



GOVERNMENT COLLEGE KASARAGOD

VIDYANAGAR, KASARAGOD, KERALA, 671123

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NAAC 3RD CYCLE ACCREDITATION

**CROSSCUTTING ISSUES RELEVANT TO PROFESSIONAL
ETHICS, GENDER, HUMAN VALUES, ENVIRONMENT
AND SUSTAINABILITY IN CURRICULUM**

Details of the programs offered in the institute which integrates issues relevant to the professional ethics, gender, human values or environmental sustainability into the curriculum

Sl No	Course Name	Course Code	Department	Addressed issue
1	<u>Literature in Arabic</u>	<u>2A08ARB</u>	Arabic	Environmental sustainability, Human rights, Gender values
2	<u>General assignment</u>	<u>BSc Botany</u>	Botany	The topics related to human values and environmental sustainability should be considered for general assignment
3	<u>Angiosperm systematics and ethnobotany</u>	<u>5B06BOT</u>	Botany	Human values and environmental sustainability
4	<u>Research methodology, Instrumentation and Biostatistics</u>	<u>5B09BOT</u>	Botany	Professional ethics
5	<u>Environmental science and phytogeography</u>	<u>6B10BOT</u>	Botany	Environmental sustainability
6	<u>Genetics, Molecular biology and Plant breeding</u>	<u>6B11BOT</u>	Botany	Environmental sustainability and Human values
7	<u>Environmental Chemistry and Disaster management</u>	<u>CHE2E.01</u>	Chemistry	Environmental sustainability
8	<u>Environmental Studies</u>	<u>5D03CHE</u>	Chemistry	Environmental sustainability
9	<u>Environmental Chemistry</u>	<u>6B17CHE</u>	Chemistry	Environmental sustainability
10	<u>Management Concepts and Principles</u>	<u>1B01COM</u>	Commerce	Professional ethics
11	<u>Environmental studies and disaster management</u>	<u>4A14COM</u>	Commerce	Environmental sustainability
12	<u>Research methods and techniques for economic analysis</u>	<u>4B05ECO</u>	Economics	Environmental sustainability
13	<u>Environmental economics</u>	<u>4B06ECO</u>	Economics	Environmental sustainability
14	<u>Heterodox Economics</u>	<u>5B08ECO</u>	Economics	Gender and human values
15	<u>Gender economics</u>	<u>4C12ECO</u>	Economics	Gender and human values
16	<u>Environmental economics</u>	<u>ECO3C12</u>	Economics	Gender and human values
17	<u>Readings on Kerala</u>	<u>1A02 ENG</u>	English	Human values
18	<u>Readings on Gender</u>	<u>2A 04 ENG -</u>	English	Gender values
19	<u>Readings on Life and Nature</u>	<u>2A 03 ENG -</u>	English	Human values and environmental sustainability
20	<u>Reading on on Democracy and Secularism</u>	<u>3A 05 ENG</u>	English	Human values
21	<u>Readings on Philosophy of Knowledge.</u>	<u>4A 06 ENG -</u>	English	Human Values
22	<u>Academic Writing, Methodology and Research Project</u>	<u>2 B 02 ENG -</u>	English	Professional ethics and human values




Name and Signature of the Principal
Dr. Ananthapadmanabha A.I.



