

Office of the Principal, Government College Bichhua Chhindwara (M.P.) 480111



Mobile: +91 942542

Mobile: +91 9425425968, @ Email- hegcbicchh@mp.gov.in



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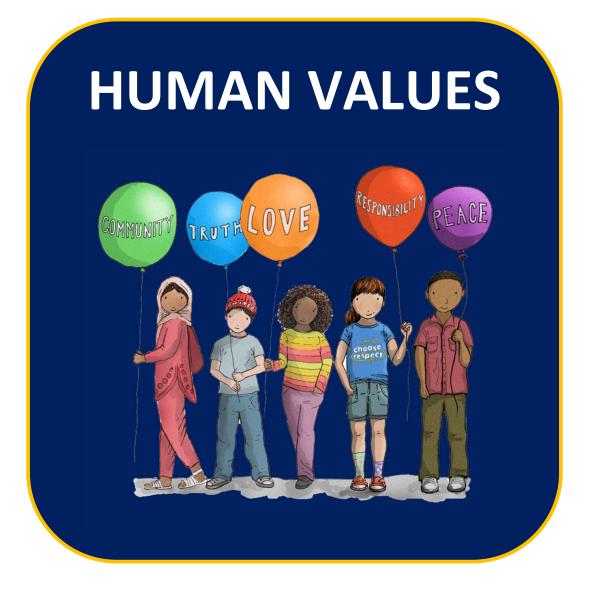
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01	HUMAN VALUES	03-07
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S.No.	Class	Subject	Paper	Paper Title	Торіс	No. of Topics
				ним	AN VALUES	
1	UG I YEAR	FC-I	FIRST (HINDI)	LANGUAGE & CULTURE	Path utsah,Path Bhart Ek Hai,Jeevan va Drshan	3
2	UG I YEAR	FC-I	FIRST (ENGLISH)	ENGLISH LANGUAGE & INDIAN CULTURE	Where the Mind is Without Fear, National Education	2
3	UG II YEAR	FC-I	FIRST (HINDI)	LANGUAGE & CULTURE	Samsamaek;Sandrbh Shreemadbhagvadgeeta-karmyog	3
4	UG II YEAR	FC-II	SECOND	ENTREPRENEOURSHIP DEVELOPMENT	ENTERPRENURESHIP DEVELOPMENT, REPORT PREPRATION	2
5	B.A. III YEAR	HINDI LITERATURE	MAJ- II/MIN/ ELEC	Lok sahity avam lok sanskrti	Loksahity avam lok sanskrti ki avdharna,lok sahitay ke pramukh sankalan,lokgeet avam loknatayswvarop,lokkathasawarop,lok sangeetlok naraty avam anay gadhya vidhaye	2
6	M.A I SEM	HINDI LITERATURE	PAPER - II	Aadhunik hindi gadhy aur uska itihas	Skandgupt Aadhe Adhure godan shekher ek jeevani	4
7	M.A II SEM	HINDI LITERATURE	PAPER - II	Aadhunik hindi gadhy aur uska itihas	Nibandh desh seva ka mahatv, shivmoorti, kavay me lok mangal ki sadhnavasth, majdoori aur prem, mere ram ka mukut bheeg raha hai,ek tokari bhar mitti	6
8	M.A III SEM	HINDI LITERATURE	PAPER - III	natak nibandh avam any gadhy vidhaye	Deepdan,tambe ke keede,reed ki haddi,toliye,naye mahman	5
9	M.A IV SEM	HINDI LITERATURE	PAPER - II	Bhasha vigyan avam hindi bhasha	Hindi ka Bhogolik VikasHhindi ke Vividh Roop,	2
10	B.A I YEAR	ENGLISH LITERATURE	MAJOR - I	STUDY OF DRAMA	OEDIPUS REX, DR. FAUSTUS, HAYAVADHANA,	3
11	B.A. II YEAR	ENGLISH LITERATURE	MAJOR - I	STUDY OF PROSE	ON THE RULE OF THE ROAD	1
12	B.A. II YEAR	ENGLISH LITERATURE	MAJ- II/MIN/ ELEC	EXPEIMENTS WITH FICTION	THE ENGLISH TEACHER, UNTOUCHABLE	2
13	B.A. III YEAR	ENGLISH LITERATURE	MAJOR - I	GROUP-A-II INDIA DIASPORA LITERATURE	THE WHITE TIGER	1
14	B.A. III YEAR	ENGLISH LITERATURE	MAJOR - I	GROUP-B-II LITERARY CRITICISM AN THORIES	MARXIST LITERARY CRITICISM	1
15	B.A. III YEAR	ENGLISH LITERATURE	MAJOR - I	GROUP-B-II PRACTISING AND EVALUATING LITERARY CRITICISM AND THEORIES	GITA, RAMAYANA	2

