BENGALI Hon's

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
B.A. Hon's	1st Sem	1st Paper.	প্রাচীন ও মধ্যযুগের বাংলা সাহিত্যের ইতিহাস সম্পর্কে ছাত্রদের জ্ঞান বৃদ্ধি বিকাশ।
		2nd Paper.	রবীন্দ্রসাহিত্য সম্পর্কে ছাত্র-ছাত্রীদের রবীন্দ্র চেতনা প্রসারিত করা।
	2nd Sem	3rd.	আধুনিক সাহিত্যের ইতিহাস সম্পর্কে ছাত্রদের বৃদ্ধি
		4th	বৈষ্ণব সাহিত্যের মাধ্যমে ঈশ্বর ভাবনা, মানব চেতনা সম্পর্কে উদ্বুদ্ধ করা।
	3rd Sem	5th	ধ্বনি সম্পর্কে সম্যক জ্ঞান বাংলা ভাষার বিকাশ।
		6th	ছন্দোবদ্ধ, অলঙ্কার মাধ্যমে ভাষার ছন্দের সুষ্ঠু সম্পর্কে ছাত্রদের বৃদ্ধি করা।

BENGALI Hon's

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
	3rd Sem	VII th	রবীন্দ্র সমসাময়িক-উত্তর যুগের কবিদের কাব্য ও ছাত্র-ছাত্রীদের মধ্যে সমাজের বৈষম্য, এবং মানবিকতার বিকাশ ঘটানো।
	4th.	VIII th	বাংলা ভাষার বিকাশ।
		IX th.	মধ্যযুগের বাংলা সাহিত্যের মাধ্যমে [illegible] চেতনা এবং মানব চেতনার বিকাশ।
		X th	বাংলাদেশের সমাজে সচেতনতা, মানব সচেতনতা বৃদ্ধি।
	5th	XI th	বাংলা প্রবন্ধ সম্পর্কে ছাত্র-ছাত্রীদের চেতনা বৃদ্ধি।
		XII th	বাংলা উপন্যাসের মাধ্যমে সমাজ সচেতনতা, মানবিকতার [illegible] আদর্শ গুণের প্রকাশ।

BENGALI HON'S

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
	6th Sem	XIII th XIV th.	বাংলা ছন্দ প্রকরণের মাধ্যমে ছাত্র-ছাত্রীদের মনে [illegible] সচেতনতা বৃদ্ধি হয়। কাব্যতত্ত্ব, অলংকার নীতি শিক্ষার পথ তৈরী করে।

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
B.A. Economics	1st.	1. Micro-economics	→ Learning and application of elemantary Concept of microeconomics in the real world.
		2. Money & Banking	→ The role of banks in financial Intermediation and the significance of bank behaviour in monatary policy.
B.A. Economics	2nd	3. Macro-economics	→ Learning basic building blocks of macroeconomics in an open economy framework.
		4. Indian Economics	→ Knowledge and problems ↑policies of the indian economy as also current trends.
B.A. Economics	3rd	5. Micro-economics. II	→ Building on the material covered in sem-I which can better apply microeconomics in real world.
		6. Statistical methods in Economics	→ The mathematical and statistical methods program offers students a superior knowledge of advanced quantitative tools and techniques.

Cource & SUBJECT	Semester	Paper	Outcomes
B.A. Economics	3rd.	7. Macro-economics-II	→ In the context of closed economy the student can understand intrest rate & income level are determined how potiry may affect. these outcome
		SEC-1 Rural Development	→ This program thereben alleviation of poverty and unemplogmnt through creation of social and economic infrastructure, training. to labours.
B.A. Economics	4th	8. Mathematical methods for Economics	→ Application of mathematical methods to represent theories and analyse problems in Economics
		9. International Economies	→ It concened with effect upon economy from international diffrence in productive resource and consumer preferences.
B.A. Economics	4th.	10. Economic dev. & policies in India.	→ Governments undertaking to meet objectives, price stability high employmt, suitable growth include monatary and fiscal policy.
		sec-2 Data analysis	→ student can identify empirical patterns, forecast economic variables to make decision.

Cource & SUBJECT	Semester	Paper	Outcomes
B.A. Economics	5th.	11. Growth and Development	→ Students learn theories, processes and policies regarding growth & development.
		12. History of Economic thoughts	→ It deals with diffrent thinkers and theories in the subject that becomes political economy. from ancient to present world.
B.A Economics	5th	DSE-1 Mathematical Eco. & Econometrics	→ It is an integration of economic relationship statistics with objects provide numerical values to parameters of economic relationship.
		DSE-2 Agricultural Economics & Demography	→ Concern with the application of economic theory optimizing the production distribution of food & fibre.
B.A. Economics	6th	13. Public Finance	→ Branch of Economics that assesses the govt. revenue & govt. expenditure of public authorities.
		14. Environtal Economics	→ It deals with financial impact of environtal policies perform. invironmtal policies on the economy.

Cource & SUBJECT	Semester	Paper	Outcomes
B.A. Economics	6th.	DSE-3 Mathtical Eco - II	→ Deals with an objective to provide numerical two parts - observed variables & disturbances.
		DSE-4 Econmtrics II	→ Study of working many econometrics models to be able variants of existing. - to particular research problems.

Cource & SUBJECT	Semester	Paper	Outcomes
M.A. Economics	1st.	1. Foundation of mathematical Economics	→ Introdation to the mathematical foundation of economics from basic set theory to fixed point theoram.
		2. Micro economics Analysis	→ How individual decision makes both consumer and producer in a variety of economic environment.
M.A. Economics	1st	3. Macro Economic Analysis	→ Leads to maximumizethe level of national income providing economic growth & utility.
		4. Demography & Environmental Economics	→ To study the trend of population growth which discrie the past evolution present distribution and future change popln. in an area.
M.A. Economics	2nd	5. Statistics computer App. & skill Development	→ The information technology prepares a student using computer to solve data processing problems in daily life with skill develops of people
		6. Monatory Theory.	→ Macroeconomic framework with tax & borrow in a currency fully controll revenue by government.

Cource & SUBJECT	Semester	Paper	Outcomes
M.A. Economics	2nd	7. Indian Economic Policy	→ It covers the system for setting levels of taxation budgets, money supply, interest rate national owner in areas of govt. Intervention into the economy.
		8. Theory of Growth & Development	→ A good working knowledge & skill to evalute growth in effective development.
M.A. Economics	3rd	9. Quantative Techeniques	→ It involves the application of mathematics to the theoretical aspect of economic analysis using statistical method.
		10. Production Distribution & Welfare	→ production & welfare economics provides to guide to public policy to achive beneficial social economic outcome.
M.A. Economics	3rd	11. Public Economics	→ Provides a framework for thinking about whether govt. participate economic market to improve social welfare.
		12. International Economics	→ Concerned with the effects upon economic from international difference in productive resource.

Cource & SUBJECT	Semester	Paper	Outcomes
M.A. Economics	4th Gr-"A"	13. Mathmatical Economy & Econometrics I	→ It involves using data & statical analysis of relationship through economic theory & impact of policy.
		14. Mathmatical Eco & Econmics II	→ Provides basic tools of applied econmetric analysis & regression analysis & censored outcome models.
M.A. Economics	4th Gr-"A"	15. Mathmatical Eco & Econometrics III	→ Investigate the data influence choice of model & estimation techniqun for modelling & esteming economical inferene underlying econometrics.
M.A. Economics	4th Gr. -"B"	13. Agri. & Industrial Eco -I	→ Applied field of application optimize production distribution of food & fibres. & industries role in economic development.
		14. Agri. & Industrial Economs-II	→ How agriculture contributes to econy issue to choice sector for supplying industrial inputs.

Cource & SUBJECT	Semester	Paper	Outcomes
M.A. Economics	4th Cr.-B	15. Agri. & Industrial Economics II	→ Interdependence between agriculture & industries through various linkages to building ups social & economic overheads in agricultur sectors.
M.A. Economics	4th	16. Research Methodology ~~Project~~.	→ Techniques used to identify the, selection, process and analyze information about topic to allow observe the critically. study reliability.

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
English Bachelor of Arts Core Paper	1	101 and 102	History of English language and History of English literature : Students will be able to demonstrate a broad understanding of English language and literature and appreciate the role that historical contexts play in the creation and interpretation of literary works They will also be able to trace the development of English language from Old English period to the Modern Age.
	2	201 and 202	Early Modern literature and the literature of Restoration and Augustan Age : Students will be able to read with interpretive and analytical proficiency the drama and poetry from Shakespeare to the Augustan Age. They will be able to identify the broad range of literary genres available in English literature and understand the different themes and techniques used in dramas
	3	301, 302 and 303	Early Romantic Poets, Romantic Poetry and Victorian poetry : Students will be able to recognize the significant features of the Romanticism and determine the importance of poetry in its historical and social context. They will also be able to acquaint themselves with a wide variety of Victorian poetry.

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
English (Core Paper) Bachelor of Arts.	4	401, 402 and 403	19th century Novel, 20th Century Poetry and 20th C Novel Students will be able to read and analyse a survey of texts written by 19th and 20th century British writers. They will be able to know the different literary trends, movements and important writers of the Ages.
	5 501, 502, 503 & 504	501, 502, 503 and 504	Twentieth Century Drama, A Brief History of Literary Criticism, The Study of English Drama and Shakespearean Drama Students will be able to display a working knowledge of a variety drama from Shakespeare to John Galsworthy and will be able to trace the development of drama from its origin to the 20th c.
	6	601,	American literature, Indian English literature, 16th - 19th Century Drama and 20th Century Drama Students will be able to familiarize themselves with the socio-cultural and political context of the American and Indian English literature. They will also be able to know the dramatic and theatrical conventions of English Drama.

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
Masters Degree Programme in English	1.	101, 102, 103 and 104	Medieval English literature, Early Modern literature (Poetry and Prose), Early Modern literature (Drama) and Neo classical and 18th Century literature: Students will be able to interprete, analyse, contextualize and articulate the main developments in English literature from the Medieval Ages to the 18th Century. They will be able to analyse the significance of socio cultural milieu in the writings of the texts.
	2.	201, 202, 203 and 204	Communication Skill Enhancement, Romantic Poetry, Victorian Poetry and 19th Century Fiction and literary Criticism: Students will be able to develop writing skills. They will be able to strengthen the aesthetic sense and boost up critical thinking and writing. They will also be able to understand the development of literary theory and criticism.
	3.	301, 302, 303 and 304	Write it Right, Modern and Post Modern literature, literary Theory and Indian Writings in English. Students will be able to use flawless English in writing. They will be able to identify the major concepts and apply them in analysing a piece of text. They will also be able to demonstrate through discussion and writing an understanding of significant societal issues presented in Indian English literature.

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
Masters Degree Programme in English	4	401 402 403 404	American English literature, Novel, Drama and Dissertation. Students will be able to develop a deeper understanding of the historical, social, literary and cultural elements of the changes in American literature. By the end of semester 4, they will be able to present their findings in response to the questions or proposition they choose for themselves.

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
स्नातक हिन्दी प्रतिष्ठा	प्रथम वर्ष प्रथम सेमेस्टर	कोर-01 :-	आदिकाल : इतिहास एवं साहित्य : - हिन्दी साहित्य की प्रारंभिक प्रवृत्तियों से विद्यार्थी को अवगत कराना एवं हिन्दी से पूर्ववर्ती साहित्य - अपभ्रंश एवं अवहट्ठ से हिन्दी का विकास दिखलाना है।
स्नातक हिन्दी प्रतिष्ठा	प्रथम वर्ष (प्रथम सेमेस्टर)	कोर-02	भक्तिकाल : इतिहास एवं साहित्य : - इस पाठ्यक्रम के अन्तर्गत विद्यार्थियों को भक्तिकाल की प्रेरक परिस्थितियों के साथ भक्तिकाल की जो विभिन्न धाराएँ हैं, उससे अवगत कराते हुए कबीर, जायसी सूर, तुलसी की साहित्यिक प्रवृत्तियों से सम्बद्ध करना है।
स्नातक हिन्दी प्रतिष्ठा	प्रथम वर्ष द्वितीय सेमेस्टर	कोर-03	रीतिकाल : इतिहास एवं साहित्य : - इस पाठ्यक्रम के अन्तर्गत रीतिकाल के नामकरण की समस्या, प्रेरक परिस्थितियाँ, सांस्कृतिक पृष्ठ भूमि से अवगत कराते हुए विद्यार्थियों को बिहारीलाल के भक्ति, नीति एवं शृंगार के दोहों की विवेचना के साथ घनानंद के काव्य में स्वच्छंदतावादी प्रवृत्तियों का विश्लेषण करना है।

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
स्नातक हिन्दी (प्रतिष्ठा)	प्रथम वर्ष द्वितीय सेमेस्टर	कोर - 04	आधुनिककाल और साहित्य :- इस पाठ्यक्रम के अन्तर्गत आधुनिकता की अवधारणा से परिचित कराते हुए हिन्दी-साहित्य की राष्ट्रीय काव्यधारा की प्रमुख प्रवृत्तियों से विद्यार्थियों को सम्बद्ध करना। इसी क्रम में राष्ट्रकवि माखन-लाल चतुर्वेदी, मैथिलीशरण गुप्त, सोहन लाल द्विवेदी जैसे स्वाधीनता आन्दोलन से जुड़े कवियों की रचनाओं में राष्ट्रीय जागरण से अवगत कराना।
स्नातक हिन्दी (प्रतिष्ठा)	द्वितीय वर्ष तृतीय सेमेस्टर	कोर - 05	आधुनिक काल और साहित्य :- इस पाठ्यक्रम के अन्तर्गत प्रथम विश्वयुद्ध के बाद एवं द्वितीय विश्वयुद्ध के पूर्व के काव्य का अध्ययन कराते हुए छायावाद की पृष्ठभूमि में पंत, प्रसाद, निराला एवं महादेवी वर्मा चतुष्टयी की काव्यगत विशेषताओं से अवगत कराकर हिन्दी साहित्य के विश्व-मानववाद से अभिन्न संबंध दिखलाना। नागार्जुन, दिनकर, त्रिलोचन शास्त्री की काव्यधारा से गुजरते हुए लघु मानव की प्रतिष्ठा को स्थापित करना। मानवीय करुणा और संवेदनात्मक ~~दृष्टियों को जोड़कर उसमें चेतना का प्रसार करना।~~
स्नातक हिन्दी (प्रतिष्ठा)	द्वितीय वर्ष तृतीय सेमेस्टर	कोर - 06	आधुनिक काल और साहित्य :- इस पाठ्यक्रम के अन्तर्गत हिन्दी साहित्य की आधुनिक प्रवृत्तियाँ-प्रयोगवाद एवं नई कविता की प्रेरक परिस्थितियों से छात्रों को अवगत कराना। अज्ञेय की रचना में मौन की अभिव्यंजना, भवानीप्रसाद मिश्र की रचना में वाणी का बेवाकपन एवं मुक्तिबोध की फंतासी का स्वरूप स्पष्ट करना।

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
स्नातक हिन्दी (प्रतिष्ठा)	द्वितीय वर्ष तृतीय सेमेस्टर	कोर 07	हिन्दी उपन्यास :- इस पाठ्यक्रम में हिन्दी उपन्यास की परिभाषा, स्वरूप और विशेषताओं पर प्रकाश डालकर स्वतंत्रता पूर्व एवं स्वातंत्र्योत्तर हिन्दी के उपन्यासों की (चित्रलेखा, निर्मला) समीक्षात्मक कला का विकास करना।
स्नातक हिन्दी (प्रतिष्ठा)	द्वितीय वर्ष चतुर्थ सेमेस्टर	कोर - 08	हिन्दी कहानी :- इस पाठ्यक्रम के अन्तर्गत हिन्दी साहित्य की कहानी विधा से छात्रों को अवगत कराकर स्वतंत्रतापूर्व एवं स्वातंत्र्योत्तर हिन्दी कहानी के विकास से परिचय कराना। यथार्थ, आदर्श एवं मनोवैज्ञानिक कहानी का विकास दिखलाना भी है।
स्नातक हिन्दी (प्रतिष्ठा)	द्वितीय वर्ष चतुर्थ सेमेस्टर	कोर - 09	हिन्दी नाटक :- इस पाठ्यक्रम के अन्तर्गत छात्रों को नाटक की विधा से अवगत कराकर हिन्दी साहित्य के प्रमुख नाटक : लहरों के राजहंस एवं 'आम्रपाली' नाटक की विशेषताओं को स्पष्ट करना है।