Sl No	Course Name	Course Code	Department	Addressed issue
23	<u>Women's Writing.</u>	<u>6 B 13 ENG -</u>	English	Gender and human values
24	<u>English for Competitive Examinations.</u>	<u>5D01(1) ENG -</u>	English	Human values
25	<u>Dalit Writings</u>	<u>ENG 2E 06 -</u>	English	Human values
26	<u>Women's Writing</u>	<u>ENG 4C 13 -</u>	English	Gender values
27	<u>History of India V: Making of the Nation (1885-1947)</u>	<u>5B08HIS</u>	History	Human values
28	<u>History of Kerala II: Making of Modern Kerala (1500 to 1970)</u>	<u>5B09HIS</u>	History	Human values
29	<u>History of the Contemporary World (1945 -2000)</u>	<u>6B13HIS</u>	History	Human values
30	<u>Environmental management and sustainable development</u>	<u>5D03GEO</u>	Geology	Environmental sustainability
31	<u>Environmental geology</u>	<u>GEO3E04</u>	Geology	Environmental sustainability
32	<u>Community preparedness for disaster management</u>	<u>5D04GEO</u>	Geology	Environmental sustainability and human values
33	<u>Environmental geology</u>	<u>6B10GEO</u>	Geology	Environmental sustainability
34	<u>Disaster management</u>	<u>6B11GEO</u>	Geology	Environmental sustainability and human values
35	<u>Feminist reading in modern Kannada poetry</u>	<u>KAN1E02</u>	Kannada	Gender and human values
36	<u>Cultural studies</u>	<u>KAN2E04</u>	Kannada	Human values
37	<u>Writings in journalism</u>	<u>KAN3E07</u>	Kannada	Professional ethics
38	<u>Kavitha aur kahani</u>	<u>1A07-1HIN</u>	Hindi	Human values
39	<u>Kartha sahithya</u>	<u>3A09HIN</u>	Hindi	Human values
40	<u>Hindi Kavitha</u>	<u>1A07HIN</u>	Hindi	Human values
41	<u>Dynamics of Indian political system</u>	<u>4C04POL</u>	Political Science	Human Values
42	<u>Introduction to Indian Political System</u>	<u>2C02POL</u>	Political Science	Human Values




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 PRINCIPAL
 GOVERNMENT COLLEGE
 KASARAGOD

Arabic -2A08ARB

ADDITIONAL COMMON COURSE II : LITERATURE IN ARABIC

SEMESTER	COURSE CODE	HOURS PER WEEK	CREDIT	EXAM HRS
2	2A08ARB	4	4	3

COURSE OUTCOME

- CO 1:** To understand the distinct features of Arabic prose & poetry literature from classical period to modern period
- CO2:** To understand the basic characteristics of traditional and modern literature in Arabic
- CO3:** To realize the beauty of language & the moral values in the Arabic poems and prose literature and maintain the good perspective
- CO4:** To aware of the literary works of eminent scholars and writers.

Course outline

The following Arabic prose and poetry portions

Unit - 1

1. Thabarakallahu AhsanulKhalikeen (Sura Nahl: verses from 10 to 18 ,AlMueminoon: 12 to 14)
2. AnaAjizaniShukri(story)

Unit – 2

3. Ausanee Rabbi (Al-Hadees Nabawiy)
4. Al sadeequlWafiy by Mahmood Samee Al-baroodi (Poem)

Unit – 3

5. AlibthisamalughathulQalb (Bayan) by QaizulQarni
6. KhuthubaHijjathulWadae (Khuthuba)

Unit – 4

7. MinAbaqirathilArab (Bio grapy)
8. Alafasbir (Poem) by Aliyy bin Aboothalib

Unit – 5

9. Al thawalue (Bayan)
10. HikamwaNasaeh by Dr. Ibrahim Faqui

Prescribed Text Book for Study:

Thabassum prepared by Dr. A. MOHAMMED

Scheme of Question Paper

- Part A - Short answer** (6 questions x Mark 1 each = 6)
- Answer all questions (6 questions x Mark 1 each = 6)
- Part B - Short Essay** (8 questions x Marks 2 each = 16)
- Answer any 6 questions (6 questions x Marks 2 each = 12)
- Part C - Essay** (6 questions x Marks 3 each = 18)
- Answer any 4 questions (4 questions x Marks 3 each = 12)
- Part D - Long Essay** (4 questions x Marks 5 each = 20)
- Answer any 2 questions (2 questions x Marks 5 each = 10)
- Total marks including choice -60
- Maximum marks of the course- 40**

Botany- General Assignment

SUGGESTED METHODOLOGY FOR TEACHING, LEARNING

AND EVALUATION

TEACHING-LEARNING

The whole programme is an Outcome Based Education. Different methods are to be used for teaching learning evaluation; in order to attain the fixed outcomes in each course.

Theory: Student: Review of Literature, Assignment, Presentation, e-learning, Discussion and Debate with peer group, teachers and experts.

Teacher: Lecture, Demonstration, Presentation, Discussion and Debate.