16	M.A I SEM	ENGLISH LITERATURE	PAPER - IV	Prose	Bacon's Essays	4
17	M.A II SEM	ENGLISH LITERATURE	PAPER - I	Poetry	The Waste Land	1
18	M.A IV SEM	ENGLISH LITERATURE	Paper III	Indian Writing in English	Train to Pakistan	1
19	M.A IV SEM	ENGLISH LITERATURE	Paper III	Literature and Translation	On the Hypocrisy of the Faith, On Missing a Dear One, On Longing, On the Souls of Countries and People, Grandfather, Hunger, Gaban, Tamas	7
20	B.A I YEAR	SOCIOLOGY	MAJOR - I	INDIAN SOCIETY & CULTURE	SOCIAL ISSUE - NATIONAL INTREGATION & CHALLENGES, INDIAN FAMILY, VALUE, PATTERN & ISSUES OF CHILDREN, YOUTH & ELDERLY	6
21	B.A. II YEAR	SOCIOLOGY	MAJ- II/MIN/ ELEC	SOCIAL CHANGE & DEVELOPMENT	CONTRIBUTION OF COMMUNITY & SOCIAL DEVLOPMENT PROGRAMME IN INDIA	
22	B.A I YEAR	POLITICAL SC.	MAJOR - I	POLITICAL THEORY	INTRODUCING IDEOLOGIES, COR POLITICAL CONCEPTS - FREEDOM, EQUALITY, JUSTICE, RIGHTS, THE IDEA OF DEMOCRACY	6
23	B.A I YEAR	POLITICAL SC.	MAJ- II/MIN/ ELEC	INDIAN CONSTITUTION	GENETICS OF INDAN CONSTITUTION AND SALIENT FEATURES, LEGISLATURE, EXECUTIVE, JUDICIARY AND OTHER CONSTITUTIONAL BODIES, DIVISION OF POWERS	5
24	B.A. II YEAR	POLITICAL SC.	MAJOR - I	WESTERN POLITICAL THOUGHTS	NATURAL LAWS AND RIGHS, THOMAS HILL GREEN : VIEWS ON RIGHTS, HOROLD j. LASKI : VIEWS ON LIBERTY, RIGHTS AND EQUALITY	3
25	B.A. II YEAR	POLITICAL SC.	MAJ- II/MIN/ ELEC	INDIAN POLITICAL THINKERS	NATIONAL EDUCATION AND NATIONALISM, THE IDEA OF NON- VOILENCE AND SATYAGRAHA	2
26	B.A I YEAR	ECONOMICS	MAJ- II/MIN/ ELEC	INDIAN ECONOMY	DEMOGRAPHIC FEATURES POPULATION COMPOSITION SIZE AND GROWTH RATE	1
27	B.A I YEAR	GEOGRAPHY	MAJOR - I	INTRODUCTION TO HUMAN GEOGRAPHY	INDIAN ETHICS AND VALUE	1
28	B.A. II YEAR	GEOGRAPHY	MAJOR - I	TERITARY ACTIVITY	IMPACT ON ECONOMY AND SOCIETY	1
29	B.A. III YEAR	GEOGRAPHY	MAJOR - I	POLITICAL ASPECTS	CROSS BORDER TOURISM	1
30	B.A. III YEAR	GEOGRAPHY	MAJ- II/MIN/ ELEC	MARINE RESOURCES AND THEIR MANAGEMENT	OCEAN RESOURCE OF ASIA AND THEIR POTENTIALITY	1
31	B.COM I YEAR	COMMERCE	MAJ- II/MIN/ ELEC	BUSINESS REGULATORY FRAMEWORK	CONSUMER PROTECTION ACT-1986	1
32	B.COM II YEAR	COMMERCE	MAJOR - I	PRINCIPAL OF MANAGEMENT	MANPOWER PLANNING, MOTIVATION	2
33	B.COM II YEAR	COMMERCE	MAJ- II/MIN/ ELEC	INDIAN COMPANY ACT	MAJORITY POWERS AND MINORITY RIGHTS	1
34	B.COM III YEAR	COMMERCE	MAJOR - I	PRINCIPAL OF MARKETING	CONSUMER BEHAVIOUR AND MARKETING SEGMENTATION	1
35	M.COM I SEM	COMMERCE	PAPER - II	BUSSINESS ENVIRONMRNT	BUSINESS ENVIRONMENT, ECONOMIC ENVIRONMENT OF BUSINESS, POLOTICAL AND LEGAL ENVIRONMENT OF BUSINESS, SOCIAL CULTURAL AND INTERNATIONAL ENVIRONMENT, TECHNOLOGICAL ENVIRONMEN	5
36	M.COM II SEM	COMMERCE	PAPER - IV	FUNCTIONAL MANAGEMENT	PERSONAL MANAGEMENT CONCEPTS 5	

37	M.COM III SEM	COMMERCE	PAPER - I	ENTERPRENEURSHIP SKILL	ENTERPRENEURIAL BEHAVIOR, ENTREPRENEURIAL DEVELOPMENT PROGRAMME	
38	B.SC. I YEAR	BOTANY	MAJOR - I	Applied Botany	 3 Relation of plants to man and relation with other services 4 Various disciplines of botany and theirappl ications to human welfare 1 Role of Botany in Rural development 5 Ethno-food crops: Definition and examples (Local name. Botanical name, family and importance of Garadu.Singada, Kutaki. Sama. Kodo. Bathua. Sehjan. owar. Makka, Bajra, Jau) 	4
39	B.SC. I YEAR	BOTANY	MAJ- II/MIN/ ELEC	Basic Botany	Role of algae in nature and its economic importance.	1
40	B.SC. II YEAR	BOTANY	MAJ- II/MIN/ ELEC	INDUSTRIAL BOTANY	1.1 Timber yielding trees of India and their products (Shisham, Sal, Teak, Deodar, Babool). 1.2 Bamboo and Cane Industry. 1.3 Kattha' Industry. 12n Leaf Based Industries- 1.1 Utility products of leaf (Palash, Banana). 1.2 Tea Industry (Production of various types of teas). 1.3 Leaf oil Industry (Mint, Camphor, Neem, Tulsi, Eucalyptus and Lemon grass). 1.4 Leaves used as spices (Kasoori Methi, Pudina, Curry patta, Onion, Tejpatta). in Flower based Industries- 1.1 Perfume products of Gulab, Jasmine, Henna, 1.2 Color industry (Food and Holi colors). 1.3 Raw material for Fermentation (Mahua). IV Fruits and Seedsbased Industries- 1.1 Jams, Jellies, Juice, Sauce and Pickles. 1.2 Poha and Daal Industry. 1.3 Edible Oil Industry (Groundnut, Soybean) 1.4 Starch, Glucose, and Dextrose Industry. V other parts of plants based Industries- 1.1 Sugar and Jaggery Industries.	5
41	B.SC. III YEAR	BOTANY	MAJ- II/MIN/ ELEC	ETHANOBOTANY	Ethnobotany Introduction, concept, scope and objectives; Ethnobotany as an interdisciplinary science. Plants used by the> tribals: a) Food plants b) intoxicants and beverages c) Resins and oils and miscellaneous uses. Plants in mythology, Taboos and totems in relation to plants, folklore and folktales, Wildlife protection in tribals. Plants in similes and metaphors Medico-ethnobotanical sources in India; Significance of the following plants in ethno botanic^ practices (along with their habitat and morphology) a) Azadiractha indica	50

42	B.SC. III YEAR	BOTANY	MAJ- II/MIN/ ELEC	ETHANOBOTANY	b) Ocimum sanctum c) Vi d) Gloriosa superba e) Tinospora cordjfolig f) Butea monosperma g) Cassia fistula h) ;ofera N tinctoria. Role of ethnobotany in modem medicine with special example Rauvolfia sepentifia. Terminalia arjuna, Artemisia, Withania. Role of emimc grbups in conservation of plant genetic resourc^^ Endangered taxa and forest managemenVarious branches of Ethnobotany . Ethnobotany { nd legal aspects. Ethnobotany as a tool to protect interests of ethnic groups. Sharing of wealth concept with few examples from India. Biopiracy, Intellectual Property Rights and Traditional Knowledge. Role of Peoples Biodiversity Register (PBR) and Biodiversity Management pommittees(BMC). 12 The relevance of ethnobotany in the present context; Major and minor ethnic groups or Tribals of India, and their life stylestudy of common Plants in Skin Diseases , Bronchial inflammation, Asthma, Jaundice, Malaria, Expulsion of Worms, Jaundice, Piles, Rheumatism, Heart Diseases , Amoebic Dysentery ,leukodemj	
43	M.SC IV SEM	BOTANY	PAPER - I	Biotechnology TissueCulture and Genetic Engineering	1, Evironment biotechnology and ethics, 2. Intellectual property rights	
44	B.SC. III YEAR	CHEMISTRY	MAJ- II/MIN/ ELEC	PHARMACEUTICAL AND MEDICINAL CHEMISTRY	Drug absorption, Drug design and drug development: An overview. Approaches to drug design, beta-lactum, Penicillin, angifungal, Antimalerial, Antiviral and antiinflamatory drug.	8