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
स्नातक हिन्दी (प्रतिष्ठा)	द्वितीय वर्ष चतुर्थ सेमेस्टर	कोर - 10	हिन्दी एकांकी :- इस पाठ्यक्रम के अन्तर्गत नाटक की विशेष विधा - हिन्दी एकांकी का विकास दिखलाना। प्रमुख हिन्दी एकांकी (नाटक) - स्ट्राईक, भोर का तारा, ममी, ठकुराईन नये मेहमान, सूखी डाली, सीमा रेखा, की विशेषताओं को रखकर हिन्दी नाटक और एकांकी के बीच के अन्तर को स्पष्ट करना।
स्नातक हिन्दी (प्रतिष्ठा)	तृतीय वर्ष पँचम सेमेस्टर	कोर - 11	हिन्दी आलोचना :- इस पाठ्यक्रम के अन्तर्गत हिन्दी आलोचना की परिभाषा स्वरूप एवं विशेषताओं को स्पष्ट करते हुए स्वतंत्रता पूर्व एवं स्वातंत्र्योत्तर आलोचना का विकास दिखलाना। ऐतिहासिक आलोचना, तुलनात्मक आलोचना, सैद्धांतिक आलोचना एवं मनोविश्लेषणवादी आलोचना का विकास दिखलाना।
स्नातक हिन्दी (प्रतिष्ठा)	तृतीय वर्ष पँचम सेमेस्टर	कोर - 12	काव्यशास्त्र :- इस पाठ्यक्रम के अन्तर्गत भारतीय काव्यशास्त्र से छात्रों को अवगत कराना जैसे - काव्य लक्षण, काव्य प्रयोजन, काव्य हेतु, काव्य गुण, काव्य - दोष, शब्द शक्ति के साथ रस सिद्धांत की समीक्षा करना है। विभिन्न छंदों एवं अलंकारों का अध्ययन कराकर रचना की सृजनात्मकता को विकसित करना।

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
स्नातक हिन्दी प्रतिष्ठा	तृतीय वर्ष पंचम सेमेस्टर	कोर - 13.	ग्रुप 'ए' उपन्यास, ग्रुप 'बी' कहानी :- इस पाठ्यक्रम में ऐच्छिक रूप से 'ए' एवं 'बी' ग्रुप में से किसी एक ग्रुप का अध्ययन करना है। ग्रुप 'ए' में उपन्यास एवं ग्रुप 'बी' में 'कहानी' विधा है।
स्नातक हिन्दी (प्रतिष्ठा)	तृतीय वर्ष पंचम सेमेस्टर	कोर - 14	ग्रुप 'ए' - नाटक एवं ग्रुप 'बी' एकांकी :- इस पाठ्यक्रम के अन्तर्गत ग्रुप 'ए' में नाटक और ग्रुप 'बी' में एकांकी निर्धारित है। छात्रों को नाटक एवं एकांकी का अंतर स्पष्ट करते हुए रंगमंच से अभिनय की कला का विकास करना है।
स्नातक हिन्दी (प्रतिष्ठा)	तृतीय वर्ष षष्ठ सेमेस्टर	कोर - 15	जनसंचार :- इस पाठ्यक्रम के माध्यम से छात्रों में इलेक्ट्रॉनिक मीडिया एवं प्रिंट मीडिया से जोड़ने का प्रावधान है।

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
स्नातक-हिन्दी (प्रतिष्ठा)	तृतीय वर्ष षष्ठ सेमेस्टर	कोर-16	पत्रकारिता :- इस पाठ्यक्रम के माध्यम से दैनंदिनी में घटित होनेवाली घटनाओं को विश्लेषित कर समाचार पत्रों के आलेख के रूप में बौद्धिक कला का विकास दिखलाना है। स्वतन्त्रता पूर्व एवं स्वातंत्र्योत्तर हिन्दी पत्र-पत्रिकाओं के विकास से अवगत कराना है।
स्नातक हिन्दी (प्रतिष्ठा)	तृतीय वर्ष षष्ठ सेमेस्टर	कोर-17	ग्रूप-'ए' सूरदास, ग्रूप-'बी' तुलसीदास :- इस पाठ्यक्रम में सगुण मार्ग के प्रवर्तक रामभक्त एवं कृष्णभक्त कवि तुलसीदास एवं सूरदास का अध्ययन अपेक्षित है। रामकाव्य की मर्यादा और कृष्णकाव्य की बाल लीला से दोनों को अवगत कराकर लोकरंजक एवं लोकमंगल की भावना को प्राश्रय देना है।
स्नातक हिन्दी (प्रतिष्ठा)	तृतीय वर्ष षष्ठ सेमेस्टर	कोर-18	ग्रूप-'ए' राष्ट्रभाषा हिन्दी, ग्रूप-'बी' कामकाजी हिन्दी :- इस पाठ्यक्रम के अन्तर्गत ग्रूप 'ए' में हिन्दी भाषा एवं साहित्य की राष्ट्रीयता की भावना को प्राथमिकता देकर हिन्दी को संपर्क भाषा के रूप में विकसित करते हुए दिखलाने का प्रयास है। हिन्दी की लिपि देवनागरी की वैज्ञानिकता को भी स्पष्ट किया गया है। ग्रूप 'बी' के अन्तर्गत कामकाजी हिन्दी के माध्यम से कार्यालयी प्रक्रिया हेतु हिन्दी भाषा को बढ़ावा देना है। अन्य भाषाओं की तुलना में पारिभाषिक शब्दावली को विकसित कर हिन्दी को समृद्ध करने का प्रयास है।

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
स्नातक हिन्दी जेनरल/सब्सी जी०ई०-1	प्रथम वर्ष (प्रथम सेमेस्टर)	जी०ई०-01 I	आधुनिक काल :- इस पाठ्यक्रम के अन्तर्गत विद्यार्थियों को नाटक, उपन्यास, हिन्दी कहानी और हिन्दी निबंध की विकास यात्रा का अध्ययन कराना है। इस क्रम में विद्यार्थियों को जयशंकर प्रसाद, मोहन राकेश, प्रेमचंद, फणीश्वरनाथ रेणु, चन्द्रधर शर्मा गुलेरी, आचार्य रामचन्द्र शुक्ल, तथा आचार्य हजारीप्रसाद द्विवेदी की विधा परिपक्वता से अवगत हो सकेंगे।
स्नातक हिन्दी जेनरल/सब्सी	प्रथम वर्ष (द्वितीय सेमेस्टर)	जी०ई०-02 II	राष्ट्रभाषा हिन्दी :- इस पाठ्यक्रम के अन्तर्गत हिन्दी के उद्भव और विकास और विश्वभाषा के रूप में संपर्क भाषा के रूप में हिन्दी का अध्ययन अपेक्षित है। इसी क्रम में विद्यार्थी हिन्दी की बोलियों, देवनागरी लिपि का विकास और उनके गुण-दोषों को जान सकेंगे।
स्नातक हिन्दी जेनरल/सब्सी	द्वितीय वर्ष तृतीय सेमेस्टर	जी०ई०-03 III	आधुनिक हिन्दी काव्य :- इस पाठ्यक्रम में 'निराला' की 'भिक्षुक' कविता के माध्यम से दीन-हीन कुपोषित के प्रति सहानुभूति और संवेदना को जागृत कराना है। पंत की 'भारत माता' के माध्यम से राष्ट्र की ग्राम्य संस्कृति का चित्रण है। बच्चन की कविता 'बीते दिन कब आनेवाले' के माध्यम से अतीत से मुक्त होकर भविष्य की उज्ज्वल प्रेरणा का संदेश है। भवानी प्रसाद मिश्र की 'गीत फरोश' में कलाकार के स्वाभिमान का परिचय है, और धूमिल की रचना 'पटकथा' तो सामाजिक दर्पण ही है।

पृष्ठ संख्या - 01

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
स्नातक हिन्दी जेनरल/सब्सी	तृतीय वर्ष चतुर्थ सेमेस्टर	जी० ई० (IV) – 05	इस पाठ्यक्रम के अन्तर्गत प्रेमचंद (पंच परमेश्वर) जयशंकर प्रसाद (गुण्डा) यशपाल (दिव्या) जैनेन्द्र (त्यागपत्र) आचार्य रामचन्द्र शुक्ल (उत्साह) आचार्य हजारी प्रसाद द्विवेदी (अशोक के फूल) महादेवी वर्मा (घीसा) तथा रामवृक्ष बेनीपुरी (असदेव सिंह) आदि कहानियों, उपन्यासों, निबंधों तथा संस्मरण रेखा-चित्र का अध्ययन अपेक्षित है। इस पाठ्यक्रम के अन्तर्गत विद्यार्थी विविध विधाओं के ज्ञान से लाभांवित हो सकेंगे।
स्नातक हिन्दी जेनरल/सब्सी	तृतीय वर्ष पंचम सेमेस्टर	जी० ई० – 05 V	इस पाठ्यक्रम के अन्तर्गत ग्रुप-'ए' एवं ग्रुप-'बी' निर्धारित है। ग्रुप-'ए' के अन्तर्गत आदिकालीन हिन्दी साहित्य में हिन्दी साहित्य की प्रारंभिक प्रवृत्तियों से परिचय कराकर नामकरण एवं सीमांकन के साथ सांस्कृतिक पृष्ठभूमि का विश्लेषण करना है। ग्रुप-'बी' के अन्तर्गत कथा साहित्य में हिन्दी-साहित्य के उपन्यास का उद्भव और विकास स्पष्ट करना है। भारतेन्दु युग, द्विवेदी युग, प्रेमचंद युग, और प्रेमचंदोत्तर युग के परिप्रेक्ष्य में अशपाल की रचना 'दादा कामरेड' और जैनेन्द्र कुमार की रचना 'कल्याणी' का अध्ययन अपेक्षित है।
स्नातक हिन्दी जेनरल/सब्सी	तृतीय वर्ष षष्ठ सेमेस्टर	जी० ई० – 06 – VI	ग्रुप-'ए' – इस पाठ्यक्रम के अन्तर्गत भक्तिकाल और रीतिकाल की युगीन परिस्थितियों सांस्कृतिक पृष्ठभूमि, नामकरण, सूरदास के पद राधा कृष्ण मिलन – (सं० – रामचन्द्र शुक्ल) तथा बिहारी सतसई – (रामवृक्ष बेनीपुरी के अध्ययन कराना जिसके माध्यम से विद्यार्थियों को भक्तिकाल और रीतिकाल का विस्तृत ज्ञान प्राप्त कर सकेंगे।

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
नाटक हिन्दी जेनरल / सब्सी	तृतीय वर्ष षष्ठ सेमेस्टर (शेष-भाग)	जी०ई०-06 — VI	यूनिट 'बी' :- इस पाठ्यक्रम के अन्तर्गत भारतेन्दु युग से प्रसाद युग तक नाटक के उद्भव और विकास, सत्य हरिश्चन्द्र नाटक, आधीरात, आषाढ़ का एकदिन आदि नाटकों का समीक्षात्मक अध्ययन अपेक्षित है। नाटक साहित्यकी संश्लिष्ट विधा है। रंगमंच और अभिनय कला के माध्यम से विद्यार्थियों व्यक्तित्व के विकास का और उनकी अभिव्यक्ति की कुशलता का इस विधा से जोड़कर सर्जनात्मक प्रयास है।

पृष्ठ संख्या - 03

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
स्नातक हिंदी प्रथम वर्ष प्रतिष्ठा	सेमेस्टर प्रथम	ए० ई० सी० सी०	इस पाठ्यक्रम के अध्ययन से विद्यार्थी को दिनकर जी की रचना 'रश्मिरथी' के माध्यम से महाभारत के पात्र 'कर्ण' को आधार बनाकर कृष्ण के संदेश को भी स्वार्थ से परे करके मैत्री भाव की महत्ता समझ सकेंगे। इसके साथ डी न्याकर - णिक प्रबोधक के अन्तर्गत विद्यार्थी को मुहावरे, लोकोक्तियाँ, पर्यायवाची, अनेकाधक शब्दों के बदले एक शब्द को भी जान सकेंगे।

पृष्ठ - संख्या - 01

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
स्नातकोत्तर हिन्दी	प्रथम (I)	प्रथम (01)	हिन्दी साहित्य का इतिहास: आदिकाल एवं भक्तिकाल (क) इस पाठ्यक्रम के अंतर्गत विद्यार्थी साहित्येतिहास दर्शन, लेखन, परंपरा, काल-विभाजन और नामकरण को जान सकेंगे। (ख) आदिकाल एवं भक्तिकालीन काव्य-धाराओं, उपलब्धियों तथा प्रमुख कवियों की रचनाओं से अवगत हो सकेंगे।
स्नातकोत्तर हिन्दी	प्रथम (I)	द्वितीय (02)	(क) छात्र-छात्राओं को भाषा-संबंधी संपूर्ण ज्ञान प्रदान करना। (ख) विद्यार्थियों को हिन्दी भाषा-परिवार, उनके इतिहास, उत्पत्ति एवं विकास की जानकारी प्रदान करना। (ग) विद्यार्थियों को लिपि का ज्ञान प्रदान करना। (घ) विद्यार्थियों को हिन्दी-भाषा एवं हिन्दी भाषा-परिवार की जानकारी प्रदान करना।
स्नातकोत्तर हिन्दी	प्रथम (I)	तृतीय (03)	(क) काव्य-शास्त्र जो काव्य और साहित्य का दर्शन तथा विज्ञान है, इस पाठ्यक्रम के अंतर्गत काव्य-कृतियों के विश्लेषण के आधार पर समय-समय पर उद्भावित सिद्धांतों की ज्ञानराशि के साथ युगानुरूप परिस्थियों के अनुसार काव्य और साहित्य का काव्य और शिल्प के बदलते संदर्भ में अध्ययन कराना। इसके अध्ययन से विद्यार्थी भारतीय काव्य-शास्त्र के आचार्यों-द्वारा प्रतिपादित सिद्धांतों की व्याख्या, काव्य-तत्वों के रूप में अलंकारों एवं छंदों से अवगत हो सकेंगे।

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
स्नातकोत्तर हिन्दी	प्रथम (I)	चतुर्थ (04)	क. साकेत :- नारी मुक्ति आन्दोलन, हिन्दी-साहित्य में आधुनिक चेतना के साथ महाकाव्य का स्वरूप एवं नवीन मानवीय मूल्यों से अवगत कराना है। ख. उर्वशी :- रचना के केन्द्र में स्त्री-पुरुष के काम-संबंधों का चित्रण, आध्यात्मिक उद्देश्य की प्राप्ति, यहाँ काम को अंतिम साध्य न मानकर लोकोत्तर बोध से अवगत कराना है। ग. आँगन के पार द्वार :- साहित्य अकादेमी पुरस्कार से सम्मानित यह कृति, नयी कविता की ही नहीं, अपितु, आधुनिक हिन्दी कविता की अत्यंत प्रांजल और प्रौढ़ उपलब्धि है। इस रचना में भारतीय चिंतन परंपरा की विश्व से संयोजन क्षमता साकार हो उठी है, असाध्य वीणा में अन्तस और
			बाह्य जगत की एकाकारता का सबसे सजीव चित्र है- हिन्दी काव्य की अद्वितीय उपलब्धि से परिचय कराना है। घ. प्रतिनिधि कविताएँ : नागार्जुन क. प्रगतिशील हिन्दी कविता में सबसे अधिक संवेदनशील और लोकोन्मुख जनकवि नागार्जुन की रचनाएँ और वास्तविक जीवन से गहरा सामंजस्य दिखाना है। ख. युगीन यथार्थ और समसामयिक चेतना को अपनी रचना के माध्यम से मुखरित करता है। ग. कवि के विश्वमानववाद, वसुधैव कुटुम्बकम एक विशाल व्यापक दृष्टि से विद्यार्थियों को अवगत कराना है।
			घ. नागार्जुन की कविता को माध्यम बनाकर विद्यार्थियों को शोषितों, पीड़ितों के प्रति गहरी सहानुभूति एवं संवेदना से जोड़ना है।