Practical: Student: Identification, Comparison, Differentiation and Categorisation of different plants and their parts by observing Permanent Slides, Hand sectioning etc., Demonstration, Experimentation, Field visit, Report Writing and Keeping records

Teacher: Demonstration, Experimentation, Field visit, Certification

Project: The finalization of the topic should be done at the beginning of the fourth semester and the list should be kept with the HOD for the perusal of the University Examination authorities. There should be at least three projects from a department. The selection of the topic and group should be student centered as far as possible. A project log book/register is to be maintained by each student and submitted along with the project report during the final submission.

Student: Suggestion of Topic, Discussion with the Project guide and Peer group, Review of Literature, Project planning and Designing, Experimentation, Data Analysis and Project Report Preparation and Presentation.

Teacher: Confirmation of Topic, Demonstration, Planning of Experimentation, Guidance and Correction and Certification.

Field Study/ Study Tour: The plant diversity studies should be carried out with the support of Field Study/ Study Tour. During each year there should be a field study of 1-5 days duration, with a minimum of 5 days for the completion of the programme.

General Assignment: Every student should choose one of the topics for self study from the beginning of the programme. A report should be submitted by the end of Sixth Semester.

Suggested topics include: Studies on mangroves/Sacred groves/Campus flora; Cultivation of RET/Fruit/Vegetable/Medicinal plants/Mushroom; Topics related to Social responsibility- River restoration, PBR preparation, Landscaping and Green Auditing.



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Botany-5B06BOT

CORE COURSE-6-ANGIOSPERM SYSTEMATICS AND ETHNOBOTANY

Semester	Course Code	Hours per week	Credit	Exam Hours
5	5B06BOT/PLS	3 + 4	3	3

Course Outcomes

1. Understanding the main features in Angiosperm evolution.
2. Skill development in identification and classification of flowering plants.
3. Ability to identify, classify and describe a plant in scientific terms, thereby.
4. Identification of plants using dichotomous keys.
5. Recognition of locally available angiosperm families and plants.
6. Recognition of economically important plants.
7. Appreciation of human activities in conservation of useful plants from the past to the present.

ANGIOSPERM SYSTEMATICS AND ETHNOBOTANY

Module-1 Systematics:

5Hrs

History, objectives and relevance of Systematics, Systems of classification: Artificial, Natural and Phylogenetic; brief account of Linnaeus', Engler and Prantl's system and APG system (2003). A detailed study of Bentham & Hooker's system-Merits and demerits.

Module-2 Nomenclature:

9Hrs

Botanical Nomenclature, ICN, Latest code -brief account, Brief account of Ranks of taxa, Type concept, Rule of priority, Author citation. Plant identification: Taxonomic literatures-Floras, Monograph, Herbaria-Technique of Herbarium Preparation, Importance of Herbaria, Important Herbaria, Botanical gardens-roles, important botanical gardens. Taxonomic keys-dichotomous (brief account only). Plant descriptions - Common Terminologies used for description of vegetative and reproductive parts.

Module-3 Study of the diagnostic features and economic importance of Angiosperm families

30 Hrs

Annonaceae, Nymphaeaceae, Malvaceae, Rutaceae, Anacardiaceae, Fabaceae with sub families, Combrataceae, Cucurbitaceae, Apiaceae, Rubiaceae, Asteraceae, Sapotaceae, Apocynaceae, Asclepiadaceae, Solanaceae, Acanthaceae, Verbenaceae, Lamiaceae, Euphorbiaceae, Amaranthaceae, Orchidaceae, Zingiberaceae, Liliaceae, Arecaceae and Poaceae.

Module 4 Ethnobotany

10hrs

Major Tribes of North Malabar- Paniya, Adiyani, Kurichya, Karimpalar, Koragar, Kurumar and Maratti. Indigenous knowledge on plants-Major plants used by the tribes- food, fodder, medicine and other livelihood activities. Scientific validation of Traditional Knowledge. Benefit sharing case study-Trichopus zeylanicus. Traditional knowledge and Scientific Knowledge.