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PROFESSIONAL ETHICS



S.No.	Class	Subject	Paper	Paper Title	Торіс	No. of Topics
				PROFES	SIONAL ETHICS	
1	UG I YEAR	FC-I	FIRST (HINDI)	LANGUAGE & CULTURE	Maithlisharan gupta matrbhoomi,Premchand Shatranj Ke khiladi,Sharad joshi jeep par savar Illiyan	3
2	UG II YEAR	FC-I	FIRST (HINDI)	LANGUAGE & CULTURE	Surykant tripathi jago fir ek bar,Amarkant Dopahae ka Bhojan,Mahadevi Varma gillu hajari prasad duwewdi madhy pradesh ki lokkalayrn ,madhypradeshlok sahity,muhavre aur Khavten ,Samas Beej shabd	7
3	UG II YEAR	FC-I	FIRST (ENGLISH)	ENGLISH LANGUAGE & FOUNDATION	Patriotism Beyond Politics and Religion	1
4	UG III YEAR	FC-I	FIRST (HINDI)	LANGUAGE & CULTURE	Usha priyamvda Vapsi,Vivekanand Shikako Vayakhayan ,Mahatma Gandhi Aatmkatha ke Ansh	8
5	B.A I YEAR	HINDI LITERATURE	MAJOR - I	HINDI KAVYA	Goraknath, Chandvardai, Vidhyapati, Kabirdas, Malik Mohmmad Jaysi, Surdas, Goswami Tulsidas, Bihari, Bhusan, Bhartendu Harishchandra, Ayodhyaprasad Hariodh, Suryakant Tripathi Nirala, Mahadevi verma	13
6	B.A I YEAR	HINDI LITERATURE	MAJ-II/MIN/ ELEC	KARYALAYIN HINDI AVAM BHASHA COMPUTING	Manu, Kautilya, Rajaram Mohan Roy, Swami Vivekananda, Lokmanya Bal Gangadhar Tilak, Shri Aurobindo Ghosh, Mahatma Gandhi, Pt. Jawaharlal Nehru, Subhas Chandra Bose, Dr. Bhimrao Ambedkar, M.N.Roy, Ram Manohar Lohia, Jayprakash Narayan, Pt. Deendayal Upadhyay, Pandita Ramabai, Tarabi Shinde, Savitribai Phule, Kamaladevi Chattopadhyay	10
7	B.A. II YEAR	HINDI LITERATURE	MAJOR - I	Hindi Gadhya	Aadhunik Hindi Gadhya Sahity ki prasthbhoomi Avam Uday Ke Karan,Hindi Kahani,Hindi Natay Sahity,Hindi Nibandh, Hindi ki Anay Gadhya Vidhayen	5
8	B.A. II YEAR	HINDI LITERATURE	MAJ-II/MIN/ ELEC	Anuvaad vigyan	Anuvaad ki avdharna avam chhetra,Anuvaad ki prakriya,Anuvaad ke upkaran avam anuvaad ka samajik sanskratik sandarbh,vibhinn chhetron me anuvaad ki samsyaye,anuvaad ka sampadan mulyankan aur samikshaa.	5
9	B.A. III YEAR	HINDI LITERATURE	MAJOR - I	kavyang vivechan avam janpadiy bhasha sahitya	Kavya sastriy avdharnaye,kavya ke pramukh aung,janpadiy bhasha bundeli,janpadiy bhasha ka itihas,bundeli bhasha aur itihas	5
10	B.A. III YEAR	HINDI LITERATURE	MAJ-II/MIN/ ELEC	Jnsanchar Madhyam Sidhant aur Anuprayog	Jansanchar ki Avdharna Aur Vividh Aayam,Print Patrkarita ,patrkarita prabhandhab,Drashy shravay Madhayam,New Media/Veb Media	5
11	M.A I SEM	HINDI LITERATURE	PAPER - I	Prachin avam madhykalin kavy	Surdas,Tulsidas,Bharilal Ghananad,Nanddas,meerabai, rashkhan ,keshavdas bhoshan padmakar Raheem	7
12	M.A I SEM	HINDI LITERATURE	PAPER - II	Aadhunik Hindi gadhy aur uska itihas	Natakkar bhartendu harischand doct.ramkumar varma jagdeshchand mathur dharmveer bharti laxminarayanlal upanyaskar jainendr amrtlal bheeshm sahni mannu bhandhari shreelal shukl usha priyamvada	12
13	M.A I SEM	HINDI LITERATURE	PAPER - III	Bhartiy Avam Pachaty kavayshatr	Sanskrat kavasastr ras sidhant alankar sidhant dhvani sidhant oochity sidhant hindi Aalochna	6
14	M.A I SEM	HINDI LITERATURE	PAPER - IV	Hindi sahity ka itihas avam uski sanskrtik prasth bhomi	nirgun sant kavi aur unka avdaan,sagun bhagati kavay,krasn bhagti kavy	3
15	M.A II SEM	HINDI LITERATURE	PAPER - I	Prachin avam madhykalin kavy	Surdas, Tulsidas, Bharilal Ghananad, Nanddas, meerabai, rashkhan, keshavdas bhoshan padmakar Raheem	
16	M.A II SEM	HINDI LITERATURE	PAPER - II	Aadhunik hindi gadhy aur uska itihas	Usne kaha tha,duniya ka anmol ratn aakashdeep ispecter matadeen chand par,parinde,raja nirvansiys teesri kasam pita bhanbhat ki aatmkatha,bhartendu harischand balmukund gupat, mahaveerprasad duvedi, agye,yashpal,amarkant,subhadra kumari chhuhan	15
17	M.A II SEM	HINDI LITERATURE	PAPER - III	BHARTIY AVAM PASCHATY KAVY SHASTR	Pleto,arastu,lunjainas,dridan,vadsvarth,kalrich, maithu arnald,T.S.eliyatl.A.Richard sidhant aur vad Adhunik samikchha ki vishist pravartiya.	11
18	M.A II SEM	HINDI LITERATURE	PAPER - IV	Hindi sahity ka itihas avam uski ssakrtik prasthbhoomi	Aadhunikata ki avdharna,bhaetendu aur unka yug,duvedi yug,uttar chhya vad ki vividh pravartiya, hindi ki gadhy any vidhy	5
19	M.A III SEM	HINDI LITERATURE	PAPER - I	Aaadhunik hindi kavy	maithlisharan gupat,jayshankar prashad,soorykant tripathi,sumitranandan pant jaganaath das ratnakar,aayodhyaprashad hariodh,mahadevi varma,balkrasn sharma naveen ,makhanlal chaturvedi,harivanshrai bacchan	6
20	M.A III SEM	HINDI LITERATURE	PAPER - II	bhasha bigyan avam hindi bhasha	bhasha aur bhasha vigyanh,swyan prakriya,vyakaran,arth vigyan,sahity aur bhasha vigyan	5
21	M.A III SEM	HINDI LITERATURE	PAPER - IV	Surdas	kumbhandas, chhitswami,krashndas, prmananddas	4
22	M.A IV SEM	HINDI LITERATURE	PAPER - I	Aadhunik hindi kavy	Muktibodh Bhool galti,Andhere me,Brahmrakchhas Bbhavani Prasad Mishra	5