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
स्नातकोत्तर हिन्दी	द्वितीय (II)	पंचम पत्र (V)	क. इस पत्र के माध्यम से विद्यार्थियों को सामाजिक जनमत को अभिव्यक्ति देना। ख. समाज को उचित दिशा निर्देश देना। ग. स्वस्थ मनोरंजन की सामग्री देना। घ. सामाजिक कुरीतियों को मिटाने की दिशा में प्रभावी कदम उठाना। ङ. धार्मिक सांस्कृतिक पर्वों का निष्पक्ष विवेचन करना। च. सामान्यजन को उनके अधिकार समझाना। छ. कृषि जगत एवं उद्योग जगत की उपलब्धियों को जनता के सामने लाना। ज. सरकारी नीतियों का विश्लेषण और प्रसारण करना।
स्नातकोत्तर हिन्दी	द्वितीय (II)	षष्ठ पत्र (VI)	(झ) सर्वधर्म समभाव को पुष्ट करना। ञ. समाज में मानव मूल्यों की स्थापना के साथ जन-जीवन को विकासोन्मुख बनाना। क. चन्द्रगुप्त नाटक :- ऐतिहासिक प्रसंग के माध्यम से विदेशियों से भारत का संघर्ष और इस संदर्भ में भारत का विजय अभियान। राष्ट्रीय भावना का उद्घोष। ख. निबंध सिद्धांत :- इस पाठ्यक्रम के अन्तर्गत विद्यार्थियों को गद्य की कसौटी के रूप में निबंध विधा से अवगत कराने के साथ ही निबंध की प्रमुख विशेषताओं में से विषयवस्तु का व्यापक फलक, मनोदित आकार, वैयक्तिकता, आत्मीयता, स्वाधीन चिंतन, निबंधकार के जीवन-दर्शन, भाषा शैली एवं गद्य से परिचय कराना है।
स्नातकोत्तर हिन्दी	द्वितीय II	सप्तम पत्र (VII)	क. गोदान :- विद्यार्थियों को गोदान के माध्यम से प्रेमचंद की प्रगतिशीलता से परिचय कराना। सुषुप्तावस्था में पड़े भारतीय जनमानस में नवीन चेतना का संचार तथा सामाजिक विषमता एवं विकृति को दूर करने का प्रयास करना। भारतीय कृषक के विसंगतिपूर्ण जीवन की अभिव्यंजना से अवगत कराना, समाजवादी व्यवस्था की स्थापना पर बल देना। ख. मैला आंचल :- विद्यार्थियों को इस रचना के माध्यम से अपने अंचल को अपनी

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
स्नातकोत्तर हिन्दी	द्वितीय (II)	अष्टम पत्र (VIII)	* रचनाओं के केन्द्र में रखकर अध्ययन करने की प्रेरणा उत्पन्न कराना है। * ग्रामीण अंचल के प्रति दुनियाँ के लोगों का ध्यान आकर्षित करना। (ग) कफन :— प्रेमचंद की इस कहानी के माध्यम से विद्यार्थियों के मन में आर्थिक शोषण के विरुद्ध क्रांति की भावना का उद्घोष करना है। (घ) उसने कहा था : — इस कहानी का उद्देश्य मात्र मनोरंजन न होकर चित्रा है — उदात्त प्रेम का प्रस्तुतीकरण है। (ङ) रजा निरवंसिया : — इस कहानी के माध्यम से विद्यार्थियों को सामाजिक जीवन की विसंगतियों एवं अव्यवस्था से परिचय कराना है। आधुनिक समाज में बदलते मूल्यों से अवगत कराना भी इसका प्रमुख उद्देश्य है।
स्नातकोत्तर हिन्दी	द्वितीय (II)	अष्टम पत्र (VIII)	क) हिन्दी साहित्य का इतिहास : आधुनिक काल : — इस पाठ्यक्रम के माध्यम से आधुनिकता की अवधारणा के साथ-साथ ईसाई मिशनरी, फोर्ट विलियम कॉलेज के अवदान एवं आर्य समाज की भूमिका से विद्यार्थियों को अवगत कराना है। साथ ही, आधुनिक काल की विभिन्न काव्यधाराओं एवं समकालीन कविता से परिचय कराना है।
स्नातकोत्तर हिन्दी	तृतीय (III)	नवम पत्र (IX)	क) इलेक्ट्रॉनिक मीडिया : — इस पाठ्यक्रम के माध्यम से विद्यार्थियों की दृष्टि को खोलना है, ताकि समाज में क्या हो रहा है। सही और गलत का अन्तर समझाना है। टेलीविजन को युवा पीढ़ी को नैतिकता और मूल्यों के साथ-साथ सही गलत के बारे में सिखाना है।

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
स्नातकोत्तर हिन्दी	तृतीय - (III)	दशम् - (X)	क. हिन्दी गद्य साहित्य : विविध विधाएँ : – इस पाठ्यक्रम के माध्यम से विद्यार्थियों को हिन्दी साहित्य के गद्य के अन्तर्गत आनेवाली विविध विधाओं से अवगत कराना है। कहानी, उपन्यास, नाटक, निबंध, आलोचना, जीवनी, संस्मरण, आत्मकथा, यात्रावृत्तांत, रिपोर्ताज, हिन्दी-पत्रकारिता और डायरी लेखन के स्वरूप विकास एवं प्रवृत्तियों से बोध कराना है।
स्नातकोत्तर हिन्दी	तृतीय - (III)	ग्यारहवाँ - (XI)	क. भाषाविज्ञान (सिद्धांत पक्ष) : – इस पाठ्यक्रम के माध्यम से विद्यार्थियों को भाषा के लक्षण, विभिन्नरूप, उपभाषा एवं बोली में अंतर, भाषा-विज्ञान के क्षेत्र एवं उसके अध्ययन की पद्धतियाँ, भाषा-विज्ञान का अन्य विषयों से संबंध दिखलाते हुए वाक्य-विज्ञान, रूप-विज्ञान और अर्थ विज्ञान की अवधारणा से अवगत कराना है।
स्नातकोत्तर हिन्दी	तृतीय - (III)	बारहवाँ - (XII)	क. भारतीय एवं पाश्चात्य आलोचना : – इस पाठ्यक्रम के अन्तर्गत भारतीय एवं पाश्चात्य आलोचना से विद्यार्थियों को अवगत कराने के साथ-साथ हिन्दी आलोचना के प्रारंभिक स्वरूप से परिचय कराना भी है। प्लेटो, अरस्तु, मॉंजाइनस, इलियट, रिचर्ड्स वर्ड्सवर्थ और कॉलरिज जैसे पाश्चात्य आलोचकों के सिद्धांत एवं साहित्यिक समीक्षात्मक दृष्टिकोण से सम्बद्ध करना है।

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
स्नातकोत्तर हिन्दी	चतुर्थ-(IV)	तेरहवाँ-(XIII)	क. इस पाठ्यक्रम के अन्तर्गत विद्यार्थियों को ऐच्छिक रूप से समूह-'अ' एवं 'ब' के अन्तर्गत क्रमशः आदिकालीन काव्य एवं भक्ति काव्य पढ़ने की स्वतंत्रता प्रदान की गई है। समूह-'अ' में आदिकालीन काव्य के अन्तर्गत अमीर खुसरो की पहेलियाँ, पृथ्वीराज रासो, नादद्देव के भक्ति पद और विद्यापति पदावली पाठ्यक्रम में संकलित है। समूह-'ब' में भक्तिकाव्य के अन्तर्गत कबीर, जायसी, सूरदास, तुलसीदास की रचनाएँ संकलित हैं।
स्नातकोत्तर हिन्दी	चतुर्थ-(IV)	चौदहवाँ-(XIV)	क. इस पाठ्यक्रम के अन्तर्गत समूह-'अ' में छायावादी काव्य निर्धारित है, जिसके अन्तर्गत पंत, प्रसाद, एवं निराला तथा महादेवी वर्मा की छायावादी दौर की रचनाएँ संकलित की गई हैं। समूह-'ब' के अन्तर्गत हिन्दी उपन्यास में, शेखर एक जीवनी, बाणभट्ट की आत्मकथा और सूखा सच निर्धारित है।
स्नातकोत्तर हिन्दी	चतुर्थ-(IV)	पंद्रहवाँ-(XV)	क. छायावादोत्तर काव्य :- इस पाठ्यक्रम के अन्तर्गत समूह-'अ' में दिनकर की 'रसवंती' नागार्जुन की इरिजन गाथा, आकाल और उसके बाद, अज्ञेय की असाध्यवीणा, कलगीबाजरे की, एवं मुक्तिबोध की 'अंधेरे में' संकलित हैं। समूह-'ब' के अन्तर्गत आधुनिक काव्य - भारतेन्दु से द्विवेदी युग तक निर्धारित है, जिसमें भारतेन्दु हरिश्चन्द्र का - गंगा छवि वर्णन और निजभाषा; श्रीधर पाठक की, कश्मीर सुषमा मारवनलाल चतुर्वेदी की, पुष्प की अभिलाषा, और केदी और कोकिला एवं मैथिली शरण गुप्त की रचना यशोधरा (चम्पू काव्य) निर्धारित है।

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
स्नातकोत्तर हिन्दी	चतुर्थ-(IV)	सोलहवाँ-(XVI)	क. लघुशोध :- इस पत्र के अन्तर्गत विद्यार्थियों के शोध-दृष्टिकोण का उन्नयन करना है। जिसमें शोध-प्रक्रिया के विविध आयामों से अवगत होने के साथ-साथ भविष्य में शोध-प्रक्रिया के लिए निपुणता को प्राप्त कर सकें।

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
History Bachelar of Arts Core Paper.	01	Core - 01 Ancient Indian History (Early time to Mouryan age). Core - 02 History of Modern Europe [1789-1870]	⇒ Student will learn about the age of Paleolithic, Mesolithic, Neolithic Harappan and Bronze Cultures in ancient India and acquire Knowledge about the Vedic Period and the Rise of Jainism and Buddhism culture in ancient times. Students will Learn Rise of Magadha Empire, Sixteen Janapadas in ancient India. ⇒ Student will learn about the French Revolution and its impact of European Countries entry and Power makes people to strength which has showed in the French Revolution in 1789. They will Know about the politics of Super power among the European Countries How the Sense regarding the nationalism.
,,	02	Core - 03 Ancient Indian History (Post Mouryan Age to 650 A.D) Core - 04 History of Modern Europe [1871-1945]	Students will Learn about The Post - Mauryan Politics with Special Reference to the Kushanas and the Satavahanas. Gana-Sanghas. Rise of the Guptas development of the Empire Art, Architecture and Literature etc. They acquire Knowledge towards the Changing Status of agrarian economy, Trade, commerce and urbanization of towns. ⇒ Student will Learn about how the world become dividing after First World war ~~among the~~, Rise of Nazism and Fascism, establishment of League of Nations, II World war, the World gets Divided to Blocs.
,,	03	Core - 05 Early Medieval Indian History [650 A.D To 1206 A.D] Core - 06 British Constitutional History [1485-1714]	⇒ Students Can achive Knowledge how to develop Indian Feudalism and evalution of the Political Structures of early - medival north and South India and Learn to Conquering of Islam had initiated in India and had transformed of India culture, Society, Religion and agrarian structures under the Islam Power of medieval India. They will gather Knowledge how the sultanate of Delhi had establised in 1206. ⇒ The Paper deals with the [illegible] that [illegible] to the development of Parliamentary and Constitutional British/[illegible] The reign of various Kings and [illegible]

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
History Bachelar of Arts Core Paper.	03	Core-07 History of Jharkhand 1757 A.D to 2000 A.D].	The Paper divulges the regional history of Jharkhand with focus on Santal Pargana and Chhotanagpur Regions. Throwing light on the regional revolts, Struggles Polity and adoninistration, The Paper traces the History of Jharkhand From 1757 to 02000 A.D)
,,	04	Core-08 Medieval indian History [1206 A.D to 1526 A.D]. Core-09 Indian Constitutional Development [1773-1947].	Student will learn how the Foundation, expansion and consolidation of the Delhi Sultanate had established under five dynastie i.e. Ilbari Turky, s Khalji's, Tughlags, Syed, Lodhi and the nature of the State nobility and under the ulemas in medival India. After the downfall of the Delhi Sultanate how the Mughal dynasty had come to Power in India. The Paper deals in the various Acts bills Conferencis under The British government that eventually helped in the Framing of Indian Constitution The works of eminent Leaders and Freedom Fighters are also taught The Govt of India Act 1935
,,	04	Core-10 Ancient Indian Polity	The Students will learn about the various theories of the origin of state and the theories of kingship in ancient India. Along with this the key points of adminis tration and regional adminis tration is also covered. Sabha, Samiti, Vidath and othe democratic institutions are also highlighted.

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
History Bachelar of Arts Core Paper.	05	Core-11 Medival Indian History 1526 A.D to Mod A.D]. Core-12 History of China & Japan (1839 A.D to 1949).	Students will learn about the Mughan Indian Society, economy and Culture after Consalidation of the mughal rule India. They will learn about how the Regional Powers had been raised in different parts of india after downfall of ~~unity~~ the Mughal Empire of Delhi. They can father Knowledge to the downfall of the Mughal Empire only Lack of unity among the Mughal Court ioers and resulted to rise Provincial state. Students will aweare about the emergence of the communist party of china and affected to the entire Asian Countries they will learn how the chinese Republic come out from colonial pressure and bondage. As will as the will father Knowlean about the emergence
,,	05	DSE-01 History of Modern India [1707 A.D-1857 A.D]. DSE-02 History of the Indian Freedom Movement	Students Learn how to establish the Company's Rule in India after the battle of Plessey and Legitimized the Regulatating Act, Pitt's India Act, chanter Acts of 1813, 1833 and 1853 Administrative, military Palice and Educational Reborms as well They will Learn towards The Land Revenue systems under the Company Rule in India at The same time. Young Bengal, Vidyasagar under the Rule of the Company They will Learn the real historiography of Bengal the Swadeshi Movement in Bengal in 1905. Rise of Gandhi's Power in Indian Politics, the Swarajya Party Poona Pact, Civil Disobedience movement Quit India movement, Communal politics and partition of India
,,	06	Core-13 ECO History of Modern India 1757 A.D to 1947 A.D]. Core-14 Indian National Movement. [1857-1947].	Students will learn about the deinstrialisation of India and the commercialisation of agriculture. The rise of modern factories, railways, foods commerce and banking are also taught with focus on British Raj. They will learn the real historiography of Bengal. The Swadeshi movement in Bengal. Rise of Gandhi, and peasants parties Partion. Non-Cooperation, Civil Disobedience, Quit India Movement are taught.

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
History Bachelar of Arts. Core Peper.	06.	DSE-03 History of Independent India [1947 A.D to 2014 A.D]	⇒ Students are tought about the events of post-independence India till contemporary times. The Nehruvian Era, Indira era etc, their plans and struggles after the partition and wars are also covered. The Digital revolution of the Rajiv Gandhi period etc are also taught along with the foreign policies like NAM and Panchsheel.
		DSE-04 Contemporary world 1945 A.D to 2015 A.D.	⇒ Students will learn about post war developments of social, political and economic scenarios, and the emergence of third world. Cold War and USSR disintegration change in world politics ever since.

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
History Master of Arts	I	Paper- I Foundation course	This paper is designed to help the students grasp the scope and meaning of History. Also, to familiarise themselves with different approaches to History. Along with, the basic terminology of State and Statemanship.
		Paper-II Historio-graphy	This paper illustrates the rationale, relevance and utility of Historiography. The students get to see the history writing of western and Islamic world. Along with this, the paper summarizes the relation of history with other subjects.
		Paper- III History of Santal Parganas	The paper divulges the regional history of Jharkh-and with focus on Santal Parganas. Throwing light on the regional revolts, struggles, polity and administration. The Paper traces the history of Santal Pargana from Mughal period to the British rule.

