological adaptation to environment of plants.
- 5: It gives knowledge of plant cell and its molecular structure, genetics and biotechnology, heredity and variation of genes from one generation to next generation
- 6: Its gives knowledge of different plant families and species of angiosperm plants and describe conservation method of different plants.
- 7: B.Sc. Botany programme gives knowledge of plant and environment and its benefits to society.

### **2. Course Outcomes**

#### **C.O.1: Diversity of cryptogams.**

After completion of this course the students are expected to describe the cryptogam's plant diversity like viruses, mycoplasma, bacteria lichens, algae fungi, Bryophytes and pteridophytes.

#### **C.O.-2: Morphology of angiosperms, Histology, anatomy and embryology.**

After completion of this course the students are expected to describe the morphology of angiosperm plant and its histology, anatomy and embryology.

**C.O.-3: Diversity of cryptogams, Morphology of angiosperms, Histology, anatomy and embryology**

After completion of this course the students are expected to give practical knowledge of cryptogrammic plant and angiosperm plants.

**C.O.-4: Taxonomy of angiosperms, gymnosperms and utilization of plants.**

After completion of this course the students are expected to, It describe taxonomy of angiosperm gymnosperm and utilization of plants.

**C.O.-5: Plant ecology and physiology**

After completion of this course the students are expected to It describe plant ecology and plant physiology

**C.O.6: Taxonomy of angiosperms, gymnosperms and utilization of plants, Plant ecology and physiology**

After completion of this course the students are expected to It gives practical knowledge of plant families, gymnosperm and economic importance with plant ecology, physiology.

**C.O.7: Cell biology, molecular biology, genetics and biotechnology**

After completion of this course the students are expected to, It describes cell biology and molecular biology, genetics and biotechnology.

**C.O.8: Diversity of angiosperms**

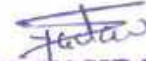
After completion of this course the students are expected to It describes angiosperm plant diversity and different plant classification.

**C.O.9: Cell biology, molecular biology, genetics and biotechnology, Diversity of angiosperms**

After completion of this course the students are expected to It gives practical knowledge of cell. molecular biology genetics and biotechnology process and also angiosperm plants.



Head of Department Botany  
Mr. Chauhan K. S.



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### **1. Programme Specific Outcomes**

1. Students will be able to apply the scientific method to questions in Zoology by formulating testable hypothesis, gathering data that address these hypotheses, and analyzing those data to assess the degree to which their scientific work supports their hypotheses.
2. Students will be able to present scientific hypotheses and data both orally and in writing in the formats that are used by practicing scientists.
3. Students will be able to apply fundamental mathematical tools to the analysis of relevant biological situations.
4. Students will be able to identify the major group of organisms with an emphasis on animals and be able to classify them within a phylogenetic framework. Students will be able to compare and contrast the characteristics of animals that differentiate them from other forms of life.
5. Students will be able to identify the major groups of organisms with an emphasis on animals and be able to classify them within a phylogenetic framework. Students will be able to compare and contrast the characteristics of animals that differentiate them from other forms of life.
6. Students will be able to use the evidence of comparative biology to explain how the theory of evolution offers the only scientific explanation for the unity and diversity of life on earth. They will be able to use specific examples to explicate how descent with modification has shaped animal morphology, physiology, life history, and behaviour.
7. Students will be able to explain how organism function at the level of the gene, genome, cell, tissue, organ and organ-system. Drawing upon this knowledge, they will be able to give specific examples of the physiological adaptations, development, reproduction and behaviour of different forms of life.

8. Students will be able to explicate the ecological interconnectedness of life on earth by tracing energy nutrient flows through the environment. They will be able to relate the physical features of the environment to the structure of populations, communities and ecosystems

9. Students will be able to apply zoology to day to day life and promote life and business.

## 2. Course Outcomes

### **Semi-I Paper – I Protozoa to Annelida**

CO-1 Basic information about classification, morphology, anatomy & physiology of various animal from protozoa up to Annelidan animals.

CO-2 Type study of various animal from protozoa to Annelidan

### **Paper – II Cell Biology**

CO-1. Basic structural organization of pro and eukaryotic cells & broad explanation about various cell organelles.

CO-2. Types of microscopes and biotechniques

CO-3. Structure of DNA & RNA, basic information of cytology & types of cancer cells

### **Paper – III Practical based upon Paper I**

CO-1. Museum specimen and slides from protozoa to Annelida, classification, Dissection, and mounting.