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MAINS	23	M.A IV SEM	HINDI LITERATURE	PAPER - II	bhasha vigyan avam hindi bhasha	Hindi me compuert suvidhaye	
25 MAIN YEAR PAPER IVER PAPER IVER Surday Sur	24	M.A IV SEM	HINDI	PAPER - III	Natak nibandhavam any		4
2 B.A. Il YEAR LITERATURE MAJOR - I GOLD P-BILLTERATURE	25	M.A IV SEM		PAPER - IV	Surdas	Sur Sahity Ki Prashtbhoomi Jeevan avam rachnaye	1
Septembers with Proce Septembers with Septembers Septembers with Septembers Septembers with Septembers Septembers with Septembers Se	26	B.A. II YEAR		MAJOR - I	STUDY OF PROSE	Long Walk to Freedom, Why Gandhi Still Matters	2
MALISTA NACHATURE NACHATURE PAPER - III Fiction On Quistor, Robinson Crusoe, Guiller's Travels, Tom Jones, David Copperfield 4	27	B.A. II YEAR		MAJOR - I	Experiments with Prose	Self Reliance, Our Motherland, Sadhana,	3
MAISEM FROUTE PAPER - III Probability Paper - III Indian Writing in English Paper - III WALKER Pa	28	B.A. III YEAR		MAJOR - I		The Writings of Dr. Harisingh Gour, Living with a Purpose	2
MA I SEM TRICIATURE PAPER - III Fiction Fictio	29	M.A I SEM		PAPER - III	Fiction	Don Quixote, Robinson Crusoe, Gulliver's Travels, Tom Jones, David Copperfield	4
MA II SEM	30	M.A I SEM		PAPER - IV	Prose	Hero and Hero Worship, Truth and Falsehood	2
MATUSEM CINCATE PAPER III Indian Writing in English My Experiments with Trust, Indomitable Spirit 2 MATUSEM CINCATE CONTROL PAPER III Indian Writing in English My Experiments with Trust, Indomitable Spirit 2 BALITYER POLITICAL SC. MAJOR I WESTERN POLITICAL THOUGHTS INCOME Machinely Plato, Aristotic's View, Modern Political Thoughts : Niccole Machinely Indian Writing in English My Experiments with Trust, Indomitable Spirit 2 BALITYER POLITICAL SC. MAJOR I WESTERN POLITICAL THOUGHTS INCOME Machinely Indian Writing in English Indian	31	M.A II SEM		PAPER - III	Fiction	Animal Farm, Oldman and the Sea, The Shroud	3
MAINSEM DEFEATURE PAPER - III Indian Writing in English My Experiments with Truth, Indominable Spirit 2 2	32	M.A II SEM		PAPER - IV	Prose	1 ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' '	4
MAINSEN UTERATURE PAPER - III Indian Writing in English The Modern Challenges to Religion, The Indian Identity 2	33	M.A III SEM		PAPER - III	Indian Writing in English	My Experiments with Truth, Indomitable Spirit	2
35 B.A. II YEAR POLITICAL SC. MAJOR - I WESTERN POLITICAL THOUGHTS Industry Machiavelli, Thomas Hobbes, Jone Lock, Jean Jacquez Rousseau, Jercemy Bentham, John Start Mill, Idealism Political Philosophy Immanuel Kant, George W.F. Hegel, Thomas Hill Green, Karl Manr, Vladimir Lenin, Harold J. Laski Mall Harold St. Laski	34	M.A IV SEM		PAPER - III	Indian Writing in English	The Modern Challenges to Religion, The Indian Identity	2
B.A. II YEAR POLITICAL SC. MA-II/MINV ELEC INDIAN POLITICAL THINKERS Sae, Dr. Ehrinaroa Ambediar, M.M. Roy, R.P. Macharda Candhi, Pt. Javaharfal Nehryu, Subhas Chandra Base, Dr. Ehrinaroa Ambediar, M.M. Roy, R.P. Macharda Chalt, Jayarkash Maryan, Pt. Deendayal Upadhyay, Pandita Ramabal, Tarabi Shinde, Savitribal Phule, Kamaladevi Chaltopadhyay Definition and Different Concepts of National Income 1	35	B.A. II YEAR	POLITICAL SC.	MAJOR - I		Machiavelli, Thomas Hobbes, Jone Locke, Jean Jacques Rousseau, Jeremy Bentham, John Stuart Mill, Idealism in Political Philosophy : Immanuel Kant, George W.F.Hegel,	14
B.A. IIYEAR ECONOMICS MAJ-IJ/MIN/ ELEC Development and Development and Economic Growth Development	36	B.A. II YEAR	POLITICAL SC.	1		Tilak, Shri Aurobindo Ghosh, Mahatma Gandhi, Pt. Jawaharlal Nehru, Subhas Chandra Bose, Dr. Bhimrao Ambedkar, M.N.Roy, Ram Manohar Lohia, Jayprakash Narayan, Pt. Deendayal Upadhyay, Pandita Ramabai, Tarabi Shinde, Savitribai Phule, Kamaladevi	18
B. B. H. HYAR ECONOMICS ELEC Development 39 M.A I SEM ECONOMICS PAPER - II MACRO ECONOMICS ANALYSIS I Public Debt Economic Development and Economic Growth 1 Defination nature and development 1 M. A IV SEM ECONOMICS PAPER - IV Public Finance 1 Defination nature and development 2 Defination nature and d	37	B.A. II YEAR	ECONOMICS	MAJOR - I	MACRO ECONOMICS	Definition and Different Concepts of National Income	1
ANALYSIS ANALYSIS Public Debt Economic Development and Economic Growth 1	38	B.A. II YEAR	ECONOMICS	1		Concept of Economic Development and Economic Growth	1
M.A.IV SEM ECONOMICS PAPER - IV INDIAN ECONOMIC POLICY AND ISSUES	39	M.A I SEM	ECONOMICS	PAPER - II		Public Debt Economic Development and Economic Growth	1
M.A.IVSEM ECONOMICS PAPER -IV POLICY AND ISSUES W.A.IVSEM GEOGRAPHY PAPER -IV History of Geographical Thoughts PAPER -IV History of Geographical Thoughts PAPER -IV History of Geographical Thoughts PAPER -IV PAPER -IV Urban Geography Gerek, Roman and Arab Geographers, German School-Ritter, Humbolt, Ratzel, French School - Blache, American School - Sample, Davis, British School - Herbertson & Makinder 43 M.A.III SEM GEOGRAPHY PAPER -II Urban Geography Central Place Theory of Christaller and Losch, Concentric Zone Theory, Sector Model, multiple Nuclie Model 44 B.SC. I YEAR BOTANY MAJOR -I Applied Botany Applied Bo	40	M.A III SEM	ECONOMICS	PAPER - III	Public Finance	Defination nature and development	1
42 M.A I SEM GEOGRAPHY PAPER - IV Thoughts Thoughts Shakinder 43 M.A III SEM GEOGRAPHY PAPER - II Urban Geography Central Place Theory of Christaller and Losch, Concentric Zone Theory, Sector Model, multiple Nuclie Model 44 B.SC. I YEAR BOTANY MAJOR - I Plant Anatomy and Section Sect	41	M.A IV SEM	ECONOMICS	PAPER - IV		Framwork of indian economy policy and introduction	1
Model, multiple Nuclie Model 1. History and Evolution of botany 2. Relation of plants to man and relation with other services 3. Various disciplines of botany and theirappl ications to human welfare 4. ESC. I YEAR BOTANY MAJOR - I Applied Botany MAJOR - I Applied Botany MAJOR - I Applied Botany I History of Botany and indian contributions 2. Role of algae in nature and its economic importance. 3. Economic importance of Bryophytes 4. Economic importance of Freidophytes 5. Economic importance of Gymnosperms 6. Indian contribution in Paleobotany 7. Brief knowledge of fossils and geological timescale 8. Economic importance of fungi 9. Microbes Beneficial and Harmful role 10. Study of Some Fossils 1. History and Importance of Embryology	42	M.A I SEM	GEOGRAPHY	PAPER - IV		French School - Blache, American School - Sample, Davis, British School - Herbertson	8
2. Relation of plants to man and relation with other services 3. Various disciplines of botany and theirappl ications to human welfare 4. Role of Botany in Rural development 5. Ethno-food crops: Definition and examples (Local name. Botanical name, family and importance of Garadu. Singada, Kutaki. Sama. Kodo. Bathua. Sehjan.owar. Makka, Bajra, Jau 1. History of Botany and indian contributions 2. Role of algae in nature and its economic importance. 3. Economic importance of Pteridophytes 4. Economic importance of Pteridophytes 5. Economic importance of Gymnosperms 6. Indian contribution in Paleobotany 7. Brief knowledge of fossils and geological timescale 8. Economic importance of fungi 9. Microbes Beneficial and Harmful role 10. Study of Some Fossils 46. B. SC. II YEAR BOTANY MAJOR - I Plant Anatomy and 1. History and Importance of Embryology	43	M.A III SEM	GEOGRAPHY	PAPER - II	Urban Geography	· · · · · · · · · · · · · · · · · · ·	4
45 B.SC. I YEAR BOTANY MAJOR - I Botany Botany Botany Botany Botany Basic Botany B	44	B.SC. I YEAR	BOTANY	MAJOR - I	Applied Botany	2. Relation of plants to man and relation with other services 3. Various disciplines of botany and theirappl ications to human welfare 4. Role of Botany in Rural development 5. Ethno-food crops: Definition and examples (Local name. Botanical name, family and importance of Garadu.Singada, Kutaki. Sama. Kodo. Bathua. Sehjan.owar. Makka,	
46 B.SC. II YEAR BOTANY MAJOR - ' 11. History and Imortance of Embryology	45	B.SC. I YEAR	BOTANY	1	·	2. Role of algae in nature and its economic importance. 3. Economic importance of Bryophytes 4. Economic importance of Pteridophytes 5. Economic importance of Gymnosperms 6. Indian contribution in Paleobotany 7. Brief knowledge of fossils and geological timescale 8. Economic importance of fungi 9. Microbes Beneficial and Harmful role	
	46	B.SC. II YEAR	BOTANY	MAJOR - I	1	1. History and Imortance of Embryology	