Practicals: 4hrs/week

1. Work out atleast one genus of each family mentioned in the syllabus and make suitable diagrams, describe them in technical terms and identify up to species using the flora.
2. Field visit- Local area/ Botanical garden/ tribal settlements.
3. Preparation of 20 properly identified herbarium specimens.
4. Survey of ethnobotanical uses of plants.
5. Identify plants/plant products of economic importance belonging to the families mentioned in the syllabus: with binomial, family and morphology of useful parts. *Annona*, Cotton, Mango, Red gram, Green gram, Horse gram, Black gram, Bengal gram, Red gram, Indigo, Tamarind, Bitter gourd, *Luffa*, Asfoetida, Cumin, Coriander, Coffee, *Catharanthus*, *Rauwolfia*, Brinjal, Tomato, Chilly, *Justicia adhatoda*, *Vitex nigundo*, *Leucas aspera*, *Hevea*, Tapioca, *Ricinus*, Ginger Turmeric, Coir, Arecanut, Rice, Wheat, Ragi, Sugar cane

References

1. Baker, H.G. 1970. Plant and Civilization, Wadsworth Publishing Company.
2. Colton C.M. 1997. Ethnobotany - Principles and applications. John Wiley and sons -Chichester
3. Cotton, C.M. 1996. Ethnobotany - Principles and Applications. Wiley and Sons
4. Datta S.C., *Systematic Botany*, 4th Ed, Wiley Eastern Ltd., New Delhi, 1988.
5. Eames A. J. - *Morphology of Angiosperms* - Mc Graw Hill, New York.
6. Heywood - *Plant taxonomy* - Edward Arnold London.
7. Jain, S. K. 1981. Glimpses of Indian Economic Botany, Oxford
8. Jain, S. K. 1995. A Manual of Ethnobotany. Scientific Publishers, Jodhpur.
9. Jeffrey C. J. and A. Churchill - *An introduction to taxonomy* - London.
10. Jeffrey, C. (1982). An Introduction to Plant Taxonomy. Cambridge University Press, Cambridge
11. Judd, W.S., Campbell, C.S., Kellogg, E.A., Stevens, P.F., Donoghue, M.J., 2002. *Plant Systematics: A Phylogenetic approach*, 2nd edition, Sinauer Associates, Inc., USA.
12. Lawrence - *Taxonomy of Vascular Plants* - Oxford & I B H, New Delhi.
13. Manilal, K.S. and M.S. Muktesh Kumar 1998. *A Handbook on Taxonomy Training*. DST, New Delhi.
14. Manilal, K.S. and A.K. Pandey, 1996. *Taxonomy and Plant Conservation*. C.B.S. Publishers & Distributors, New Delhi.
15. Manilal, K.S. 2003. *Van Rheede's Hortus Malabaricus. English Edition*, with Annotations and Modern Botanical Nomenclature. (12 Vols.) University of Kerala, Trivandrum.
16. Mathew Angala, Philip Ajesh T and Mathew Babuji, 2015. Ethnobotany of Paliya Tribe in Idakki District of Kerala, Lambert Academic Publishing
17. Naik V.N., *Taxonomy of Angiosperms*, 1991. Tata McGraw-Hill Pub. Co. Ltd., New Delhi.
18. Pandey, S. N. and S.P. Misra (2008)-*Taxonomy of Angiosperms*- Ane Books India, New Delhi.
19. Prithivisingh (2007), *An introduction to Biodiversity*, Anebooks India, Delhi.
20. Radford A B, W C Dickison, J M Massey & C R Bell, *Vascular Plant Systematics*, 1974, Harper & Row Publishers, New York.

Botany-5B09BOT

CORE COURSE-9- RESEARCH METHODOLOGY, INSTRUMENTATION AND

BIOSTATISTICS

Semester	Course Code	Hrs/ week	Credit	Exam hours
V	5B09BOT/PLS	4+1	3	3

Course Outcomes

1. Learning of the fundamental characteristics of science as a human enterprise, product and intellectual process
2. Understanding the working of science for further application in free, independent, individual needs and in designing scientific experimentation.
3. Appreciation of several scientific works and assessment of its influence on society.
4. Acquire knowledge on the principles, components and applications of various scientific equipments in biology.
5. Foundation knowledge in the basic concepts, components and functions of informatics.
6. Appreciate the importance of statistical principles in biological research.