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
History Master of Arts	I	Paper-IV Ancient World	Focuses on the Paleolithic and Mesolithic cultures. and the beginnings of agrarian methods. The Paper also covered the Major Bronze age civilisation and covers the Vedic age of India and the Greco-Roman history and their sources.
	II	Paper-V Skill in History Writing	The paper is focused on developing the skill of history writing in India and World. The students will get to know the sources, meaning, structure and process of historical research.
		Paper-VI Medieval Europe (800-1600 AD)	The paper introduces the medieval european kingship to students. It covers the reign of major monarchs and Popes, along with Crusades. The students also knows about renaissance, reformation, and the ideologies of Urbanisation.

DEOGHAR COLLEGE, DEOGHAR

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History Master of Arts	II	Paper-VII Medieval Islam (570-1600 AD)	Students are introduced to the tenets, rise and concept of Islam. The expansion of Islam to Europe and India is also covered. The paper also deals in the modern Islamic empires like Umayyad and Abbasid. Also highlights the contributions of Islam to the world.
		Paper-VIII Women in History	The paper is solely focused on the history, position, rights e.t.c of women throughout ages. Students get to know the role of Women in national movements. The status of women in tribal areas of Jharkhand is also taught to the students.
	III	Paper-IX Indian National Movement	Students are totally familiarised with the beginning of nationalistic ideas in India. The national movements from pre-Gandhian era to the Independence are also covered. The paper also covers the political history of post-Independence India.

DEOGHAR COLLEGE, DEOGHAR

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History Master of Arts	III	Paper-X Modern Europe (1789-1914)	The Paper gives comprehensive knowledge of Modern world from the French Revolution to World war I. The modern dimplomatic ideas, treaties, ad-hoc ideologies are also introduced to the students.
		Paper-XI Modern Europe (1914-2000)	This paper takes up the post world-war I and covers the history of World War II and whole of modern world and anti-colonial movements. The students get to know about the foreign policy and stance of India and Cold-War.
		Paper-XII India & the world since 1945.	This paper is primarily focused on the relation of India with UNO, US, Russia, China and othe neighboring countries after 1945. Students are also tought about organisations like SAARC and BRIC. The rise of India as a superpower is also covered.

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
History Master of Arts	IV Group-A	Paper-XIII Political History of Ancient India (pre-history to 7th AD)	Students are tought about the sources and interpretation of Historiographical trends. Pre-History and Pro-to history are also simplified. The paper covers the every aspects of the ancient history of India from Indus Valley to the ages of Harshvardhana, Chalukyas and Pallavas
		Paper-XIV Political Ideas and Institutions in Ancient India	This paper elucidates the various theories of the origin of state including "Saptanga" of Kautilya. The main focus of the paper is on explaining the administration of various dynasties in Ancient India. The paper also covers the democratic institutions of Vedic age and the local self govt. of Cholas
		Paper-XV Socio-economic History of Ancient India (Pre-history to 7th AD)	Students are introduced to the society, culture and economy of Ancient India. Later the Paper also covers the rise and course of various religions and cults throughout Ancient India. Trade, commerce, coinage and banking traditions in the ancient India.

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
History Master of Arts	IV Group-A	Paper-XVI Dissertation.	This paper is extremely helpful in awakening the thirst of Research among students. Students are introduced to the concept and meaning of Scientific research. Students are given a topic from Ancient India, and this helps them in producing a primary research of this subject.
	Group-B	Paper-XIII Political History of Medieval India (8th–18th cent.)	Students are familiarised with the literary sources of foreigners, their journals and factory records. The rise of Rajputs, inter-state politics and struggles are also covered. The paper also covers the political history of Slave dynasty, Vijayanagar, Bahmani and mughal rulers.
		Paper-XIV Administrative History of Medieval India.	Students of this group get to know about the Islamic theory of the state and the structure of Sultanate and Mughal courts. The various creative aspects of Muslim rulers in administration is also covered. Along with Maratha and Vijaynagar Kingdoms.

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
History Master of Arts	IV Group-B	XV Socio-Economic History of Medieval India	Students are taught about the various social orders of medieval India. The position of Nobility, middle classes, slaves, women etc are all covered in this paper. Religious movements, Urbanisation, coinage, agrarian cultures and technological developments are explained.
		XVI Dissert-ation.	This paper is extremely helpful in awakening the inclination of research among the students. They are introduced to the concept and meaning of scientific and cultural research. Students are provided with a topic from medieval India are are expected to produce a dissertation.
	Group-C	Paper-XIII Political history of Modern India	This paper takes on with the advent of Europeans and thier struggle among themselves and Indian rulers. The partition of Bengal and all the national movements are covered. Paper also deals in the ideologies that emerged in modern India, and the partition and independence.

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
History Master of Arts	IV Group- C	Paper- XIV Administr-ative His-tory of Modern India	All aspects of the administration of the company are highlighted. All regulating acts, charter acts, reformative bills, plans of various policy makers are deeply studied to encourage a deeper understanding of the students.
		Paper- XV Socio-Eco-nomic His-tory of Modern India.	This paper focuses on the introduction of western ideas in India and the beginning of Bengal Renaissance. Peasant Movements, caste move-ments, educational committees, famine commi-ttees, Drain of wealth and the rise of railw-ays and industries are taught to the students.
		Paper- XVI Disserta-tion.	The dissertation in group 'C' is focused on the topics of Modern Indian History. Students are taught about the sources, data collection, that would help in their research. Students are also given the chance to use various approaches of hist-oriography while dealing their topics.

DEOGHAR COLLEGE, DEOGHAR

COURCE & SUBJECT	SEMESTER	PAPER	OUTCOMES
B.A (UG) PHILOSOPHY	SEM – I st	1. Indian philosophy – I	The outcomes of the course is to helps the students to have a close acquaintance with the major issues and important concepts of Indian philosophy.
		2. Western philosophy – I	Student can identify and distinguish between the main historical tradition in western philosophy from pre-socrates of the enlightenment.
	SEM – II nd	3. Indian philosophy – II	Helpful for advanced learning of Indian philosophy.
		4. western philosophy – II	Identify and explain key philosophical concepts as they arise in the different historical periods including knowledge, reality, reason, substance identity, mind/soul, causation, exprienee etc.
	SEM – III rd	5. Ethics (Indian)	The outcomes of the course is to understand the basic of Indian ethics which includes, Hindu, Jain and Buddhist ethics.
		6. Logic (Indian and western)	The outcomes of the course is to understand the distinct features of Indian Logic and western Logic which includes Nyaya Anumana and Aristotal Logic etc.
		7. Symbolic Logic	The outcomes of the course is to understand the valid argument form which includes propositional and predicate logic.

COURSE & SUBJECT	SEMESTER	PAPER	OUTCOMES.
B.A. (UG) PHILOSOPHY	SEM - IVth	8. Ethics (western)	The outcomes of the course is to make student aware about the ethical issues of ethics of Kant G.E. Moor, Mill, Benthom, A.J Ayer, W.T. Ross, Hyer and Stevenson.
		9. Social philosophy.	The outcomes of the course is to create critical insight in sociological ideas of governance and ideals about sociological system and Idealism.
		10. political philosophy	The outcomes of the course is to create critical insight in political ideas of governance and ideals about political system and idealism.
	SEM - Vth	11. philosophy of Religion - I	The students will acquire a general understanding of religious issues. They will learn to think critically about religious issues.
		12. Philosophy of Religion - II	Understanding Continental dialogues on philosophical issues of mutual interest that will encourage exploration in the field of morality, science and religion.
		13. Applied Ethics (DSE-01)	The outcomes of this course is the application of ethical rules and principal which can apply for well being of the Society. This course designed for the theory of animals right, abortion, euthanasia, ecology, and Business ethics.
		14. Yoga philosophy (DSE-02)	The outcomes of the course is to get the in-depth knowledge of yoga and its practices.

COURSE & SUBJECT	SEMESTER	PAPER	OUTCOMES
B.A (UG) PHILOSOPHY	SEM - VI th	15. Epistemology (Indian)	The outcome of the Course is to understand the problematic of Indian Epistemology which deals with Nyayer, Mimansha and Buddhist theory of Knowledge and also understanding theory of errors.
		16. Epistemology (western)	Understanding a comprehensive view and a universal explanation of the nature of things and Evoluation of world with the method of thinking and Knowing.
		17. Contemporary Indian Philosophy (DSE-03)	The outcome of the Course is to aware student to learn outstanding Contemporary Indian thinkers ~~party~~ particularly, Tager, Gandhi, Arbindo, Vevekanad Md. Iqbal, K.C. Bhattacharya, S. Radhakishan and B.R. Amedkar.
		18. Contemporary western Philosophy (DSE-04)	The outcome of the course is to aware student to learn outstanding Contemporary western thinkers particularly Wittgenstein, Hussesl, Russel, Moor, Quine Rajil and Existential thinkers.
M.A (PG) PHILOSOPHY	SEM - I st	1. Metaphysics (Indian)	The outcome is to cultivate in-depth Knowledge of Indian Metaphysics, which contain the unque concept of the world, self and absolute reality.
		2. Metaphysics (western)	The outcome is to cultivate in-depth knowledge of western metaphysics which contain the unque concept of the world, self and absolute reality.
		3. Ethics (Indian)	The outcome of the Course is to understand the basic of Indian Ethics which includes Hindu, Jaina, Gita and Buddhist ethics.
		4. Ethics (western)	The outcome of Course is to make students aware about the ethical issues of Ethics of Kant — G.E. Moor, A.J. Ayer, Hare and Stiverson.

COURSE & SUBJECT	SEMESTER	PAPER	OUTCOMES.
M.A (PG) PHILOSOPHY	SEM - IInd	5. Logic (Indian) and Reasoning	Logic Course help the Students to develop an under-standing of the basic concepts of Indian Logic, language and reasoning as well as familiarity with precise models of Nyaya and Buddha deductive reasonig.
		6. Logic (western) (SKil Development Course)	This course provides the logical prineipal to make proper arguments. There differente scientific methods are procedure are includes in this Course.
		7. Modern Indian Thought	The outcome of the course is to make student aware about the Modern Indian thinkers its Gandhijee, K.C. Bhattacharya, S. Radhakshnan, Dr. Ambedkar and Iqbal.
		8. Contemporary western philosophy	The outcome is to increase the horizon of western philosophical thoughts particularly Contemporery Western philosophy.
	SEM - IIIrd	9. Epistemology (Indian) (open Elective)	The outcome of the paper is to understand the problematic of Indian Epistemology which deals with Nyaya, Mimansha, Buddhist and vedanta theory of Knowledge.
		10. Epitemology (western)	The outcome of the course is to understand the order to Critically assess the reliability of Knowledge developed in the dicipline, but also in understanding how knowledge plays.
		11. philosophy of Language (In)	The outcome of this course is to do understand analysis of Language for critical thinking as all thinking is based on the logical presentation of Language.
		12. Analytic philosophy	The outcome of this course is that it help to improve the understanding of the word meaning and sentence meaning. This course provide the concepts truth, analytic-Synthetic apriori-aposteriori difference.

COURSE & SUBJECT	SEMESTER	PAPER	OUTCOMES
M.A (PG) PHILOSOPHY	SEM - IV th	13. Philosophy of Religion- 1	The outcome of the course is to understand the critical examination of Religion and to understand contemporary challenges to religion.
		14. Philosophy of Religion- 2	The outcome of the course is to understand the critical examination of Religion and to understand contemporary challenges to religion.
		15. Comparative Religion-3.	The outcome of the course is to understand the Critical examine of Religion and to understand Comparative challenges of religion.
		16. Dissertation/project work.	
		G.A. Vedanta	The outcome of the course is to make students ~~to~~ critically write and contemplate on some basic themes and thinkers of philosophy. This will provide a preparatory ground for research in philosophy.
		G.B. Yoga	
		G.C. Philosophy of Science	
		G.D. Philosophy of Religion	
		G.E. Social and political philosophy.	
		G.F. Applied Ethics.	

UG (Sanskrit)

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
यू० जी० संस्कृत	I	I	शब्द और धातुरूप ज्ञानोपरान्त अनुवाद क्षमता।
		II	संस्कृत व्याकरण का सामान्य बोध।
	II	III	न्याय दर्शन के सामान्य ज्ञान के साथ नास्तिक दर्शनों का सामान्य परिचय।
		IV	सांख्य, योग, वेदान्त, मीमांसादि आस्तिक दर्शनों का सामान्य परिचय।
	III	V	रामायण, महाभारत, महाकाव्य एवं गद्यकाव्य पर विशेष आग्रह के साथ संस्कृत साहित्य का परिचय।
		VI	किरातार्जुनीयम् एवं अभिज्ञानशाकुन्तलम् के पाठ्यांश अध्ययन के साथ काव्य एवं नाटक का विशेष परिचय।

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
		VII	याज्ञवल्क्य स्मृति के पाठ्यांश के अध्ययन के साथ धर्मशास्त्रों एवं विशेष प्राचीन अभिलेखों का अध्ययन।
	IV	VIII	आधुनिक ऐतिहासिक उपन्यास शिवराजविजय के अध्ययन से आधुनिक भारतीय इतिहास का बोध।
		IX	पाणिनीय व्याकरण के अन्तर्गत लघुसिद्धान्तकौमुदी से कारक और समास का अध्ययन एवं संस्कृत लेखन में सिद्धहस्तता हेतु निबंध लेखन का अभ्यास।
		X	वैदिक ग्रंथों के परिशीलन द्वारा वैदिक संहिताओं का ज्ञान।
	V	XI	वैदिक आख्यानों से सम्बद्ध ग्रंथों का अध्ययन।
		XII	भाषा के अभिप्राय पूर्वक भाषाविषयक प्रश्नों का अध्ययन।
		डीएसई I	काव्य और काव्यांग विषयक ज्ञान।
		डीएसई II	गीता II, शिशुपालवध प्रभृतियों के पाठ्यांशों का अध्ययन।
	VI	XIII	कालिदास के गीति और महाकाव्यों - मेघदूतम् और कुमारसंभवम् के पाठ्यांशों का अध्ययन।
		XIV	प्राचीन भारतीय राज्यव्यवस्था के ज्ञान के हेतु कौटिल्य अर्थशास्त्र के पाठ्यांश का अध्ययन।
		डीएसई III	गीतिकाव्य का अध्ययन। नाटक, नाटिकाओं का अध्ययन।
		डीएसई IV	लघुशोध/निबंध लेखन एवं संस्कृत में वाग्व्यवहार का अभ्यास।

PG (Sanskrit)

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
पी० जी० संस्कृत	I	101	पंचतंत्र जैसे नीतिपरक ग्रंथ के अध्ययन के साथ संस्कृत व्याकरण के संधि, संधिप्रकरण कारक विषयक सूत्रों का अध्ययन।
		102	न्यू वैदिक सिलेक्शन भाग I के चयनित पाठ्यांशों के अध्ययन से वैदिक संहिताओं का परिचय।
		103	आस्तिक दर्शनों के तुलनात्मक ज्ञानपूर्वक सांख्य, वेदान्त, न्याय और प्रत्यभिज्ञा दर्शन के आधिकारिक ग्रंथों का अध्ययन।
		104	सिद्धान्तकौमुदी के कृत्य और कृदन्त के सूत्रों का अध्ययन।
	II	201	मानव जीवनोपयोगी मुद्दों का ज्ञान, चयनशास्त्रीय विषयों से परिचिति और नीतिपरक वचनों का अभिवादन।
		202	भाषा का भाषाशास्त्रीय अध्ययन और संस्कृत भाषा का भाषा-शास्त्रीय विवेचन। भाषाविज्ञान के विकास में भारतीय भाषाशास्त्रियों की देन।

		203	ब्राह्मण, आरण्यक, उपनिषद्, निरुक्त एवं गीता का तथ्यपरक ज्ञान।
		204	सिद्धान्त कौमुदी में वर्णित विषयक सूत्रों का अध्ययन और पातञ्जल महाभाष्य का तथ्यपरक ज्ञान।
	III	301	पुराण, ज्योतिष, धर्मशास्त्र विषयक तथ्यों की जानकारी।
		302	मेघदूतम् और नैषधीयचरित के आधार पर गीति और महाकाव्य परक ज्ञान।
		303	कादम्बरी और नलचम्पू के आधार पर गद्य और चम्पूकाव्य परक ज्ञान।
		304	उत्तररामचरितम्, मृच्छकटिकम् और दशरूपकम् के आधार पर नाटक, प्रकरण और नाट्यशास्त्रीय तत्वों का ज्ञान।