47	B.SC. II YEAR	BOTANY	MAJ-II/MIN/ ELEC	INDUSTRIAL BOTANY	Grants and funding provider organizations of India Different type of industries	
48	B.SC. III YEAR	BOTANY	MAJ-II/MIN/ ELEC	ETHANOBOTANY	1. Major and minor ethnic groups or tribals of india and their life-styles 2. Ethonobotany as an interdisciplinary science 3. Plants in mythology, Taboos and totems in relation to plants, folklore and folktales, 4. Wildlife protection in tribals. Plants in similes and metaphors 5. Ethnobotany and legal aspects. 6. Ethnobotany as a tool to protect interests of ethnic groups. 7. Sharing of wealth concept with few examples from India. 8. Biopiracy, Intellectual Property Rights and Traditional Knowledge. 9. Role of Peoples Biodiversity Register (PBR) and Biodiversity Management pommittees(BMC).	
49	M.SC I SEM	BOTANY	PAPER - I	Biology and diversity of bryophyta and pteridophyta	Ecology and importance of Brytophyta	
50	B.SC. I YEAR	CHEMISTRY	MAJ-II/MIN/ ELEC	FUNDAMENTAL OF CHEMISTRY	CHEMICAL TECHNIQUES IN ANCIANT INDIA: Contribution of anciant indian scientists in chemistry, metallergy, pigments, dyes, cosmatic, arurveda, Charak sanhita.	7
51	B.SC. II YEAR	CHEMISTRY	MAJOR - I			
52	B.SC. II YEAR	CHEMISTRY	MAJ-II/MIN/ ELEC	TRANSITION ELEMENTS, CHEMI.ENERGIES, PHASE EQULIbirium.	Knowledge Tranditionof Indian Chemistry: Anciant indian chemists and their works Nagarjuna, Vaghata, Givindacharya, Yashodhare, Ramchandra, Somadeva, etc., Indiroductory dea about rasas Manin rasa: Mahares, Uparas, Common ras, Ratna, Dhatu, poison, alkali, acid, salt, lauhabhasma; Maharas: Abram, Vaikrant, Bhasik, Vimala, Shilajatu, Sasak, Chapala, Rasak, Uparas, Gandhak, Garik, Kashis,, Suvari, Lalak, Manash, Shila, Anjana, Kankushtha. Common Rasa: Koyla, Gaulpashan; Navasara, Varataka, Agnijar, Lajavarta, Giri Sindoor, Hingul, Murdad Sharangakam.	49
53	B.SC. III YEAR	CHEMISTRY	MAJ-II/MIN/ ELEC	PHARMACEUTICAL AND MEDICINAL CHEMISTRY	Codes of pharmaceutical ethics, Pharmacopia and its history, Scope and development of pharmacognosy.	3
54	M.SC I SEM	CHEMISTRY	V(A) PAPER	MATHEMATICS FOR CHEMISTS	Vectors, dot, cross and triple products etc, gradient. o Divergence and curl, Vector Calculus. First-order and first degree differen al equations. First-order and first degree differen al equations. First-order and first degree differen al equations. Homogenous, exact and linear equations. Kinetic theory of gases.	14
55	M.SC II SEM	CHEMISTRY	V PAPER	COMPUTER FOR CHEMISTS	Introduction to computers and Computing - Basic structure and functioning of computer with a Pc, principles of programming Algorithms and flow-charts, Developing of small computer codes using any one of the languages FORTRAN/C/BASIC involving simple formulae in Chemistry, such as Van der Waals equation	5