Module -1. Introduction to Science Research Methodology

20 Hrs

What is Science? Science and Non Science, Pseudoscience. History of Science, Types of knowledge- scientific knowledge. The salient features of knowledge, concepts and laws in science - Information. Hypotheses, theories and laws in science, Areas of science-pure and applied science.

Experimentation in Science-Selecting a problem, observation, data collection, Presentation of Data, and interpretation; formation of hypothesis; Experimental designs- variables- correlation and causality, sampling, control in experiments, experimental bias and errors. Types of Experiments -to test a hypothesis-to measure a variable - to gather data. Making observations -direct and indirect; controlled and uncontrolled; human and machine observations. Documentation of experiments. Discussion and analysis.

Publications in Science- Types of Publication Journals, Important Journals in Botany, Impact Factor; Monographs; Floras. Importance of Peer Review. Patents and copyrights

Ethics in Science- Research /Experimentation /Publication - Agriculture, Patent, Biotechnology, animal Experimentation, Variety Production

Module 2 - Instrumentation

25 Hrs

Microscopy- Types and Principles

Parts of compound microscope- the instrument, magnification, resolution. - objective lenses- ocular lens- aberration of lenses-visibility. Phase contrast microscopy, Fluorescence microscopy- Electron microscopes-SEM, TEM. Accessory techniques: Camera lucida drawing, Micrometry, video microscopy and image processing- photomicrography. Hand Sectioning and Microtome Sectioning, Staining - Common stains. Mounting and Mounting media.

Methods in Molecular biology and Biochemistry.

Separation techniques- Types, Principles, and Applications of Centrifuge,

Chromatography and Electrophoresis.

Sterilization methods - Autoclave, Laminar air flow, UV irradiation, Chemical sterilization.

Spectrophotometry- Principles, instrumentation and Applications of Colorimeter and Spectrophotometer.

Buffers- their principle and functions in biological systems, Preparation and uses of buffers in biological research.

pH meter- Principles, and Applications.

Laboratory Safety Measures by UNESCO; Biosafety Concept

Module 3: Computer for Research

8 Hrs

Features of the modern personal computer and peripherals, computer networks and Internet, wireless technology, cellular wireless networks. Overview of Operating Systems & major application softwares that can be used in biological research.

Module 4 - Biostatistics

19 Hrs

Biostatistics- Measures of Central tendency- Arithmetic Mean, Median, Mode; Measures of Dispersion - Range, Standard Deviation, Standard Error; Correlation and Regression, Test of Significance: Chi-square analysis, Application of Biostatistics. Major statistical softwares used in biology.

Practicals -1 hr/ week

1. Parts of Compound microscope.
2. Micrometry
3. Demonstration of Microtome sectioning
4. Separation of Plant pigments by paper chromatography
5. Preparation of buffers (Phosphate buffer) and determination of pH
6. Demonstration of Autoclave, Spectrophotometer, Laminar Air Flow cabinet, Centrifuge and Electrophoresis.
7. Graph and Table preparation using computers
8. Familiarisation of Computer hardware- photographs and diagrams
9. Work out problems on measures of central tendencies, measures of dispersion . chisquare analysis, both manually and using computer softwares.
10. Whole mount preparation

References:

1. Alan Evans, Kendal Martin *et al.*, *Technology in Action*, Pearson Prentice Hall (3rd edn.).
2. Alexis & Mathews Leon, *Fundamentals of Information Technology*, Leon Vikas
3. Alexis Leon & Mathews Leon, *Computers Today*, Leon Vikas.
4. Attwood AT and DJ Parry-smith. Introduction to Bioinformatics. Pearson Education Ltd.
5. Bajpai, P.K. (2008). *Biological instrumentation and methodology*. S. Chand and company Ltd, New Delhi
6. Barbara Wilson, *Information Technology: The Basics*, Thomson Learning.
7. Casey E. J. - *Biophysics - Concepts and Mechanics* Van Nostrand Reinhold Company.
8. Galen .W. Ewing - *Instrumental methods of chemical analysis* Mc - Graw Hill Book Company.
9. Graeme P. Berlyn and Jerome P. Miksche, 1976. *Botanical Microtechnique and Cytochemistry*