	IV	401	काव्यप्रकाश के आधार काव्यांगों का ज्ञान।
		402	ध्वन्यालोक के आधार पर ध्वनि सिद्धांत और अरस्तू के काव्यशास्त्र के आधार पर पाश्चात्य काव्यशास्त्रीय मूल्यों का ज्ञान।
		403.	संस्कृत वाग्व्यवहार हेतु क्षमता।
		404	साहित्य तथा दर्शनादि विषयों पर लघुशोधप्रबन्ध के द्वारा स्वतंत्र लेखन की क्षमता।

DEOGHAR COLLEGE, DEOGHAR

(POLITICAL SCIENCE: UG CORE/HONOURS)

COURSE	SEMESTER	PAPER	OUTCOMES
UG	SEM I	C.1 AN INTRODUCTION TO POLITICAL THEORY	This paper aims to introduce certain key concepts in traditional political theory with an intension to engage the students with the application of these ideas.
UG	SEM I	C.2 THEMES IN CONTEMPORORY POLITICAL THEORY - I	This paper aims to acquaint the students with the Western traditions of political theorizations through some select themes in order to appreciate the value and distinctiveness of comparative political theory/thought.
UG	SEM II	C.3 CONTEMPORORY POLITICAL THEORY	The course illustrates certain contemporary concepts of political theory with the aim to introduce the students with the application of these ideas and also with the skills to debate these topics.
UG	SEM II	C.4 THEMES IN CONTEMPORORY (INDIAN) POLITICAL THEORY - II	This course aims to acquaint the students with the Indian traditions of political theorizations through some select themes in order to appreciate the value and distinctiveness of comparative political theory/thought.
UG	SEM III	C.5 INDIAN GOVERNMENT & POLITICS	This paper aims to acquaint the students with the structural and functional constructs of the Indian Constitution and its polity.
UG	SEM III	C.6 CONTEMPORORY POLITICAL ANALYSIS (US, UK,, CHINA & SWITZERLAND)	This paper aims to comparatively analyze the political functioning of different states and democracies in order to comprehend the holistic notion of government & governance.
UG	SEM III	C.7 POLITICAL SOCIOLOGY	This course aims to acquaint the students with the divergent socio-political institutions and their functional interface with the political structure.

UG	SEM IV	C.8 DEMOCRACY AND GOVERNANCE IN INDIA	This paper tries to explain the institutional aspects of democracy and how certain institutions function within a constitutional & democratic framework.
UG	SEM IV	C.9 FOREIGN POLICY OF MAJOR POWERS	This paper intends to comprehend the major issues of the foreign policies of major powers of the world in the post cold war era.
UG	SEM IV	C.10 INDIA'S FOREIGN POLICY	This paper intends to comprehend the fundamentals of the foreign policy of India and their usage.
UG	SEM V	C.11 INTERNATIONAL POLITICS	The course is designed to illustrate the students a sense of important theoretical approaches to understand international relations and its possible future trajectory.
UG	SEM V	C.12 PUBLIC POLICY: CONCEPTS & THEORIES	This course aims to acquaint the students an understanding with the theoretical formulations of public policies and governance.
UG	SEM V	DSE I.A CONTEMPORORY ISSUES INDIAN POLITICS	This paper briefly illustrates the students with the contemporary issues of Indian polity and their larger impact over the notion of India as a nation.
UG	SEM V	DSE I.B STATE PLOITICS AND JHARKHAND	This paper is briefly designed to understand the issues of Jharkhand movement and challenges before new polity of Jharkhand.
UG	SEM V	DSE II.A HUMAN RIGHTS IN INDIA	This paper aims enabling the students with the divergent issues concerning the rights of citizens in general and marginalized groups in particular. It also illustrates institutional arrangement made for Human Rights in India.
UG	SEM V	DSE II.B UNDERSTANDING GLOBALIZATION	This purpose of this paper is to explain the students a basic understanding of the phenomenon of globalization, its forms, and its impact on the global order. It also attempts to contextually evaluate its efficacy.
UG	SEM VI	C.13 INTERNATIONAL LAW	This paper explains the student the key concepts of international arrangements/formulations that bind the world to an organic entity.

UG	SEM VI	C.14 MODERN POLITICAL IDEOLOGIES	This purpose of this paper is to introduce the students with the principle ideological formulations that govern divergent set of governance worldwide.
UG	SEM VI	DSE III.A PUBLIC OPINION AND SURVEY RESEARCH	This paper introduces the students the principles and practices of public opinion polling in the context of electoral democracies with special reference to India. It will familiarize them with conceptualization and measure public opinion using Quantative tools pertaining to collection, analysis & utilization of data.
UG	SEM VI	DSE III.B CONFLICT AND PEACE BUILDING	The course illustrates an understanding of a variety of conflict situations among students in a way that they can relate to them through their experiences.
UG	SEM VI	DSE IV.A FEDERALISM IN INDIA	This course aims to acquaint the students with the principles, practices and issues before the federal polity of India.
UG	SEM VI	DSE IV.B LOCAL SELF GOVERNMENT IN INDIA	This paper introduces the students the principles, practices and issues of urban and rural local self governance in India.

DEOGHAR COLLEGE, DEOGHAR

(POLITICAL SCIENCE: UG GE/PASS COURSE/SUBSIDIAY)

COURSE	SEMESTER	PAPER	OUTCOMES
UG	SEM I	CA.1 AN INTRODUCTION TO POLITICAL THEORY	This paper aims to introduce certain key concepts in traditional political theory with an intension to engage the students with the application of these ideas.
UG	SEM II	CA.2 INDIAN GOVERNMENT & POLITICS	This paper aims to acquaint the students with the structural and functional constructs of the Indian Constitution and its polity.
UG	SEM III	CA.3 CONTEMPORORY POLITICAL ANALYSIS (US, UK,, CHINA & SWITZERLAND)	This paper aims to comparatively analyze the political functioning of different states and democracies in order to comprehend the holistic notion of government & governance.
UG	SEM IV	CA.4 INTERNATIONAL POLITICS	The course is designed to illustrate the students a sense of important theoretical approaches to understand international relations and its possible future trajectory.
UG	SEM V	DSE I.A PUBLIC POLICY: CONCEPTS & THEORIES	This course aims to acquaint the students an understanding with the theoretical formulations of public policies and governance.
UG	SEM V	DSE I.B THEMES IN CONTEMPORORY (INDIAN) POLITICAL THEORY - II	This course aims to acquaint the students with the Indian traditions of political theorizations through some select themes in order to appreciate the value and distinctiveness of comparative political theory/thought.
UG	SEM VI	DSE II.A INTERNATIONAL LAW	This paper explains the student the key concepts of international arrangements/formulations that bind the world to an organic entity.
UG	SEM VI	DSE II.B STATE PLOITICS AND JHARKHAND	This paper is briefly designed to understand the issues of Jharkhand movement and challenges before new polity of Jharkhand.

DEOGHAR COLLEGE, DEOGHAR

(POLITICAL SCIENCE: PG CORE/HONOURS)

COURSE	SEMESTER	PAPER	OUTCOMES
PG	SEM I	PSC C01 THEORIES OF INTERNATIONAL RELATIONS	The paper is designed to illustrate the students the theories that help in understanding the relations of states with each other and with international organization & entities.
PG	SEM I	PSC C02 MODERN INDIAN POLITICAL THOUGHT	This course aims to acquaint the students with the Indian traditions of political theorizations through some select themes in order to appreciate the value and distinctiveness of political thought.
PG	SEM I	PSC C03 MODERN POLITICAL THEORIES	This paper aims to introduce certain key concepts in modern political theory with an intension to engage the students with the application of these ideas.
PG	SEM I	PSC C04 MODERN POLITICAL IDEOLOGIES	This purpose of this paper is to introduce the students with the modern principle ideological formulations that govern divergent set of governance worldwide.
PG	SEM II	PSC S05 SKILL DEVELOPMENT	This paper aims to acquaint the students a new skill that broaden the opportunities and empower one as an individual.
PG	SEM II	PSC C06 INDIAN GOVERNMENT & POLITICS	This paper aims to acquaint the students with the structural and functional constructs of the Indian Constitution and its polity.
PG	SEM II	PSC C07 INTERNATIONAL POLITICS	The course is designed to illustrate the students some important theoretical approaches to understand international politics and its possible future trajectory.
PG	SEM II	PSC C08 GENDER POLITICS	This paper analyze the importance of gender, its relationship with race, ethnicity, culture, class, age, status etc in understanding patterns of involvement in the process of governance and development.

PG	SEM III	PSC A09 HUMAN RIGHTS IN INDIA (OPEN ELECTIVE)	This paper aims enabling the students with the divergent issues concerning the rights of citizens in general and marginalized groups in particular. It also illustrates institutional arrangement made for Human Rights in India.
PG	SEM III	PSC C10 PLOITICS OF JHARKHAND	This paper is briefly designed to understand the issues of Jharkhand movement and challenges before new polity of Jharkhand.
PG	SEM III	PSC C11 RESEARCH METHODOLOGY	The study of this paper provides the necessary training in choosing area of research, methods, materials, tools, and training in techniques relevant conduct a research.
PG	SEM III	PSC C12 INDIAN FOREIGN POLICY	This paper intends to comprehend the fundamentals of the foreign policy of India and their usage national and international factors.

PG SEMESTER IV

ELECTIVE A: INTERNATIONAL RELATIONS, ORGANIZATION AND LAW

PG	SEM IV	PSC E(A)13 INTERNATIONAL ORGANISATION	This paper discusses the role of international organizations that is helping to set the international agenda, mediating political bargaining, providing a place for political initiatives which facilitates cooperation & coordination among the member states.
PG	SEM IV	PSC E(A)14 INTERNATIONAL LAW	This paper explains the student the key concepts of international arrangements/formulations that bind the world to an organic entity.
PG	SEM IV	PSC E(A)15 CONTEMPORARY INTERNATIONAL POLITICAL ISSUES	Contemporary global issues goes beyond peace and war, poverty and business, economics and politics etc. This paper explores the key players in world politics, intrinsic political patterns, and identifies the theories for resolution and cooperation among states.
PG	SEM IV	PSC D16 DISSERTATION	Dissertation is all about research and so an important part of students academic career. It demonstrates the capability of the student in identifying an area of interest, reporting data and theories, and contributing research knowledge.

PG SEMESTER IV

ELECTIVE B: GOVERNMENT AND POLITICS OF INDIA

PG	SEM IV	PSC E(B)13 POLITICAL PARTIES IN INDIA	In democracies elections and political parties acquire primary and crucial role. This paper helps the understanding of the students the function played by political parties in the Indian Political System.
PG	SEM IV	PSC E(B)14 CONTEMPORARY POLITICAL ISSUES IN INDIA	This paper briefly illustrates the students with the contemporary issues of Indian polity and their larger impact over the notion of India as a nation.
PG	SEM IV	PSC E(B)15 FEDERAL DEMOCRACY IN INDIA	This course aims to acquaint the students with the principles, practices and issues before the federal polity of India.
PG	SEM IV	PSC D16 DISSERTATION	Dissertation is all about research and so an important part of students academic career. It demonstrates the capability of the student in identifying an area of interest, reporting data and theories, and contributing research knowledge.

DEOGHAR COLLEGE, DEOGHAR

COURSES & SUBJECTS	SEMESTER	PAPER	OUTCOMES
BOTANY UG(B.Sc)	I	BOT(CORE I)-MICROBIOLOGY	HELPS IN PREVENTING AND TREATING DISEASES AND, DEVELOPING NEW TECHNOLOGY
BOTANY UG(B.Sc)	I	BOT(CORE II)-ALGAE AND FUNGI	USEFUL MICROBES FOR VARIOUS PROCESSES LIKE NITROGEN FIXATION AND NUTRIENT CYCLE IN ECOSYSTEM
	II	BOT(CORE III)-BRYOPHYTES AND PTERIDOPHYTES	VERY IMPORTANT IN INITIATING SOIL FORMATION ON BARREN TERRAIN
		BOT(CORE IV)-PALEOBOTANY AND GYMNOSPERMS	FOR THE STUDY FOSSILISED PLANT LIFE TO GET INFORMATION ABOUT THE TYPES OF PLANTS THAT LIVED DURING DIFFERENT TIME PERIODS
	III	BOT(CORE V)-SYSTEMATICS OF ANGIOSPERMS	IT IS THE ROOT OF MOST IMPORTANT ULTIMATE SOURCE OF FOOD FOR BIRDS AND MAMMALS INCLUDING HUMANS
		BOT(CORE VI)-HISTOLOGY AND ANATOMY	VITAL FOR UNDERSTANDING AND ADVANCEMENT OF MEDICINE, VETERINARY MEDICINE , BIOLOGY AND OTHER ASPECTS OF LIFE SPAN

		BOT(CORE VII)-PLANT PATHOLOGY	ALLOWS STUDENTS TO TACKLE FICTITIOUS OR REAL CROP PROBLEMS AND UNDERSTANDING OF DISEASE ETIOLOGY
	IV	BOT(CORE VIII)-EMBRYOLOGY AND ECONOMIC BOTANY	THE SCOPE INCLUDES CAREFUL TAXONOMIC WORK, RECOGNITION OF ECOLOGICAL RELATIONSHIPS. KNOWING THE DEVELOPMENT OF NEW ORGANISMS.
		BOT(CORE IX)-CELL BIOLOGY	ALLOWS STUDENTS TO LEARN THE CELL FUNCTIONS AND HOW COMPLEX MULTICELLULAR ORGANISMS FUNCTION
		BOT(CORE X)-PHYSIOLOGY AND METABOLISM	HELPS UNDERSTAND CHEMICAL REACTIONS THAT TAKE PLACE WITHIN EACH CELL OF A LIVING ORGANISM
	V	BOT(CORE XI)-MOLECULAR BIOLOGY	HELPS TO UNDERSTAND THE STRUCTURE FUNCTION, AND MAKE UP OF THE MOLECULAR BUILDING BLOCKS OF LIFE
		BOT(CORE XII)-GENETIC AND PLANT BREEDING	HELPS UNDERSTAND THE ESSENTIAL TO OUR SURVIVAL AND TO THE SUSTAINABLE USE OF OUR AGRICULTURAL LANDSCAPES AND BREED QUALITIES OF RESISTANCE
		DSE - I MORPHOLOGY OF ANGIOSPERM PLANTS	HELPS UNDERSTANDING WHICH CHARACTERISTICS AND STRUCTURES BELONG TO EACH TYPE OF PLANT AND IT'S EVOLUTION
		DSE - II COMMERCIAL PLANT PRODUCTS	UNDERSTANDING THE YIELD OF PLANTS TO MAXIMISE THE PRODUCTION OF VARIOUS PRODUCTS LIFE FOOD, FUEL, RAW MATERIALS AND MORE

	VI	BOT(CORE XIII)-BIOCHEMISTRY AND BIOTECHNOLOGY	DEALS WITH THE PROCESS AND PATHWAYS HAPPENING INSIDE THE LIVING CELL. IN MODIFYING THE BIOLOGICAL MECHANISM.
		BOT(CORE XIV)-ECOLOGY AND ENVIRONMENTAL BIOLOGY	PROVIDE US WITH INFORMATION TO IMPROVE OUR ENVIRONMENT, MANAGE OUR NATURAL RESOURCES AND PROTECT HUMAN HEALTH
		DSE - III ENVIRONMENTAL BIOLOGY	INFORMATION TO IMPROVE OUR ENVIRONMENT, MANAGE OUR NATURAL RESOURCES AND PROTECT HUMAN HEALTH
		DSE - IV ETHNOBOTANY AND MEDICINAL PLANTS	HELPS IN STUDY OF INTER RELATIONS BETWEEN HUMANS AND PLANTS. USED IN DRUG DEVELOPMENT

COURSES & SUBJECT	SEMESTER	PAPER	OUTCOMES
PG(M.Sc) BOTANY	I	F01 FOUNDATION COURSE	PROVIDES FOCUSED TRAINING IN THE KIND OF ACADEMIC SUBJECT CHOSEN.
		C02 MICROBIOLOGY, MYCOLOGY, PHYCOLOGY AND PLANT PATHOLOGY	PLAYS A CRUCIAL ROLE IN RECYCLING NUTRIENTS AND THE GLOBAL CARBON CYCLE. HELPS IN PREVENTING AND TREATING DISEASES AND, DEVELOPING NEW TECHNOLOGY
		C03 BRYOPHYTA, PTERIDOPHYTA, GYMNOSPERM AND ANGIOSPERM	IMPORTANT IN INITIATING SOIL FORMATION ON BARREN TERRAIN,HELPS IN SOIL BINDING UNDERSTANDING AND PREVENTION OF SOIL EROSION.
	II	S05(SKILL DEVELOPMENT) MUSHROOM CULTIVATION	PRACTICAL LEARNING AND SOLID KNOWLEDGE OF MUSHROOM CULTIVATION.
		C06 CELL BIOLOGY, MOLECULAR BIOLOGY AND GENETICS	UNDERSTANDING THE CELL, IT'S FUNCTIONS AND HOW COMPLEX MULTICELLULAR ORGANISMS FUNCTION. HELPS UNDERSTAND GENE DEVELOPMENT , STRUCTURE AND FUNCTION OF PLANTS AND ANIMALS.
		C07 ECOLOGY AND ENVIRONMENTAL BIOLOGY	INFORMATION TO IMPROVE OUR ENVIRONMENT, MANAGE OUR NATURAL RESOURCES AND PROTECT HUMAN HEALTH.HELPS UNDERSTANDING THE INTERDEPENDENCE BETWEEN HUMANS AND NATURE.