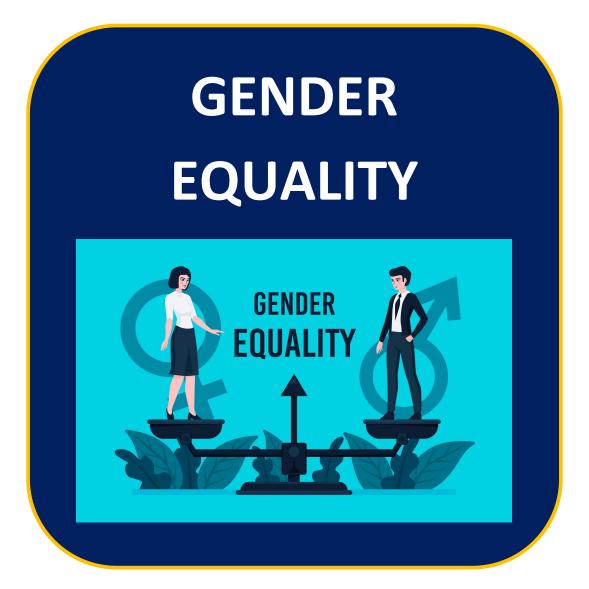








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S.No.	Class	Subject	Paper	Paper Title	Торіс	No. of Topics
				Gend	der Equality	
1	UG III YEAR	FC-II	SECOND	WOMEN EMPOWERMENT	History, concept and dimensions of Women Empowerment, constitutional provisions for women empowerment, Women Empowerment Issues and Challenges, Financial Awareness Among Women	13
2	B.A. II YEAR	HINDI LITERATURE	MAJOR - I	HINDI Gadhya	Subhadra Kumari chohan,Mahadevi Verma	1
3	M.A II SEM	HINDI LITERATURE	PAPER - II	Hindi Sahity kalitihash Avam Uski Ssanskrtik Prasthbhoomi	Stri Vimarsh	1
4	M.A IV SEM	HINDI LITERATURE	Paper III	Natak nibandh tatha any a gadhy vidhaye	Mhadevi varma	1
5	B.A I YEAR	ENGLISH LITERATURE	MAJ- II/MIN/ ELEC	Study of Poetry	Wife of Bath	1
6	B.A. II YEAR	ENGLISH LITERATURE	MAJ- II/MIN/ ELEC	Study of Fiction	Pride and Prejudice, Middlemarch, Mrs. Dalloway	3
7	B.A. III YEAR	ENGLISH LITERATURE	MAJOR - I	Group -B -II Literary Criticism and Theories	Feminist Literary Criticism	1
8	M.A I SEM	ENGLISH LITERATURE	PAPER - III	Fiction	Mansfield Park, Wuthering Heights, The Mill on the Floss, Tess of the d'Urbervilles	4
9	M.A II SEM	ENGLISH LITERATURE	PAPER - II	Drama	A Doll's House	1
10	M.A II SEM	ENGLISH LITERATURE	PAPER - III	Fiction	Mrs Dalloway	1
11	M.A III SEM	ENGLISH LITERATURE	PAPER - IV	Women's Wrting	Phenomenal Women, The Stone Age, Burn the Saree, A Desire in the Bangels, Crossing the River, Night Mother, Lajja, Ladies Coupe, Real and Imagined Women	10
12	M.A IV SEM	ENGLISH LITERATURE	PAPER - III	Post-Colonial Fiction	So Many Hungers, A Nectar in a Sieve, Mistakenb Identity	10
13	M.A IV SEM	ENGLISH LITERATURE	PAPER - III	Literature and Translation	Lihaf (The Quilt)	7
14	B.A. II YEAR	SOCIOLOGY	MAJ- II/MIN/ ELEC	Social Change & Devlopment	Westernization ,Urbanization ,Modernization ,Globalization	4
15	M.A II SEM	SOCIOLOGY		Rural Society in India	Gender and Development ,Empowerment of Rural India India,Modernization ,Globalization,	4

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16	M.A II SEM	SOCIOLOGY	PAPER - IV	Urban Society in India	Impact of westernization process in India ,Modernization ,Globalization ,Roll of mass Media	4
17	M.A III SEM	SOCIOLOGY	PAPER - III	Sociological Eassay	Women Impowerment ,Child Labour ,Youth Welfare,Domisetic Violence	4
18	M.A I SEM	POLITICAL SC.	PAPER - I	COMPARATIVE POLITICS	SOCIOOLIST SOCIESTES, GENDER	
19	M.A IV SEM	POLITICAL SC.	PAPER - I	ADVANCE POL. THEORY	SVANTRATA KA VICHAR AUR SAMANTA SAMBANDH, FEMINISM	
20	M.A IV SEM	POLITICAL SC.	PAPER - II	POLITICAL PROCESSES IN INDIA	HUMAN DEVELOPMENT INDEX, GENDER INEQUALITY	
21	B.A. III YEAR	ECONOMICS	MAJOR - I	Gender Economics	1. Become Familiar with theoretical concepts in the area of gender economics. 2. Develop the ability to understand the methodology of gender analysis. 3. Develop the ability to understand the demography of female population and its role in development 4. Analyse the various gender issues affecting developments.	3
22	M.A IV SEM	ECONOMICS	PAPER - II	Demography-I	Meaning and scope of demography	1
23	B.A I YEAR	GEOGRAPHY	MAJ- II/MIN/ ELEC	physical and cultural aspect	POPULATION GROWTH AND SEX RATIO	1
24	M.A IV SEM	GEOGRAPHY	PAPER - II	Population Geography	Population Distribution & Density, Age & Sex Composition, Literacy & Education, Population grouth and sex ratio, Fertility & Mortality	4