### **Paper – IV Practical based upon Paper II**

CO-1. Study of cell organelles by model and charts, study of cell division by using onion root tips, micro techniques, microscopy.

### **Semi-II Paper – V Arthropoda to Echinodermata and Protochordates**

CO-1. General character, classification, morphology, anatomy & physiology of various animal from Arthropoda to Echinodermata and protochordate

CO-2. Type study of various animal from protozoa to Annelidan



### **Paper – VI Genetics - I**

CO-1 Mendel laws of inheritance, interaction of genes, Basic concept and examples of sex determination, Spontaneous & induced mutation.

CO-2. Explanation and examples of Cytoplasmic inheritance & CO<sub>2</sub> sensitivity in Drosophila. Kappa particles in Paramecium

### **Paper – VII Practical based upon Paper V**

CO-1. Study of Museum specimen of relevant phyla and slides from Arthropoda to Echinodermata and protochordate, classification, Dissection, and mounting.

### **Paper – VIII Practical based upon Paper VI**

CO-1. Cultural techniques and observation of Drosophila melanogaster for various genetics experiments, Determination of blood groups and Rh factors.

CO-2. Study of Minor and major problem based on dihybrid ratio and interaction of genes.

### **Semi-III Paper – IX Vertebrate Zoology**

CO-1. Classification, general character of class Cyclostomes.

CO-2. Studies on broad area on animals of Classification, general character from class Pisces to mammals and description and examples of each relevant phyla. also, brief account on embryology of chick, flight adaptation, placentation in mammals and migration of birds.

### **Paper – X Genetics- II**

CO-1. Focus on expression of genes, basic concept of genetics code, Description on human, microbial & population genetics and techniques involved in the field of genetics engineering.

### **Paper – XI Practical based upon Paper IX**

CO-1. Museum study of relevant vertebrate's phylum, dissection for various organs systems of animal. Embryological studies of chick according to incubation hours and mounting of different scale of found in fishes.

**Paper – XII Practical based upon Paper X**

CO-1. Estimation of DNA from animal tissue, Preparation of paper model of DNA structure and studies of protein synthesis with the help of charts/models.

CO-2. Karyotypic studies of Down's, Turner's & Klinefelter's syndrome with the help of photograph, genetics problem based on Hardy- Weinberg's law and studies of genetics frequency and mutants of man.



Head of Dept. Zoology

Dr. Yadav. S. D.



**PRINCIPAL**

Bhauasaheb Birajdar Sr. College  
Balsoor Tq. Omerga Dist. Osmanabad

### **1. Programme Specific Outcomes**

1. Acquire the engineering skills and practical knowledge.
2. Provide a theoretical basis for doing experiments in related areas.
3. Provides the theoretical and practical knowledge about electronics.
4. Provides sound foundation in electricity and electrodynamics.
5. Know about theoretical basis of nuclear fission, which is the basis of atom bomb and nuclear fusion which is the basis of hydrogen bomb and energy production.
6. Know the study of non-conventional energy sources which produce awareness among students related to energy.
7. Apply the knowledge of mathematical and statistical physics for solving complex problems.
8. Provide systematic understanding of physical concept, principles and theories along with experiments.
9. Perform experiments and interpret the results of observations.

### **2. Course Outcomes**

#### **Paper I Mechanics, Properties of Matter and Sound**

1. This course will help to empower the student to acquire engineering skill and practical knowledge, which help the students in their everyday life.
2. The properties of solids especially knowledge of elasticity helps the students to identify the materials suitable for the construction of buildings, houses etc.

### **Paper II Heat and Thermodynamics**

1. The course is intended to give an insight to heat and thermodynamics.
2. Students will familiarize with processes in thermodynamics which are the backbone of heat engine.

### **Paper IV Geometrical and Physical Optics**


1. The Course aims to provide necessary foundations in optics and photonics which prepare the students for an intensive study of advanced topics at a later stage.
2. It covers the important and fascinating areas of interference diffraction and polarization with many experiments associated with it.

### **Paper V- Electricity and Magnetism**

1. Electricity and Electrodes manic have the key role in the development of modern technological world. Without electric power and communication facilities.
2. This course is expected to provide a sound foundation in Electricity and Electrodynamics.

### **Sericulture**

1. Gives knowledge of silk worm rearing.
2. Pests and diseases associated with silk worm and mulberry.
3. Various process involved ion silk production.

  
Head of Dept. Physics.