	III	A09(GENERIC /OPEN) BIODIVERSITY-MICROBES , ALGAE, FUNGI AND ARCHEGONIATE	HELPS ECOSYSTEM PRODUCTIVITY, SUPPORT LARGE NUMBER OF PLANT SPECIES, PROTECT AND PROMOTE VARIOUS RESOURCES. INFORMATION ABOUT VARIOUS PROCESSES LIKE NITROGEN FIXATION AND NUTRIENT CYCLE IN ECOSYSTEM
		C10 PLANT PHYSIOLOGY AND BIOCHEMISTRY	SERVES AS THE THE THEORETICAL BASIS FOR INCREASING THE TOTAL PRODUCTIVITY OF PLANTS AND IMPROVING THEIR QUALITY AND NUTRITIONAL VALUE
		C11 ANATOMY, EMBRYOLOGY AND GENETIC ENGINEERING	BETTER UNDERSTANDING OF DNA TO MANIPULATE GENES TO PRODUCE DESIRED TRAITS TO ADDRESS CURRENT PROBLEMS FACING HUMANITY
	IV	E13 MICROBIOLOGY AND PLANT PATHOLOGY	HELPS UNDERSTAND ADVANCED TECHNIQUES TO PROTECT CROPS FROM LOSSES DUE TO DISEASES. ADOPTED FOR SUCCESSFUL MANAGEMENT OF SOIL TREATMENT AND CROP ROTATION.
		E14 MICROBIOLOGY AND PLANT PATHOLOGY	HELPS UNDERSTAND ADVANCED TECHNIQUES TO PROTECT CROPS FROM LOSSES DUE TO DISEASES. ADOPTED FOR SUCCESSFUL MANAGEMENT OF SOIL TREATMENT AND CROP ROTATION.
		E15 MICROBIOLOGY AND PLANT PATHOLOGY PRACTICAL	HANDS-ON EXPERIENCE
		E16 MICROBIOLOGY AND PLANT PATHOLOGY DISSERTATION	LEARNING THE TOPIC BY DOING A MEGA PROJECT.

ZOOLOGY DEPARTMENT

DEOGHAR COLLEGE, DEOGHAR

COURSE AND SUBJECT	SEMESTER	PAPER		OUTCOMES
B.Sc ZOOLOGY (CORE)	UG SEM I	ZOO-101 C	NON CHORDATES	THIS PAPER GIVES PRELIMINARY KNOWLEDGE OF CLASSIFICATION OF NON CHORDATES UPTO PHYLUM ANNELIDA. STUDENTS LEARN IMPORTANT MEMBERS ALONG WITH IMPORTANT ADAPTATIONS.
		ZOO- 102 C	NON CHORDATES ANIMAL BEHAVIOUR	PHYLUMS UPTO HEMICHORDATA IS EXPLAINED. ALSO CONCEPT OF ANIMAL BEHAVIOUR IS TAUGHT.
			PRACTICAL	EXPERIMENTS RELEVANT TO THE TOPICS ARE TAUGHT.
	UG SEM II	ZOO-203 C	ANIMAL DIVERSITY -CHORDATES	THIS PAPER INCLUDES CASSIFICATION AND GENERAL CHARACTERS OF IMPORTANT VERTEBRATE PHYLUMS.
		ZOO-204 C	COMPARITIVE ANATOMY OF VERTEBRATES	COMPARISION OF INTEGUMENT, HEART AORTIC ARCHES, URINOGENITAL SYSTEM AND BRAIN IS EXPLAINED TO THE STUDENTS
			ECOLOGY AND ENVIRONMENTAL BIOLOGY	CONCEPT OF ECOLOGY, ENVIRONMENTAL BIOLOGY, ECOSYSTEM, BIOSPHERE, BIOGEOCHEMICAL CYCLE ETC IS EXPLAINED TO STUDENTS
			PRACTICAL	EXPERIMENTS RELEVANT TO THE TOPICS ARE TAUGHT.
	UG SEM III	ZOO-305 C	BIOSTATISTICS	BASIC TOOLS OF BIOSTATISTICS LIKE MEAN, MODE, MEDIAN, STANDARD DEVIATION, STANDARD ERROR AND TEST OF SIGNIFICANCE ARE TAUGHT.

		ZOO- 306 C	EVOLUTION	STUDENTS LEARN THE CONCEPT OF ORIGIN AND EVOLUTION OF WORLD. IMPORTANT THEORIES LIKE LAMARCKISM, DARWINISM, SYNTHETIC THEORY ETC.
		ZOO-307 C	BIOCHEMISTRY	IT INCLUDES IMPORTANT BIOMOLECULES LIKE CARBOHYDRATES, PROTEINS, LIPIDS, ENZYMES ETC.
			PRACTICAL	EXPERIMENTS RELEVANT TO THE TOPICS ARE TAUGHT.
	UG SEM IV	ZOO- 408 C	PALAEONTOLOGY	THE PAPER INTRODUCES STUDENTS TO THE GEOLOGICAL TIME SCALE, FOSSIL STUDY AND PHYLOGENY OF HORSE AND MAN.
		ZOO-409 C	GENETICS	CONCEPT OF MENDELISM, LINKAGE, CYTOPLASMIC INHERITANCE, MUTATION AND INTERACTION OF GENES IS GIVEN IN THE PAPER
		ZOO-410 C	MOLECULAR BIOLOGY	STUDENTS UNDERSTAND IMPORTANT TOPICS IN COMPLETE DETAILS LIKE DNA REPLICATION, TRANSCRIPTION, TRANSLATION, DNA DAMAGE AND REPAIR ETC.
			PRACTICAL	EXPERIMENTS RELEVANT TO THE TOPICS ARE TAUGHT.
	UG SEM V	ZOO-511 C	TOXICOLOGY, BIOTECHNOLOGY, ZOOGEOGRAPHY	THIS PAPER GIVES A CHANCE TO LEARN THE BASIC CONCEPTS OF TOXICOLOGY, VARIOUS TESTING METHODS, TOXINS AS PUBLIC HAZARDS. RDT AND TRANSGENIC ANIMALS IN BIOTECHNOLOGY. STUDY OF VARIOUS ZOOGEOGRAPHICAL REGIONS OF THE WORLD ALONG WITH THE FLORA AND FAUNA.
		ZOO-512 C	ENDOCRINOLOGY, REPRODUCTIVE BIOLOGY, CELL BIOLOGY	PAPER DEALS WITH DETAILED STUDY OF ANATOMY AND HISTOLOGY OF VARIOUS

				GLANDS. MECHANISM OF HORMONAL ACTION, INVERTEBRATE NEUROENDOCRINE SYSTEM ETC. CELL BIOLOGY INCLUDES CELL ORGANELLES, CELL DIVISION AND CHROMATIN FIBRES.
			PRACTICAL	EXPERIMENTS RELEVANT TO THE TOPICS ARE TAUGHT.
		DSE I	ECONOMIC ZOOLOGY	NEW TOPICS AS APICULTURE, SERI CULTURE, AQUA CULTURE, DAIRY, POULTRY FARMING ARE GIVEN IN DETAILS EXPLAINING HISTORY, REARING, DISEASES AND ECONOMIC VALUE OF THE PRODUCTS.
		DSE II	BIOSTATISTICS	STUDENTS LEARN IMPORTANCE OF BIOSTATISTICS FOR RESEARCH, DATA COLLECTION, PRESENTATION AND DATA ANALYSIS
			PRACTICAL	EXPERIMENTS RELEVANT TO THE TOPICS ARE TAUGHT.
	UG SEM VI	ZOO- 613 C	APPLIED AND ECONOMIC ZOOLOGY, IMMUNOLOGY	APICULTURE, SERI CULTURE, AQUA CULTURE ETC. ALONG WITH THE BASIC CONCEPTS OF IMMUNOLOGY AND TECHNIQUES USED IN IMMUNOLOGY ARE GIVEN.
		ZOO- 614 C	MAMMALIAN PHYSIOLOGY AND DEVELOPMENTAL BIOLOGY	PAPER INTRODUCES DIGESTIVE SYSTEM, RESPIRATORY SYSTEM, URINE FORMATION, NEURONS AND STAGES OF DEVLOPMENT DURING EMBRYO FORMATION.
			PRACTICAL	EXPERIMENTS RELEVANT TO THE TOPICS ARE TAUGHT.
		DSE III	WILD LIFE CONSERVATION AND MANAGEMENT	THIS PAPER INTRODUCES VARIOUS TOPICS LIKE VALUE OR IMPORTANCE OF WILD LIFE, HABITAT ANALYSIS, PROTECTED AREAS ETC.
		DSE IV	AGROCHEMICAL AND PEST MANAGEMENT	THIS PAPER INTRODUCES VARIOUS

				TOPICS LIKE FUNDAMENTALS OF PEST MANAGEMENT, PRACTICAL METHODS OF PEST MANAGEMENT AND STUDY OF VARIOUS PESTS.
			PRACTICAL	EXPERIMENTS RELEVANT TO THE TOPICS ARE TAUGHT.
M.Sc ZOOLOGY	PG SEM I	PAPER I (Z-C1)	FOUNDATION OF ZOOLOGY	SYSTEMATICS AND TAXONOMY, TAXONOMIC PRODURES, TYPES, CONCEPTS AND ICZN IS TAUGHT. VARIOUS TECHNIQUES ARE INTRODUCED TO THE STUDENTS LIKE MICROSCOPY, PCR, RIA, ELISA, CHROMATOGRAPHY, CENTRIFUGATION, ELECTROPHORESIS ETC.
		PAPER II (Z-C2)	STRUCTURE AND FUNCTION OF INVERTEBRATES COMPARITIVE STUDY OF CHORDATES	LOCOMOTION, NUTRITION AND DIGESTION, RESPIRATION, EXCRETION, NERVOUS SYSTEM AND INVERTEBRATE LARVE IS EXPLAINED. COMPARITIVE STUDY OF HEART, RESPIRATORY ORGANS, URINOGENITAL SYSTEM AND BRAIN IS ELABORATED.
		PAPER III (Z-C3)	CANCER AND REPRODUCTIVE BIOLOGY	ALL ABOUT CANCER, CAUSES, ONCOGENES AND TREATMENT IS TAUGHT. REPRODUCTIVE BIOLOGY INCLUDES ANATOMY AND HISTOPHYSIOLOGY OF REPRODUCTIVE ORGANS, HORMONES, PREGNANCY, PHYSIOLOGY OF LACTATION AND CONTROL OF FERTILITY.
		PAPER IV (Z-C4)	PRACTICAL	EXPERIMENTS RELEVANT TO THE TOPICS ARE TAUGHT.
	PG SEM II	PAPER V (Z-C5)	BASICS OF COMPUTER, INTERNET AND BIOSTATISTICS	BASICS REGARDING COMPUTERS LIKE HARDWARE, SOFTWARES, MS OFFICE, HOME PAGES, URL ETC. IS EXPLAINED. BIOSTATISTICS INCLUDES CALCULATION OF MEAN, SD, SE, TEST OF SIGNIFICANCE,

				CORRELATION AND REGRESSION ANALYSIS ETC.
		PAPER VI (Z-C6)	IMMUNOLOGY, BIOINFORMATICS AND HISTOCHEMISTRY	ALL THE IMPORTANT CONCEPTS OF IMMUNOLOGY, VARIOUS HISTOCHEMICAL TESTS AND THE BASICS OF BIOINFORMATICS IS TAUGHT TO THE STUDENTS.
		PAPER VII (Z-C7)	GENERAL AND COMPARITIVE ENDOCRINOLOGY, CELL BIOLOGY AND BIOCHEMISTRY	
		PAPER VIII (Z-C8)	PRACTICAL	EXPERIMENTS RELEVANT TO THE TOPICS ARE TAUGHT.
	PG SEM III	PAPER IX	O/E MEDICAL LABORATORY TECHNIQUES	IMPORTANT LABORATORY TECHNIQUES AS SERUM ANALYSIS, ELISA, X-RAY, PET, MRI, SMEAR PREPERATION ETC IS TAUGHT.
		PAPER X (Z-C10)	GENETICS AND MOLECULAR BIOLOGY, BIOTECHNOLOGY, POPULATION BIOLOGY	THIS PAPER GIVES DETAILED KNOWLEDGE OF DNA TYPES, REPLICATION, REC a PROTEIN REPAIR, TRANSCRIPTION, TRANSLATION, GENE EXPRESSION AND REGULATION. INTRODUCES BASICS OF BIOTECHNOLOGY, RDT AND GENE CLONING, TRANSGENIC ANIMALS. POPULATION BIOLOGY, POPULATION GENETICS ETC.
		PAPER XI (Z-C11)	PHYSIOLOGY AND DEVELOPMENTAL BIOLOGY	OVERVIEW OF DIGESTION, EXCRETION, NERVOUS SYSTEM IS GIVEN IN ANIMAL PHYSIOLOGY. DEVELOPMENTAL BIOLOGY INCLUDES FERTILISATION AND POST FERTILIZATION EVENTS, STEM CELLS, AGEING ETC.
		PAPERXII (Z-C12)	PRACTICAL	EXPERIMENTS RELEVANT TO THE TOPICS ARE TAUGHT.