S.No.	Class	Subject	Paper	Paper Title	Торіс	No. of Topics
				Environme	ntal Sustainability	
1	UG I YEAR	FC-I	FIRST (ENGLISH)	ENGLISH LANGUAGE & INDIAN CULTURE	The Axe	1
2	UG I YEAR	FC-II	SECOND	ENVIRONMENTAL EDUCATION	ENVIORNMENT AND NATURAL RESOURCES, BIOME, ECOSYSTEM AND BIODIVERSITY, ENVIORNMENTAL POLLUTION, MANGEMENT AND SOCIAL ISSUES	40
3	UG II YEAR	FC-I	FIRST (ENGLISH)	ENGLISH LANGUAGE & FOUNDATION	The Daffodils	1
4	UG III YEAR	FC-I	FIRST (HINDI)	LANGUAGE & CULTURE	Satpura ke ghhane jangal, Aagan ka panchhi	2
5	B.A I YEAR	HINDI LITERATURE	MAJOR - I	HINDI KAVYA	Kamayani ke shraddha sarg se prakati ke yovan ka srangaar krenge kabhi na basi phool se,Nadi ke dweep,yah deep akela,Akaal aur uske baad,Baadal ko ghirte dekha.	3
6	B.A. III YEAR	HINDI LITERATURE	MAJOR - I	kavyang vivechan avam janpadiy bhasha sahitya	Prakratiparakh phage.	1
7	M.A IV SEM	HINDI LITERATURE	PAPER - I	Aadhunik hindi kavy	Nadee ke dueep,aasadhyveena,yah deep akela,kalgibajre ki,harighhas par chhan bhar satpura ke ghane jangal,badal ko gheerte dekha,akal aur uske baad	8
8	B.A I YEAR	ENGLISH LITERATURE	MAJ- II/MIN/ ELEC	Applied Poetry	Ode to West Wind,	1
9	B.A I YEAR	ENGLISH LITERATURE	MAJ- II/MIN/ ELEC	Study of Poetry	Ode to Autumn,	1
10	B.A. III YEAR	ENGLISH LITERATURE	MAJOR - I	Group -B -II Literary Criticism and Theories	Eco Criticism	1
11	M.A I SEM	ENGLISH LITERATURE	PAPER - I	Poetry	Elegy Written in Country Church Yard, Ode to Evening	2
13	M.A II SEM	ENGLISH LITERATURE	PAPER - I	Poetry	Tintern Abbey, Ode to Nightangle, Ode to West Wind	3
14	M.A IV SEM	ENGLISH LITERATURE	PAPER - IV	Enviornmemntal Literature	Literary Studies in the Age of Environmental Crisis, Toward an Environmental Justice Ecocriticism, Women and Environment, Staying Alive, The Felling of Banyan Tree, On Killing a Tree, Cherry Tree, Dust on the Mountain, The Hungry Tide, Battels of the Ants, Water	10
15	M.A III SEM	SOCIOLOGY	PAPER - III	Sociological Eassay	Enviornment	1
16	M.A I SEM	POLITICAL SC.	PAPER - III	INTERNATIONAL POLITICAL THEORY	PARYAVARNIYA MUDDE	
17	M.A IV SEM	POLITICAL SC.	PAPER - I	ADVANCE POL. THEORY	ENVIRONMENTALISM	

18	M.A IV	POLITICAL	PAPER - II	POLITICAL PROCESS IN	PRAYAVARAN	
10	SEM	SC.	1 VL FI/ - II	INDIA		
19	B.A I YEAR	ECONOMICS	MAJ- II/MIN/ ELEC	INDIAN ECONOMY	Natural Resource Endowments- Land, Water, Livestock, Forest and Minerals Green Revolution- Objectives, Achievements and Failures 3. Development of Tourism in Madhya Pradesh .	3
20	B.A. III YEAR	ECONOMICS	MAJOR - I	Economics of Growth and Development	Interlinkages Between Environment and Development	1
21	B.A I YEAR	GEOGRAPHY	MAJ- II/MIN/ ELEC	NATURAL RESOURCES	Green revolution, tribes and tourism, socio economic environment, environment and ecology, sustainable environment management,	5
22	M.A II SEM	GEOGRAPHY	PAPER - IV	Geography of Environment	Concept & Theories, Geography of Environment, Ecosystem, forests, agriculture, conservation of Environment	4
23	M.A IV SEM	GEOGRAPHY	PAPER - IV	Biogeography	Scope & Development of Bipogeography, Environment, Habitat and Plant, Biome, Elements of Plant Geography	4
24	B.COM I YEAR	COMMERCE	MAJ- II/MIN/ ELEC	BUSINESS REGULATORY FRAMEWORK		
25	B.SC. I YEAR	BOTANY	MAJOR - I	Applied Botany	1.Definition and types of pollution and polutents 2.Phyto remidiations 3.Bio-remidiations 4.Role of Botany in rural development 5.Ethnobotany 6.Ethnomedicine 7.EthnoFibres 8.EthnoFood crops 9.Plant tissue culture 10.DNA recombinent techniques 11.BioInformatics	11
26	B.SC. I YEAR	BOTANY	MAJ- II/MIN/ ELEC	Basic Botany	1.History of Botany and indian contributions 2.Role of algae in nature and its economic importance. 3.Economic importance of Bryophytes 4.Economic importance of Pteridophytes 5.Economic importance of Gymnosperms 6.Indian contribution in Paleobotany 7.Brief knowledge of fossils and geological timescale 8.Economic importance of fungi 9.Microbes Beneficial and Harmful role	9
27	B.SC. III YEAR	BOTANY	GROUP A -	Plant physiology and metabolism	1.Plant-Water Relations 2.Transport of Organic Substances 3.Photosynthesis 4.Nitrogen Metabolism 5.Respiration and Bioenergetics 6.Lipid Metabolism 7.Enzymology 8.Plant Hormones 9.Growth and Development	9

			1	Ecology and Forestry	1.Introductory Ecology	5
			GROUP -A -	Leology and Forestry	2.Ecological Factors	
	B.SC. III				3.Ecosystems	
28	YEAR	BOTANY	l II		4.Phytogeography	
					5.Forestry	
				Ethnobotany	1.Plant used by tribals	8
	B.SC. III YEAR			,	2.Plants in mythology	
					3.Medico-ethnobotanical sources in India;	
		BOTANY	MAJ- II/MIN/ ELEC		4. Significance of plants in ethno botanical practices	
29					5.Role of ethnobotany in modem medicine	
23					6.Role of Ethinic groups in conservation of plant genetic	
					resources	
					7.Endangered taxa and forest managemen 8.Study of common Plants in Skin Diseases	
					6.Study of common 1 tants in Skin Diseases	
				Biology and diversity	1.Economic importance of virus	5
				of viruses bacteria	2. Economic importance of fungi in history in industry medicines	
				and fungi	and food	
30	M.SC I SEM	BOTANY	PAPER - I		3.Mushroom cultivation	
					4.Production of alcoholic beverages 5.Antibiotics and organic acids,	
					3.Antiolotics and organic acids,	
			II	Biology and diversity	1. Algal blooms	4
				of algae	2. Algal biofertilizers,	
31	M.SC I SEM	BOTANY			3. Algae as food and feed	
					4. Industrial uses of algae	
				Biology and diversity	1. Ecology and importance of Brytophyta	1
32	M.SC I SEM	BOTANY	l III	of bryophyta and		
	IVI.SC I SLIVI	20.7		pteridophyta		
				Biology and diversity	Distribution of living gymnosperms in India	3
33	M.SC I SEM	BOTANY	IV	of gymnosperms.	2. Economic importance of gymnosperms	
33	IVI.JC I JLIVI	DOTAIN			3. Indian contribution of gymnosperms	
	M.SC II SEM	BOTANY	/ PAPER - I	Taxonomy of	1. Herbarium	4
				Angiosperms	2. Botanical gardens	
34					3. Taxonomic literature	
	JEIVI				4. Local Plant diversity and its economic importance	
				Morphology Anatomy	Ecological anatomy of Stems, root, and leaf of Xerophytes,	1
35	M.SC II	BOTANY	PAPER - II	and Embriology of	Halophytes, Hydrophytes, Epiphytes, Mesophytes, parasites	
JJ	SEM	DOTAINT	I ALLIN-II	Angiosperms		
			PAPER - III	Plant Ecology	1. Ecosystem	5
					2. Fate of energy and matter in ecosystem	
						1
26	M.SC II	BUT V VIV	DVDED III		3. Trophic organization	
36	M.SC II SEM	BOTANY	PAPER - III		3. Trophic organization4. Air water and soil pollution5. Biomes	