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Botany-6B10BOT

CORE COURSE -10- ENVIRONMENTAL SCIENCE AND PHYTOGEOGRAPHY

Semester	Course Code	Hours per week	Credit	Exam Hours
6	6B10BOT/PLS	4+ 2	4	3

Course Outcomes

1. Understanding the fundamental concepts in ecology, environmental science and phytogeography.
2. Concept development in conservation, global ecological crisis, Sustainable development and pros and cons of human intervention.
3. Enable the student to appreciate bio diversity and the importance of various conservation strategies, laws and regulatory authorities.
4. Recognition of the need for more research to create a baseline data for sustainable exploitation-Think globally and Act locally
5. Analyse the interrelationship between the geography and pattern of distribution of plants.
6. Appreciate key concepts from economic, political, and social analysis as pertained to the design and evaluation of environmental policies and institutions.
7. Appreciate the ethical, cross-cultural, and historical context of environmental issues and the links between human and natural systems.
8. Reflect critically about their roles and identities as citizens, consumers and environmental actors in a complex, interconnected world.

ENVIRONMENTAL SCIENCE AND PHYTOGEOGRAPHY

Module-1 Introduction

2 Hrs

Definition, scope and importance of environmental science. Difference between ecology, environmental science and environmental studies, branches of ecology- autecology, synecology.

Module -2: Structure and function of an ecosystem

15 Hrs

Structure of freshwater, marine and forest ecosystem. Producers, Consumers and Decomposers. Factors affecting ecosystem- biotic and abiotic factors Trophic organization. Food chains- grazing, parasitic, microbial loop, food webs and types of ecological pyramids., Energy flow in the ecosystem- 10% law and flow diagram. Productivity of ecosystem- Primary and Secondary Productivity. NPP and GPP Biogeochemical cycles-complete, incomplete, Water, Gaseous- Nitrogen, Carbon, Sulphur, Phosphorus.

Module -3: Community structure and Dynamics

15 Hrs

Concept of habitat and ecological niche, Ecotone and Edge Effect. Concepts in ecosystem- Ecads and Ecotypes. Techniques used in Plant community studies- Quadrat and transect methods-species area curve- density, frequency, abundance and dominance of populations- importance value index- construction of phytophages. Ecological succession: Introduction, types, characteristic features, structure of each substage in Xerarch, Hydrarch and Mesarch.

Module 4: Plant adaptations and interactions

5 Hrs

Adaptations -morphological, anatomical and physiological in Hydrophytes, Xerophytes, Halophytes, Epiphytes and Parasites. Plant- Animal Interactions -Introduction, General categories with examples. Commensal interactions, Antagonistic interactions-Herbivory, Mutualisms- Pollination and seed dispersal. Co-evolution of plants and insects, Role of Plant-Animal interactions in sustainability of ecosystem. Brief account on myrmecophily, chiropterophily.

Module -5: Environmental Pollution

8 Hrs

Definition, Cause, effects and control measures of Air pollution, Water pollution, Soil pollution, Noise pollution, Thermal pollution, Electromagnetic pollution and Light Pollution. Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents. Pollution Control Board and its role. Pollution case studies- Ganga River, Chernobyl, London and Delhi Smog, Endosulfan, Tajmahal

Module 6: Biodiversity

5 Hrs

Introduction - Definition: genetic, species and ecosystem diversity. Importance of biodiversity at global, National and local levels. India as a mega-diversity nation. Concept of Hot-spots of biodiversity and hotspots in India. Threats to biodiversity: habitat loss, poaching of wildlife, Endangered and endemic species of India

Module 7: Phytogeography

4 hrs

Phytogeography- Definition, concepts --Descriptive and dynamic -Continental drift, age and area theory, Endemism, centre of origin, Plant migration and barrier. Topographic factors- Altitude and latitude. GPS. Remote sensing. Vegetation types of India

Module -8: Man and Biosphere

18 hrs

Man in conflict with other resources during Infrastructure development, Urbanisation and Industrialisation, Consumerism and Tourism. Depletion of Natural resources, Man-wildlife conflict.

Man's efforts for the restoration of Natural resources:

Environment Protection Acts- major clauses, provisions and impacts of Air (Prevention and Control of Pollution) Act; Water (Prevention and control of Pollution) Act, Wildlife Protection Act, Forest Conservation Act, Biodiversity conservation Act, Gadgil Committee Report,

Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity - National Parks, Sanctuaries and Biosphere Reserves, Sacred groves and Botanic Gardens. Biodiversity related agencies and activities-PBR, BMC, etc.