	PG SEM IV	PAPER XIII (Z-C13)	ENVIRONMENTAL BIOLOGY AND PHYSIOLOGICAL ECOLOGY	CONCEPT OF PRODUCTIVITY, PLANKTON COMMUNITY STRUCTURE, PREDATION MODELS AND IMPORTANT CONCEPTS OF ENVIRONMENTAL BIOLOGY IS GIVEN.
		PAPER XIV (Z-C14)	ELECTIVE	GIVES DETAILED KNOWLEDGE ABOUT LIMNOLOGY, DISASTER MANAGEMENT, CIMATE CHANGE, ENVIRONMENTAL LAWS, INTERNATIONAL CONFERENCES ON ENVIRONMENT ETC.
		PAPER XV (Z-C15)	PRACTICAL	EXPERIMENTS RELEVANT TO THE TOPICS ARE TAUGHT.
		PAPER XVI (Z-C16)	DISSERTATION	STUDENTS DO RESEARCH WORK WHICH HELP THEM THINK BEYOND THE TEXT BOOKS AND SYLLABUS

DEOGHAR COLLEGE, DEOGHAR

COURSE & SUBJECT	Sem	Paper	Outcomes
UG PHYSICS (Hons)	I	**PHY-CC-1.T** Mathematical Physics-I	**Vector Calculus** explains how mathematics can be extended to fields of continuous distribution and learning **differential equations** will help in modelling & solving real life physical problems like- Oscillations, Schrodinger equations in quantum mechanics, Electrodynamics and other fields of theoretical Physics.
		PHY-CC-2.T Mechanics	• Understanding the materials elastic properties by modelling the situation using first principle and translating the modelled equation using mathematical techniques to interpret the outcomes • Introducing the mu-meson phenomena to highlight that space and time are not absolute. • Deriving the Lorentz transformations from scratch using Ansatz and postulates of STR.
	II	**PHY-CC-3.T** Electricity & Magnetism	Understanding the electric and magnetic properties of a materials and introducing the technical terms like Displacement Vector, Magnetic field Intensity, etc. to formalise the study. Introducing Applications: Circuits, Galvanometer, etc.
		PHY-CC-4.T Optics	Introducing the essence of optics by going from the optical description given by Newton to Huygens-Fresnel. Introducing wave optics as a limitation of geometrical optics and description of phenomena like Interference, Diffraction, etc.
	III	**PHY-CC-5.T** Mathematical Physics-II & Thermal Physics	Introducing fourier series as an alternative description of periodic functions and its application in the analysis of square wave, sawtooth wave and Triangular wave. Introducing kinetic theory of gases, maxwell-boltzmann velocity distribution, ideal gases, thermal conductivity to understand the thermal properties of matter.
		PHY-CC-6.T Physics Of Thermodynamics	Introducing the different laws of thermodynamics and technical terms like entropy, temperature, work done, internal energy, Gibbs free energy, thermodynamical potentials, etc.
		PHY-CC-7.T Analog Systems & Applications	Understand the current voltage characteristic of semiconductor devices and also analyze dc circuits and related models of semiconductor devices with their physical operations. Sketch, explain and design amplifier circuits for given specifications and analyze them.

UG PHYSICS (Hons)	IV	**PHY-CC-8.T** Mathematical Physic-III	This course will introduce the following: • Complex analysis • Different mathematical transforms
		PHY-CC-9.T Quantum Mechanics	This course will introduce the following: • Basic principles in quantum mechanics • Operator formalism in quantum mechanics • Spin and Angular momentum description.
		PHY-CC-10.T Digital Systems & Applications	Have a thorough understanding of the fundamental concepts and techniques used in digital electronics. To understand and examine the structure of various number systems and its applications in digital design.
	V	**PHY-CC-11.T** Atomic, Molecular, Laser & Nuclear Physics	This course will introduce the following: • Behaviour of atoms in electric and magnetic fields • Applying Quantum mechanics in many electron atoms • Study the general properties of nuclei • Discussions on various nuclear models • Basic understanding of lasers and radioactivity. The concept developed in these fields helped to realise many devices for medical and other research areas.
		PHY-CC-12.T Solid State Physics	To understand the basic problems of crystal structures and elementary lattice dynamics, magnetic properties of matter, etc.
		PHY-DSC-1.T Physics Of Device & Instrument	Analyze the performance characteristics of each instrument,design and analyze the basic operation of MOSFET ,BJT etc. Know about the multistage amplifier using BJT and FET in various configuration to Understand unifield overview of the broad field of data and computer communication , and different types of modulation and demodulation techniques for signal transmission.
		PHY-DSC-2.T Advanced Mathematical Physics	To understand the basic mathematical problem of algebra and transformation . Analyse the solution set of system of linear equations express some algebraic concepts(such as binary operations ,group ,field) do elementary matrix operation etc
	VI	**PHY-CC-13.T** Electromagnetic theory	This course introduces the following: • Maxwell's equations and its applications for the electromagnetic waves propagating in the bound media. • Understand the polarization of electromagnetic waves and introduction of polarizers.
		PHY-CC-14.T Statistical Mechanics	This course introduces the following: • Contrast between classical statistics and quantum statistics • Introduction of Maxwell-Boltzmann, Bose-Einstein and Fermi-Dirac statistics.
		PHY-DSC-3.T Classical Dynamics	This course introduces the following: • Study of classical mechanics of point particles by Lagrangian and Hamiltonian approach. • Entering the depth of special theory of relativity and

			introducing the Four-vectors
		PHY-DSC-4.T Nuclear & Particle Physics	To study the general property of nuclei like intrinsic & extrinsic properties, variation of mass number and magnetic moment, electric moment, etc.
PG PHYSICS (Hons)	I	**PHY-101** Mathematical, Computational Method & GTR Astrophysics	This course introduces the following: • Special functions, different polynomials like Legendre, etc. • Introducing GTR as a generalization of STR • Elements of computational techniques.
		PHY C-102 Quantum Mechanics-I & Classical Mechanics	This course introduces the following: • Harmonic oscillator, schrodinger equations and operators. • Angular momentum and its relation like commutation relation, etc. • Introducing classical mechanics through lagrangian and hamiltonian formalism and discussion on generating function, etc.
		PHY C-103 Electrodynamics & Plasma Physics	This course introduces the following: • Electromagnetic vector, scalar potential and wave equation. • Relativistic dynamics: Four vectors, current density and EM potentials. • Plasma characteristics, fundamental equations of MHD, waves in cold plasma, etc.
	II	**PHY S-105** Skill Development Course: Electronic appliances	This course introduces the application of the following: • Passive devices, Diodes and rectifier • Transmitters, antenna, etc
		PHY C-106 Quantum Mechanics-II & Nano-Physics	This course introduces the following: • Approximation methods in QM, Theory of scattering • Relativistic QM • Properties of individual nano-particles and carbon nanostructures.
		PHY C-107 Atomic, Molecular & Laser Physics	This course introduces the following: • Basic principles of x-ray, x-ray emissions. rotational and vibational spectra • Stern-Gerlach expt. and Molecular spectra • Requisites for producing LASER.

	III	**PHY A-109** OE-Basic Applied Physics	This course introduces the following: • Basic electronics like FET, BJT, LED, etc with their applications. • Laser Physics, Nano-Physics and Solid state physics.
		PHY A-10 Solid State Physics & Statistical Mechanics	This course introduces the following: • Superconductivity, dielectrics and ferroelectrics. • Lattice vibrations and thermal properties of solids • Landau theory of phase transitions, etc.

PG PHYSICS (Hons)			• Fundamentals of quantum statistics, statistical mechanics of interacting systems.
		PHY C-11 Nuclear & Particle Physics & Electronics-general	This course introduces the following: • Nuclear interactions, Nuclear reactions, nuclear models and nuclear decay. • Elementary particle physics and digital systems, etc.
	IV	**PHY E-13** Electronics Special-I	This course introduces the following: • Operational Amplifiers, Oscillators, communication electronics and memory devices like ROM, RAM etc. • Microwave devices and velocity modulation techniques
		PHY E-14 Electronic Special-II	This course introduces the following: • Radar system, satellite communications, microprocesses and its architectures. • Timing diagrams, waveguide and microwave communications, etc.
		PHY E-13 CMP Special-I	This course introduces the following: • Introduction of interactions of solids with EM fields, Dielectrics, Plasmons, Polarons and microscopic dielectrics. • Magnetic properties of solids.
		PHY E-14 CMP Special-II	This course introduces the following: • Electronic properties of solids, crystal imperfections, Super conductivity and manifestations of energy gaps. • Cuprate semiconductors and their theories; Principle of high speed trains, superconducting magnets, etc.
		PHY C/P-04 **PHY C/P-08** **PHY C/P-12** **PHY C/P-16** (Practical Physics)	Experiments performed by the students related to theory papers. Dissertation work under the guidance of teachers regarding the special papers of M.Sc.

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
CBCS UG Chemistry	I II III IV V VI	I, II III, IV V, VI, VII VIII, XI, X XI, XII XIII, XIV	Basic Knowledge of Atomic structure, Chemical Bonding and ionic Equilibria Basic Knowledge of hydrocarbons and thermodynamics. Basic idea of Acid-Base, s, & Block element, Noble gases, Alkyl Halide, Alcohol Phenol, Carbonyl Compounds, Phase equilibria, Kinetics and Surface Chemistry Basic idea of Coordination Chemistry, Heterocyclic Compounds and Electrochemistry Basic idea of Nucleic Acid, Amino Acid, Enzymes and pharmaceutical Compounds. idea of quantum Chemistry and Spectroscopy. Brief idea of qualitative Analysis, inorganic polymers, Bioinorganic Chemistry idea of organic Spectroscopy, Carbohydrates and Dyes,
CBCS PG Chemistry	I II III IV V VI	I II III V VI	idea of Stereochemistry, Nuclear Chemistry, Nature of Bonding in organic molecules idea of Reaction Mechanism of transition metal Complexes, Metal π Complexes idea of Reaction Mechanism, Structural reativity. Aliphatic and Electronic Spectra. Free Radical reaction. Nucleophilic Substitution. Introduction of Computer and Computing; Programming in chemistry, use of Computer Programs Metal ions in Biological or system, Bioenergetics and ATP cycle Transport and Storage of Dioxygen.
		VI VII	Photo inorganic Chemistry. Acids, Bases, Electrophiles, Nucleophiles and Catalysis, Steric and Conformational Properties Supramolecular Chemistry. Quantum Chemistry, Classical thermodynamics, Chemical Dynamics. physical Chemistry (Spectroscopy and solid State)

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
CBCS PG	III	IX	Basics of Chemistry for other Disciplines (Atomic Structure, Chemical Bonding, organic Chemistry, Polymers.
		X	organic Chemistry mainly organic Spectroscopy.
		XI	Environmental Chemistry. or Inorganic Chemistry (Alkyls and Aryls of transition metals, metals in medicine, Homogeneous Catalysis, - functional organometallic compounds.
			or organic Chemistry (Terpenoids and Carotenoids, Alkaloid, Heterocyclic Systems. Kinetic isotope effect or Physical Chemistry (-Diffraction of X-rays by crystal, metallic bonds, Polymers, Study of Fast reactions
	IV	XIII	Analytical Chemistry (Errors and evaluation, Food Analysis, Analysis of Water pollution and Analysis of Soil, fuel, and drugs
		XIV	Inorganic (metal Storage transport and Biomineralization, Gallium in Biological System, Metallo enzyme, Supramolecular Chemistry. or Organic Chemistry (Steroids, vitamin, six and seven membered Heterocyclic compound

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Cource & SUBJECT	Semester	Paper	Outcomes
PG	IV	XIV	Concepts in molecular orbital (MO) and Valence Bond (VB) theory or Physical elective (Super Conductivity, Specific heat of Solids, Polymer liquid crystal, Surface Chemistry, Kinetics of Gas-phase Reaction.

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Cource & SUBJECT	Semester	Paper	Outcomes
CBCS UG	I	GE I (Generic Elective)	Atomic Structure, and Chemical Bonding.
	II	GE II	Chemical Energetics Equilibria and Functional organic Chemistry-I
	III	GE III	Solutions, Phase Equilibrium, Conductance, electrochemistry and Functional group organic Chemistry – II
	IV	GE IV	Chemistry of S- and P- Block elements, States of matter & Chemical kinetics.
	V	DSE-I Discipline Specific Elective Course	Application of Computers in Chemistry.
		DSE-II →	Analytical methods in Chemistry.
	VI	DSE-III	Green Chemistry.
		DSE-IV	Industrial Chemicals and Environment.
	III	SEC-I Skill Enhancement Course.	EPH (Environmental & Public health)
	IV	Sec-II	Mathematical Ability.

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Cource & SUBJECT	Semester	Paper	Outcomes
U.G.(Core) Mathematics	I	1st (C-1)	Set Theory:- • Learn how to write mathematics precise and accurate. • Determine equivalence relations on sets and equivalence classes. • Work with functions and in particular bijections, direct and inverse images and inverse functions
			Abstract Algebra:- • Demonstrate understanding of and the ability to verify relationships between operations satisfying various properties (e.g. commutative property) • Demonstrate understanding of and the ability to work within various algebraic structures • Asses properties implied by the definition of Groups and Rings.
			• Acquise the basic knowledge and the structure of Group, Subgroup and Cyclic group • Analyze and demonstrate examples of subgroups. • Familerize with Rings, Integral domain and Field.

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
U.G (Core) Mathematics	I	II (C-2)	Trigonometry :- • Familiarized with real and imaginary of a complex number. • Distinguish between various methods of separating complex numbers in various forms into real and imaginary parts. • Acquire the basic knowledge of circular and hyperbolic function of a complex variable • Develop skill in summing up infinite trigonometric
			series using the most appropriate method - • Apply the knowledge of techniques involved in the summation of different kind of infinite trigonometric series • Appreciate the beauty of C+iS method Linear Algebra :- • Acquire knowledge of invertible matrices, Orthogonal matrix and their properties
			• Understand various methods for determining rank of a matrix • Distinguish between consistence and inconsistence system of equation • Solve system of linear equations using inverse of a matrix • Compute and use eigenvalues and eigenvectors.

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
U.G. (Core) Mathematics	II	III (C-3)	Differential Calculus:- • Find nth derivatives of functions • Understand Leibnitz theorem and apply for finding nth derivative of product of two functions • Introduce the concept of a dependent variable depending on more than two variables and finding
			partial derivatives. • Acquire knowledge how to find tangent, normal and curvature to the curve at a point. Two dimensional geometry:- • Understand how to analyze and synthesize given data to solve problems in geometry. • Understand the basic ideas of conics.
			• Explain the ideas of conics and their various application • Find the equation to tangent, normal at a point on a conic • Apply the properties of conics to solve problems in real life situation • Find the polar equation of a line, circle, tangent and normal to the conics.

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Cource & SUBJECT	Semester	Paper	Outcomes
U.G.(Core) Mathematics	II	IV (C-4)	Integral Calculus:- • Find the indefinite form of the anti-derivative of a function • Find distinct anti-derivative of a function • Understand the area bounded by a function may be calculated using $\lim_{n\to\infty}\sum_{i=1}^{n} f(x_i)\Delta x$ • Understand the meaning of $\int_a^b f(x)\,dx$
			• Bove reduction formula and solve some problem. • Use anti-differentiation to derive an area function • Calculate the area under a function between two extremes. Three dimensional geometry:- • Acquire knowledge how to analyze and synthesize given data to solve problems in three dimensional geometry • Understand the basic concepts of direction cosines and
			direction ratio of a line. • Understand and applies the use of direction cosines to find the shortest distance between two skew lines. • Acquire knowledge under which geometrical conditions a plane is uniquely determined. • Recall the basic definition and concepts of planes and lines.

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
U.G (Core) Mathematics	III	V (C-5)	Real Analysis:- • Gain knowledge of evalnation of limits • Explain continuity and discontinuity of various functions in different contexts • Understand the meaning of derivatives of a function and theorems associated with differentiability. • Acquire skill in applying the various techniques of differentiation and application
	"	VI (C-6)	• Expand functions using Taylor's series. Infinite Series:- • Determine if an infinite sequence is convergent or divergent • Find the sequence of partial sums of an infinite series • Determine if a geometric series is convergent or divergent • Find the sum of convergent geometric series
			• Determine if an infinite series is convergent or divergent by selecting the appropriate test from the following ⓐ test for divergence ⓑ p-series test ⓒ the comparison test ⓓ alternating series test ⓔ absolute convergence test ⓕ ratio test ⓖ root test. • Determine if an infinite series converges absolutely or conditionally.

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
U.G.(Cose) Mathematics	III	VII (C-7)	Ordinary Differential Equation:- • Acquise basic knowledge of ordinary differential equation • Solve differential equation of first order using the standard technique for separable, exact, linear, homogeneous and Bernoulli's cases. • Identify and obtain the solution of differential equation solvable for x, y, p and Clairaut's equation
"	IV	VIII (C-8)	Vector Analysis:- • Get knowledge of scalar and vector product of three and four vectors • Understand differentiation of vector, gradient, divergence curl and vector identities • Explain the physical meaning and properties of curl, gradient and divergence.
"	"	IX (C-9)	Partial Differential Equation:- • Apply a range of techniques to solve first and second order partial differential equation • Learn about solution of first order linear partial differential equation using Lagrange's and Charpit's method.