Prof. Jadhav A.J

  
**PRINCIPAL**  
Bhauasaheb Birajdar Sr. College  
Balsoor Tq. Omerga Dist. Osmanabad

**Department of Mathematics**

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**1. Programme Specific Outcomes**

- 1 The Mathematics program promotes critical thinking, the ability to identify similarities and differences and to identify correlations among different types of concepts
- 2 Mathematics helps to increase analytical thinking and logical reasoning. Logical thinking helps to draw correct inferences/conclusions.
- 3 The study of subject abstract algebra, real analysis etc. helps to increase imaginative power.
- 4 Mathematics helps to analyses and interpret complex situations, to apply appropriate mathematical methods to solve the problems.
- 5 Mathematics program helps to convert a real-world problem or a scientific problem into a mathematical model. Then it can be solved using appropriate methods in Mathematics.
6. Mathematical statistics helps to present, analyses, and interpret the given data and to draw correct inference from it.
7. Mathematical programs and its skills arrange and classified acquired knowledge in well-ordered form. Further it can be analyses by mathematical methods.

**2. Course Outcomes**

**MAT 101 Differential Calculus**

- 1 Understand the geometrical interpretation of function.
- 2 Find the derivatives of hyperbolic functions and implicit functions
- 3 Find the nth derivative of standard functions and solve problems on the same.

**MAT 102 Differential Equations**

1. Find the order and degree of a differential equation and recognize the difference between general, particular and singular.

2. Identify the exact differential equation.

3. Apply various methods to solve a linear differential equation with constant coefficients, equations with constant coefficients and solve it.

### **MAT 201 Integral Calculus**

1. Understand the meaning of integration as a limit of a sum.

2. Derive reduction formulae and use them to solve particular integrals.

3. Integrate the rational functions.

### **MAT 202 Geometry**

1. Recognize and find the equation of plane satisfying given condition.

2. Find the equation of the plane in a given system.

### **MAT 301 Number Theory**

1. Solve numerical using division algorithm.

2. Find the greatest common divisor of sufficient large numbers using Euclidean algorithm.

3. Recognize a solvability and obtain all the solutions of a Diophantine equation.

4. State and prove the fundamental theorem of arithmetic.

### **MAT 302 Integral Transforms**

1. Define Beta and Gamma functions and represent them in different forms.

2. Apply properties of Laplace transforms to evaluate Laplace transforms of standard functions.

3. Apply properties of inverse Laplace transforms to evaluate inverse Laplace transform of standard functions.

### **MAT 303 Mechanics I**

1. Find the resultant of any number of forces acting on a particle.
2. Find the resolved parts of forces acting on a particle and solve numerical on the same.
3. State the condition of equilibrium of two forces acting on a particle.
4. State the necessary and sufficient condition of any number of forces to in equilibrium.

### **MAT 401 Numerical Methods**

1. Obtain the approximate solution of a linear and transcendental equation up of a desired accuracy.
2. Understand the differences and apply interpolation formulae to solve problems.

### **MAT 402 Partial Differential Equations**

1. Define partial differential equation and know the difference between ordinary and partial differential equations.
2. Solve Lagrange's differential equation.

### **MAT 403 Mechanics II**

1. Understand the difference between kinematics and kinetics of a particle.
2. Understand the equation of central orbit and pedal equations of standard curves.

### **MAT 501 Real Analysis I**

1. Understand the basic notion sets and its elements and able to decide whether an element is in a given set or not also find the least upper bound for a given set, if it exists.
2. Perform various operations on sets.
3. Define and understand Cauchy criterion.

  
**PRINCIPAL**  
Bhauasaheb Birajdar Sr. College  
Balsoor Tq. Omurga Dist. Osmanabad

### **1. Programme Specific Outcomes**

1. Graduate students will be able to solve problem competently by identifying essential part of problem and formulating strategy for solving problems.
2. Graduate students will be able to rationally estimate the solution to a problem, apply appropriate technique to arrive at solution, test the correctness to the solution and interpret their result.
3. Graduate students will be able to use modern library search tools to locate and retrieve scientific information about an issue relating to chemistry.
4. Graduate students will be able to understand objectives of experiments and analyses the result.
5. Graduate students will be able to use standard laboratory equipment to carry out the experiments.
6. Graduate students will be able to communicate the concept and results of their experiments through effective writing and oral communication skill.
7. Graduate students will be able to successfully pursue their carrier objective in advance education in profession or industry.