Disaster Management: Floods, earthquake, cyclone, forest fire and landslides

Solid and liquid waste Management: Causes, effects and control measures of urban and industrial waste including e-waste, Biomanuring and composting, Phytoremediation.

Energy Management: Use of Renewable Energy Resources and alternate energy resources

Afforestation and Reforestation: Natural and Artificial regeneration-Forest Nurseries- Plantation techniques- Social forestry, Agroforestry and Silviculture.

Restoration of Aquifers: Rain water harvesting methods, Watershed management.

Movements, Agitations and Awareness Programmes : Earth Summits and World protocols Chipko movement, Silent Valley Movement, Important days- World Environment day, Forest Day, Wetland Day, etc.

Sustainable Development and changes in lifestyle: Conservation of Indigenous knowledge and Community participation. Utilization of GPS, Remote sensing and GIS to address environmental problems

Practicals 2 Hrs/week

1. Visit a local polluted site and documentation of major pollutants/Reserve forest.
2. Study of plant community by quadrat method.
3. Study of ecological and anatomical modifications of xerophyte, hydrophyte, halophyte, parasite and epiphyte.
4. Estimation of DO and BOD and calculate the primary productivity of pond water.
5. Estimation of dissolved carbon dioxide in water
6. Knowledge of ecological instruments- hygrometer, rain gauge, anemometer, altimeter, luxmeter, wet and dry bulb thermometer, salinometer, water sampler, GPS (with the help of equipment/diagram or photograph)

References

1. Agarwal K .C . - *Envormental Biology* - Nidi Pub:
2. Aggarwal, S. K., 2009. *Foundation Course in Biology, 2nd edn.*, Ane Books Pvt. Ltd., New Delhi.
3. Ambasth R.S.,N.K. Ambasth- *Textbook of Plant Ecology* ,15TH edition CBS publishers and distributors, Delhi.
4. Bharucha, E. 2005. *Textbook of Environmental Studies for Undergraduate Courses*. Universities Press (India) Private Limited, Hyderabad.
5. Clark R .S .*Marine Pollution* - Oxford
6. Jadhav H. *Environmental Protection laws* - Himalaya Pub:
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8. Kormondye, E. 1989. *Concepts of Ecology* (3rd Ed.). Printice Hall of India, New Delhi.
9. Kothari, A. 1997. *Understanding Biodiversity: Life, Sustainability and Equity: Tracts for the Times*. 11. Orient Longman Ltd., New Delhi.
10. Kumar, H. D .- *Modern concept of Ecology* - Vikas Pub:
11. Kumaresan B. - *Plant Ecology & Phytogeography* - Rastroggi Pub:



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Botany-6B110BOT

CORE COURSE -11-GENETICS, MOLECULAR BIOLOGY AND PLANT BREEDING

Semester	Course Code	Hours per week	Credit	Exam Hours
6	6B110BOT/PLS	5+3	4	3

Course Outcomes

1. Identify the basic principles and current trends in classical genetics.
2. Recognise the historical process of the evolution of molecular genetics from classical genetics.
3. Review the relevance of the application of genetic principles in agriculture, medicine, research and industry.
4. Outlining the use of genetic principles for conservation, defining and better understanding of nature.
5. Develop theoretical background on molecular genetics to provide a strong support for the student for future research and employability.
6. Appreciate the way scientists work in understanding biological processes and the organization of cell.
7. Cite examples for scientific interventions to human and plant life through brief exposure to plant breeding principles.
8. **Modify the concept on gender, human diseases and their management based on the study of genetic principles of human beings.**

GENETICS, MOLECULAR BIOLOGY AND PLANT BREEDING

Module 1: Introduction to Genetics

3 Hrs

Definition, Branches and Scope of Genetics. Early concepts on reproduction and genetics, Division of Genetics. Technical advancements and emergence of molecular genetics

Important terms in genetics – factors, genes, chromosomes, alleles, homozygous and heterozygous, hemizygous, traits, phenotypes, genotypes, locus, linkage, mutation; population, offspring, clone, Test cross, back cross, reciprocal cross.