	<u> </u>	I	т	I	To a contract of the contract	1-
				Plant physiology	1. Principles of thermodynamics	6
	M.SC III SEM				2. Plants and inorganic nutrients	
					3. Photochemistry and photosynthesis	
38		BOTANY	PAPER - I		4. Respiration	
	SEIVI				5. Sensory photobiology	
					6. Stress physiology	
				Conservation and	1. Plant biodiversity	6
	M.SC III SEM			utilization of plant	2. Sustainable development	
		BOTANY	PAPER - IV	resources	3. Strategies for conservation of resources , social forestry	
39					4. Green revolution	
					5. Resource monitoring	
					6. Remote sensing	
	M.SC IV	DOT****	DA 555	Biotechnology	1, Evironment biotechnology and ethics	2
40	SEM	BOTANY	PAPER - I	TissueCulture and	2. Intellectual property rights	
				Genetic Engineering	1 Wild adible plants used of others accord-	-
				Ethnobotany	1. Wild edible plants used of ethnic people	5
			PAPER - III IA		2. Detailed study of common plants and their parts used in the treatment of different diseases	
	M.SC IV SEM	BOTANY				
41					3. Plants in mythology4. Plants used in various system of medicines, Ayurvedic, Unani,	
					Homeopathic, Allopathic systems 5. General idea of active principles of plants and their parts	
					3. General idea of active principles of plants and their parts	
				Limnology	1. Food chain	5
	M.SC IV SEM	BOTANY	PAPER - III 2A		2. Food web	
40					3. Trophic levels and Energy flow in fresh water ecosystem	
42					4. Ecological classification of fresh water organisms	
					5. Categories of aquatic higher plants	
				Applied Mycology	Fungi as a pathogen to plants	5
				Applied Mycology	Fungal diseases of human beings and animals	٦
	M.SC IV SEM	BOTANY	PAPER - IV 2B		3. Principles of Fungal disease management	
43					4. Fungi in agriculture	
					5. Importance of Mycorrhiza	
				E E I		
				Forest Ecology	1. Classification of forest Biomes	3
44	M.SC IV	BOTANY	PAPER - IV		2. Wildlife conservation and related legislation	
	SEM		2C		3. Forest Ecology	
	M.SC IV SEM	BOTANY	PAPER - IV 2D	Environmental	Basic concept and applications of eco-technology,	5
				Biology and pollution	vermitechnology and bioremediation	
				ecology	2. Monitoring and analytical methods for air, water, and soil	
45					pollution	
45					3. Biological indicators of air pollutions	
					4. Heavy metals and their effect on Biota	
					5. Concept of bioaccumulation and biomagnification	
					Concept Of Ecology, Habitat Ecology, Wild Life and	
46	B.SC. III	ZOOLOGY	MAJOR - I	ECOLOGY AND	Environment, Pollution, Endangered Species Of India,	7
	YEAR			APPLIED ZOOLOGY	Population Concept, Community	

47	B.SC. III YEAR	CHEMISTRY	MAJOR - I	GREEN AND AGREECULTURE CHEMISTRY	Concepts and principal of Green chemistry: History and evolution of twelve principles ofgreenchemisry and their expanation with examples. Tool of green solvents, Metrices of treen chemistry, Chalanges and scope of green chemistry in india. Green Catalysis and Processes: Green synthesis of the following compounds.	7
48	B.SC. III YEAR	CHEMISTRY	MAJ- II/MIN/ ELEC	PHARMACEUTICAL AND MEDICINAL CHEMISTRY	Importance of pharmaceutical chemistry, Drug and cosmatics, Clinicla trial of drug, Natural drug sources.	4
49	M.SC III SEM	CHEMISTRY	PAPER - III	ENVIRONMENT-AL CHEMISTRY	Atmosphere Atmospheric layers. Vertical tenlperature profile. heat/radiation br,rdgct of the earrh atmosphere systems. Properties of troposphere. thermodirianlic derivation ol'lapse fate. 'l:emperature Inversion. Calculation olGtobat means tenlperature ol'the atmospheie. Biogeochemical cycles of carbon, nitrogen. sulphur. phosphorus' oxygen. Residence times. Atmospheric Chemistry Sources of trace atmospheric constituents: nitrogen oxides. Sulphur dioxide and other sr.rlphur compounds. carbon oxides. chlorofir.rorocarbons and other halogeri compounds. n'lethane and other hydrocarbons' Tropospheric Photochemistry Me&anism Photochemical decomposition o1'N()2 and brmation of ozone' Formation of oxygen. atoms. hydroxyl. hydro peroxy and organic radicals and hydrogen peroxide. Reactions of hydroxyl radicals with ntethane atld other organic .on-,pornd't, Reaction of OU radicals with SO2 and NO2. frormation of Nitrate radical and its reactions. Photochemical smog meteorological conditions antl chemistry of its tbrmation. Air pollution, acid rain, green house effect, urban air pollution, Aquatic chemistry and water pollution, Environmental toxicology, and soil pollution.	33
50	M.SC IV SEM	CHEMISTRY	V (OPTIONAL) PAPER	INDUSTRIAL CHEMISTRY :PESTICIDE AND GLASS INDUSTRIES	UNIT 1- Cleansing Agents Cleansing Agents :Toilet and washing soaps: preparation and uses. Synthe detergents; alkyl aryl sulfonates, fatty alcohol surlaces. ethanolanrines . nonionic detergents. Unit II Fertilizers and Inorganic Materials: Fertilizers: Fertilizers Industries in India, Manufacture of Ammonium salts. Urea, Nitrates, Phosphates and Super phosphates, ,Nitrogen fixation. Glass: Types, their composition and properties testing glass. Manufacture o Glass Fibres. Optical Glass, Colored Classes, Lead Class and Neutron Absorbing Glass. Ceramics: Important clays and feldspar. Glazing and vitrification, Glass ceramics. tJnit III Cement: Types and their manufacture, setting process. Ferrous Industry: Manufacture of steel and other important alloys. Silicon: Pre silicon, Electronics Industry. Unit IV Pesticides and Food additives Pesticides and Food additives: Classification. important categories of i nsecticides, fungicides, herbicides and rodenticia I; Mode ofl action. tJnit V Chemistry and synthesis of corn i pesticides: Such and Tabun. Sarin. Davson. DDYP t	42