### **2. Course Outcomes**

#### **Paper I- Inorganic Chemistry**

Students will able to understand

1. Structure of atom, various atomic properties like ionization potential, atomic size, electron affinity electronegativity etc. in the groups and across the periods.
2. S-block and P-block elements in the periodic table.



## **Paper II Organic Chemistry**

Student will be able to understand

1. General and basic ideas associated to structure, bonding, stereochemistry and reactivity of organic molecules.
2. Fundamental of mechanism of organic molecules.
3. Fundamental of mechanism of organic reactions.
4. General idea and chemical reactivity of alkane, alkenes and alkyl and aryl halides.
5. Aromaticity and electrophilic reactions of benzene.

## **Paper IV- Physical Chemistry**

1. Student understand mathematical parameters like logarithm derivative integration probability graph representation etc.
2. Understanding the surface phenomena like surface phenomenon's like adsorption, mechanism of adsorption, factors effecting adsorption.

## **Paper V- Inorganic Chemistry**

Students will be able to understand

1. Chemistry of noble gases, meaning of ionic and covalent bonds, formation of covalent and ionic bonds, VSEPR theory, hydrogen bonding, MO theory.
2. Basic concepts in nuclear chemistry and theory of volumetric analysis.

## **Paper VI- Annual system (practical outcomes)**

1. Acquaintance with glassware, handling of chemicals, safety measures, laboratory protocol.
2. Preparation of solution and its standardization.
3. Understanding of determination of equivalent weight of Mg and rate of reaction, viscosity, surface tension of liquid verification of Lambert-beer's law.

## **Paper- VII Organic Chemistry**

Students will be able to understand

1. Synthesis of alcohols, reactions of ethylene glycol and glycerol, preparation and electrophilic aromatic substitution reactions of phenol.
2. Name reactions exhibited by aldehydes and ketones with mechanism.
3. Synthesis and chemical reactions of carboxylic acids, decarboxylation of malic, tartaric and citric acids, reactions of compounds of nitrogen.

## **Paper VIII- Physical Chemistry**

1. Understanding terms system, Surrounding types of system, intensive and extensive properties.
2. Thermodynamic Process, reversible and irreversible process, concept of maximum work.

## **Paper-X Inorganic Chemistry**

Students will be to understand

1. Features, electronic, configuration and general properties of first transitions series elements like color, oxidation, state etc.
2. Werner's co-ordination theory, nomenclature of coordinate compounds, formation of complexes based on VBT.
3. Chemistry of Lanthanides and actinides.

## **Paper XI- Physical Chemistry**

Students will be able to understand

1. Understanding the concept Phase, Rule Equation, Phase Equilibria of the one and two component System with Example.
2. Raoult's Law and Henry's Law, Ideal, and Non-ideal system, Lower and Upper Consulate Temperature.

## **Paper- IX & XII- Lab Course**

### **Annual System (Practical Outcomes)**

1. Study the Gravimetric Estimation of Zn, Mn, Ni, Ba and Al.
2. Understanding the Complexometric Titration of Zn, Ni, Cu and Pb. By using indicator.

## **Paper- XIII Physical Chemistry**

1. Study Black body radiation, Planck's radiation law, photoelectric effect, Compton effect. De Broglie Hypothesis. Heisenberg's uncertainty principles, Hamiltonian operator, Schrodinger wave equation and its importance.

## **Paper XIV- Organic Chemistry**

1. Detailed study of NMR spectroscopy, structure determination of organic compounds using NMR, IR and UV techniques.
2. Chemical reactions of organometallic compounds like G.R. organozinc and organolithium compounds.

## **Paper- XVI- Inorganic Chemistry**

Students will be able to understand


1. Crystal field theory and its basic concepts, splitting of orbitals in octahedral, tetrahedral and square planar complexes, factors affecting CFT.
2. Types of electronic transitions, selection rules for d-d transition, energy level diagrams.


## **XVII- Organic Chemistry**

1. Synthesis of heterocyclic compounds, electrophilic and nucleophilic reactions of heterocyclic compounds, Comparison of basicity of pyridine, piperidine and pyrrole.
2. Introduction and classification of carbohydrates open and ring structure of glucose, mechanism of mutarotation and polysaccharides.

**Paper XV & XVIII- Annual system (Practical)**

1. Semi-micro qualitative analysis, organic quantitative analysis skills.
2. Separation of Ca and Ni from binary mix, and estimation of Ni gravimetrically.
3. Estimation of Cl in given sample of bleaching powder.

  
Head Dept. of chemistry  
Dr. Gaikwad S.S.

  
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