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Cource & SUBJECT	Semester	Paper	Outcomes
U.G.(Cose) Mathematics	IV	IX (C-9)	• Know how to solve second order linear partial differential equation with constant coefficient • Classify second order partial differential equation and solve standard partial differential equation using separation of variable method • Solve second order partial differential equation by Monge's method
"	"	X (C-10)	Statics :- • Understand necessary conditions for the equilibrium of particles acted upon various forces and learn the principle of virtual work for a system of coplanar forces acting on a rigid body • Descuss the equilibrium of a uniform cable hanging freely under its own weight
"	"	"	Dynamics :- • Learn S.H.M. and its properties. • Deal with the kinematics and kinetics of the rectilinear and plane motion of a particle including the constrained oscillatory motion of the particle • Learn that a particle moving under a central force describe a plane curve and know the Kepler's laws of planetary motion which were deduced by him long before the mathematical theory given by Newton.

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
U.G. (Core) Mathematics	V	XI (C-11)	Real Analysis :- • Learn Repeated and simultaneous limits of a real valued function of two variables and solve related problems. • Gain knowledge about continuity, Partial derivation and differentiability of a real valued function of two variables and use it to solve related problems.
			• To study Schwartz and Young's theorem for a real valued function of two variables and related problem. • To learn Riemann integral and its properties in details leading to fundamental theorem of calculus and Mean Value theorem • To study different tests for solving improper integrals of first and second kind
"	"	XII (C-12)	Complex Analysis :- • Represent complex numbers algebraically and geometrically • Define and analyze limits and continuity for complex functions as well as consequence of continuity. • Apply the concept and consequences analytically and the Cauchy-Riemann equations and of results on harmonic and entire functions including the fundamental theorem of algebra.

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Cource & SUBJECT	Semester	Paper	Outcomes
U.G. (Cose) Mathematics	V	XII (C-12)	Optimization • Formulate and model a linear programming problem from a word problem and solve them graphically in two dimensions while employing some convex analysis • Gain knowledge of convex sets and its properties • Understand the theory of simplex method and use it to solve the problem of more than two variables.
"	"	XIII (D.S.E-1)	Metric Space and Topological Space:- • Define metric space and topological space. • Understand the basic concepts of open sets, closed sets, nbhds, closure, interior in a metric space and topological space both and its properties • Understand the various properties of metric space
			and topological space. • Become familiar with convergence in metric space and theorem on convergence • Explore various properties of complete metric space and relate them with convergence of sequences.

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
U.G.(Core) Mathematics	V	XIII (D.S.E-1)	• Define continuous function, compactness, connectedness and related theorem in topological space. • Understand and applies the knowledge of metric space in various contexts. • Define and illustrate the concepts of Separation axioms. • Learn hereditary and topological properties and acquire knowledge T_0, T_1, T_2 having hereditary and topological properties both.
"	"	XIV (D.S.E-2)	Mechanics:- • Acquire knowledge of equilibrium of coplanar forces, central axis, null lines and planes. • Acquire knowledge of Stable and unstable equilibrium • Understand Elastic string and Hook's law
			• Know the Kepler's law of planetary motion which were deduce by him long before the mathematical theory given by the Newton • Understand law of motion and Simple Pendulum • Understand motion of particle under inverse square law.

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
U. G. (Core) Mathematics	VI	XV (C-13)	Abstract Algebra:- • Explain the significance of the notion of normal subgroup • Prove Lagrange's theorem and understand its application • Analyze and demonstrate examples of normal subgroups and quotient groups • Develop an idea about homomorphism, isomorphism and automorphism
			• Understand centre of a group, conjugacy relation and normalizer. • Apply class equation to solve different problems. Ring Theory:- • To study the algebraic structure Ring in details through examples • Describe the characteristic of a ring, quotient ring and ideals • Differentiate between ring ideals and quotient rings and also their properties
			• To study prime and maximal ideal with their properties • Learn the construction of field of quotients of an integral domain • Study the ring of polynomials and its factorisation over a field • Acquire knowledge of Unique Factorisation domain, Euclidean ring and related results.

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
U.G (Core) Mathematics	VI	XVI (C-14)	Vector Space:- • Understand the concepts of vector spaces, subspaces bases, dimension and their properties in details. Numerical Analysis:- • Obtain numerical solutions of algebraic and transcendental equation • Understand Bisection, Regula-falsi and Newton Raphson method and apply it to find numerical solution of system of linear equation and check the accuracy of the solution • Solve initial and boundary value problem in differential equation using numerical methods. • Apply various numerical methods in real life problem.
"	"	XVII (D-S-E-3)	Theory of Equation:- • Recall the fundamentals of algebraic equation • Apply fundamental theorem of algebra in framing and solving equations • Describe the relation between roots and coefficient • Transform the equation through roots multiplied by a given number, increase roots, decrease roots & removal of terms.

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
U.G (Core) Mathematics	VI	XVII (D.S.E-3)	• Solve reciprocal equations • Acquise the knowledge of Cardon's, Newton's and Horner's method • Choose appropriate method for transformation and solution of equation.
"	"	XVIII (D.S.E-4)	Spherical Trigonometry and Spherical Astronomy :- • Define spherical triangle. • Learn oblique and right angle • Manipulate trigonometric identities • Perform calculation to solve spherical triangle using Napier's rule • Acquise knowledge of diffesent co-ordinate system in celestial sphere and convert one system to another
			• Understand the phenomena rising and setting of stars • Know under which condition twilight last whole night. • Understand refraction and derive Simpson's, Bradley's and Cassini's formula and solve related problem. • Acquise knowledge of Kepler's law of planetary motion and derive Energy integral and Laplace integral

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
P. G. Mathematics	I	01(FCMATH)	Foundation Course in Modern Algebra:- • Assess properties implied by the definition of groups and rings. • Use various cannonical types of groups (including cyclic groups and group of permutations) and cannonical types of rings (including polynomial rings and modular rings) • Explain the significance of the notion of a normal subgroup and simple group and related results • Acequire the concept of solvable group and commutator subgroup of a group and associated properties • Prove Cayley's theorem and understand its application • Understand homomorphism, isomorphism and their properties • Recognize the use of Cauchy's and Sylow's theorem. • Differentiate ring, ideals, quotient ring and related result in details. • Familarize with the concepts prime and maximal ideal and their properties. • Study Unique Factorisation domain, principal ideal domain, Euclidean domain and related results • Understand the concepts of Fields, Finite fields, field extension Galois theory and related results. • Understand the concept of vector space, subspace, bases, dimension and their properties in details.

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
P.G. Mathematics	I	01 (PGMath)	• Use the definition and properties of linear transformation and matrices of linear transformation and change of basis • Familarise with the concepts of canonical form, diagonal form, triangular form and Jordan form and its properties • Acquire the notion of modules, submodules, Quotient module, direct sum of submodules, homomorphism of modules, cyclic modules and related properties in details.
		02 (CC MATH)	Real Analysis:- • Explain continuity and discontinuity of various functions in different contexts • Differentiate Uniform continuity and continuity and understand related problem. • Understand the meaning of derivative of a function • Acquire skill in applying the various techniques
			of differentiation and application • Understand Mean Value theorem, Heine Borel theorem and Bolzano Weierstrass theorem in the context of real analysis • Understand partition and their refinement • Understand Integrability and theorems on integrability.

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
P. G. Mathematics	I	02(CC MATH)	• Acquise the idea about Riemann integrability and Riemann integration and understand various theorem associated with Riemann integration • Develop a knowledge about Riemann integration and applies into problems • Determine Riemann integrability and Riemann-Stieltjes integrability of a bounded function and prove a selection of theorem concerning integration.
			• Explain convergence of a series • Develop skill in checking the uniform convergence of series using various test of convergence • Distinguish between pointwise convergence and uniform convergence • Illustrate the effect of uniform convergence on the
			limit function with respect to continuity, differentiability and integrability. • Determine the limit point of series of functions • Learn repeated limits, simultaneous limits, continuity, partial derivatives and differentiability of real valued function of several variables and solve related problems. • Learn different tests for solving improper integrals.

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
P. G. Mathematics	I	03(CCMATH)	Complex Analysis:- • Represent complex numbers algebraically and geometrically. • Define and analyze limits and continuity for complex functions as well as consequences of continuity • Apply the concept and consequences of analytically and the Cauchy-Riemann equations and of results
			on harmonic and entire functions including the fundamental theorem of algebra. • Analyze sequences and series of analytic function and types of convergence • Evaluate complex contour integrals directly and by the fundamental theorem apply the Cauchy integral
			theorem in its various versions and the Cauchy integral formula. • Represent functions as Taylor, Power and Laurent series, classify singularities and poles, find residues and evaluate complex integrals using the residue theorem.

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
P.G. Mathematics	I	04(CC MATH)	Metric and Topology:- • Define Metric space and Topological space • Understand the basic concepts of open sets, closed sets, neighbourhoods, closure, interior in a metric space and topological space both and its properties in details • Understand the various properties of metric space and topological space.
			• Become familiar with convergence in metric space and theorem related to convergence • Explore various properties of complete metric space and relate them with convergence of sequence. • Define continuous function, compactness, connectedness and related theorem in topological space.
			• Define and illustrate the concepts of separation axioms. • Understand hereditary and topological properties • Acquire knowledge about T_0, T_1, T_2, T_3, T_4 spaces and their properties. • Understand and applies the knowledge of metric and topological spaces in various context.

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
P.G. Mathematics	II	05(ECMATH)	Computer C++ and MAT LAB :— • Learn the fundamentals of object oriented programming using C++ programming language. • Learn how object oriented programming concepts like data abstraction, information, hiding and code reusability are manged efficiency with C++.
			• Evaluate and apply the concepts of inheritance and polymorphism among clases. • Explain the benifits of object oriented design and the types of the systems in which an appropriate methodology. • Able to use Matlab for interactive computation • Familier with memory and file management in Matlab
			• Able to generate plots and export this for use in reports and presentation. • Able to program scripts and functions using the Matlab development environment • Able to use basic controls (if-else, for, while) • Familier with strings and matrices and their use

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
P.G. Mathematics	II	06(CCMATH)	ODE, PDE and Integral Equation :- • Demonstrate a working knowledge of ordinary differential equation and partial differential equation • Knowledge of existence and uniqueness of solution of initial value problem for first order ordinary differential equation and use it to solve system of ordinary differential equation
			• Solve the first-order linear and non-linear partial differential equations by using Lagrange's and Charpit's method • Classify second order partial differential equation and solve standard partial differential equation using separation of variable method • Use of partial differential equation in solving
			Laplace, Heat and wave equation • Use different technique to solve partial differential equation • Find solutions of linear integral equations of first and second type (Volterra and Fredholm) • Understand the characteristic number and eigenfunction.

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
P.G. Mathematics	II	07(CCMATH)	Analytical Dynamics and Calculus of variation :- • Understand Generalised co-ordinates, Holonomic and Non-holonomic system, Scleronomic and Rheonomic systems and use it to related results. • Study Lagrange's equation of first and second kind and its application. • Apply the concept of system of particles in finding moment inertia directions of principal axes and consequently Euler's dynamical equations for studing rigid body motion. • Knowledge of Lagrange's brackets and Poisson bracket and their invariance and associated problems. • Represent the equation of motion for mechanical system using Lagrange's and Hamiltonian formulation of classical mechanics • Obtain canonical equation using different combination of generating function and subsequently developing Hamilton-Jacobi method to solve equation of motion. • Under theory of Calculus of variation to solve initial and boundary value problem.

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
P.G. Mathematics	II	08(CCMATH)	Numerical Analysis and Theory of numbers :- • Desive numerical methods for approximating the solution of continuous mathematics • Analyze the error incumbent in any such numerical approximation • Implement a variety of numerical algorithms using appropriate technology.
			• Compare the viability of different approaches to the numerical solution of problems arising in root of solution of non-linear equation, interpolation and approximation, numerical differentiation and integration, solution of linear system. • Introduce the concepts of congruence and primitive root in number theory.
			• Learn about some important results in the theory of numbers including the prime number theorem, Chinese remainder theorem, Wilson's theorem and their consequences. • Familirize with modular arithmetic and find primitive roots of prime and composite numbers.

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
P.G. Mathematics	III	09(Open elective)	Tensor Calculus and Integral Transform:- • Explain the concepts of tensors • Understand roles of tensors in differential geometry • Understand different types of tensors and its application in details • Understand Riemanian metric, Fundamental tensor, Associate tensor, Geodesic and differential equation of geodesic
			• Know the principle of Laplace Transform and its properties • Apply Laplace transform to solve differential equation • Know the principle of Fourier Transform and its properties • Apply Fourier transform to solve physical problems and Evaluation of integrals.
"	III	10(CCMATH)	Measure theory and Functional Analysis:- • Computation of Lebesgue measure • Establishing measurability and non-measurability of sets and functions • Approximating measurable functions by simple and step function • Computation of Lebesgue integrals and important theorem of convergence.

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Cource & SUBJECT	Semester	Paper	Outcomes
P.G. Mathematics	III	10(CCMATH)	• Using topology to work with infinite dimensional vector spaces. • Using careful analysis to show certain spaces of functions are complete • Comparing the differences between Banach and Hilbert spaces and their properties in details.
"	"	11(ECMATH)	Advanced Discrete Mathematics :- • Evaluate basic logic statements including compound statements implication, inverses, converses and contra positive using truth table and the properties of logic. • Appreciate the basic principles of lattices and its properties. • Simplify expression using the properties of Boolean algebra; basic principles of Boolean algebra.
			• Learn core ideas of graph definition and graph operation in graph theory • Study the theorems on Eulerian and Hamiltonian graphs. • Understand the concept of Trees and graph, its representation and operation.

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
P.G. Mathematics	III	12(ECMATH)	Fluid Dynamics :— • Understand the basic principles of fluid mechanics such as Lagrangian and Eulerian approach, conversion of mass etc. • Study the kinematics and kinetics of fluid motion to understand the equation of continuity in cartesian, cylindrical polar and spherical polar coordinates which are used to derive Euler's equation and Bernoulli's equation.
			• Use Euler and Bernoulli's equation and the conservation of mass to determine velocity and acceleration for incompressible and invicid fluids. • Understand the concept of rotational and irrotational flow, stream function, velocity potential, sink, source, vortex etc.
			• Deal with two-dimensional fluid motion using complex potential and also to understand the concepts of source, sinks, doublets and image systems of these with regard to line and a circle.

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
P.G. Mathematics	IV	13(CCMATH)	Special Function and Integral Transformation :- • Obtain power series solution of several important classes of ordinary differential equations including Legendre's, Bessel's, Hermite, Laguerre and Chebyshev differential equation, their generating function, Rodrigue's formula and properties in details.
			• Understand purpose and functions of the Fourier and Laplace's transformation and their properties in details • Evaluate different types of integral calculus problem and Fourier series to solve differential equation
"	IV	14(ECMATH)	Advanced Functional Analysis :- • Understand the general theory of Topological vector space • Learn the basic properties of Topological vector space • Determine the structure of locally-convex Topological vector space. • Explain different types of TVS and complete TVS • Understand the structure of Frechet space.

DEOGHAR COLLEGE, DEOGHAR

Cource & SUBJECT	Semester	Paper	Outcomes
P.G. Mathematics	IV	14(ECMATH)	• Understand Linear transformation, Linear functional and their continuity in topological vector space. • Learn linear varieties and hyperplanes and their properties • Gain knowledge of Uniform-boundedness principle, Open mapping theorem and Closed graph theorem for Frechet space. • Study Banach Alaoglu theorem.
"	"	15(ECMATH)	Advanced Topology:- • Define and illustrate the concept of product topology and quotient topology. • Prove a selection of theorems concerning topological spaces, projection, continuous function and product topology. • Describe relative topology for a subspace of the product space and product invariant properties • Understand Totally disconnected space, locally connected space, Compact Hausdorff space and associated properties in details.
			• Understand compactness, Local compactness, compactification and related theorems. • Motivation for one-point compactification and use it to different types of spaces.