Genes Vs Environment, Genetics and society- Eugenics and Euphenics

Module 2: Mendelian Genetics

4 Hrs

Brief account of Mendel's life history: Mendelian experiments: Monohybrid cross and dihybrid cross, Mendelian ratios, Laws of inheritance. Reasons for Mendel's success. Mendelian Genetics and sexual cycle in plants.

Module 3- Gene interactions and modified Mendelian ratios

10 Hrs

a. *Allelic interactions*: dominant – recessive, Incomplete dominance – flower color in *Mirabilis*; Co-dominance – Coat colour in cattle, Lethal genes – Sickle cell anemia in Human beings.

b. *Interaction of genes*: Non epistatic - Comb pattern inheritance in poultry 9:3:3:1. Epistasis: dominant - Fruit colour in summer squashes 12:3:1; recessive - Coat color in mice 9:3:4; Complementary gene interaction- flower color in *Lathyrus* 9:7. Inhibitory genes – Leaf

Colour in paddy 13:3; Duplicate gene interaction- Shepherd's Purse 15:1, Duplicate genes with cumulative effect 9:6:1, Pleiotropic genes.

c. *Quantitative inheritance*- Polygenes-General Characters-. Ear size in corn. Transgressive variation-Heritability Phenotypic expression- Penetrance and expressivity

Module 4- Chromosomes

10 Hrs

Introduction – Role of chromosomes in inheritance and its significance. Chromosome Morphology, Chromosomal nomenclature- Chromatid, Centromere, Telomere, Secondary constriction, Satellite and Nucleolar Organizing Regions. Chromosomal classification based on position of Centromere. Heterochromatin and Euchromatin, Karyotype and Idiogram. Chromatin reticulum-Structure, Chemical organization of Chromosomes; DNA and Histones. Packaging the DNA into Chromosomes, Polytene chromosomes, Lamp brush chromosomes and B chromosomes. **Chromosomal mutation - Structural aberration**. - Deletion, Duplication, Inversion and Translocation and its genetic consequences. **Numerical aberration** - Aneuploidy and Euploidy.

Module 5- Sexuality and Genetics

6 Hrs

Determination of sex- different theories- Chromosome theory (Grasshopper, Man, *Drosophila*); Dosage compensation; Lyon Hypothesis; Genic balance theory. Sex determination in plants (*Melandrine*, *Dioscorea*, *Sphaerocarpus*). Sex linked Inheritance-X linked inheritance-eye color in *Drosophila*. Y-Linked inheritance-Sex limited and sex influenced traits. Extra chromosomal inheritance- Variegation in Four o' clock plant; Poky in *Neurospora*

Module 6- Chromosome mapping

5 Hrs

Linkage: Definition; types – complete (*Drosophila*) and incomplete (*Maize*); explanations for linkage- Linkage Vs Independent assortment. Crossing over -Mechanism of crossing over cytological demonstration. Chromosome Mapping-Definition- determining the gene sequence - importance of Two point and three point test crosses in chromosome mapping-Interference and coincidence

Module 7- Overview of molecular biology

12 Hrs

Introduction: DNA- The genetic material, Evidences for DNA as genetic material, (Griffith, Avery, McLeod, McCarthy Experiments) Chargaff's rules. Watson and Crick model of DNA. Different forms of DNA- A, B and Z.

DNA replication- Enzymology of DNA replication, Mechanism and types of Replication

Concept of gene - Cistron, Recon, Muton. One gene-One enzyme hypothesis, One gene-One polypeptide hypothesis. Introns and Exons. Mobile genetic elements (general account)

Genetic code – Discovery (Brief account), features of genetic code, Codon and Anticodon.

Module 8 Gene Expression

12 Hrs

Central dogma-

Transcription-Mechanism-initiation, elongation and termination of RNA synthesis. Types of RNA-Structure, Composition and Significances of tRNA, mRNA and rRNA. Post transcriptional modification in eukaryotic mRNA.

Translation-Protein synthesis- Mechanism -Activation of aminoacids, initiation, elongation, termination. Post translational processing (Brief account).

Gene regulation in prokaryotes - Operon concept- *lac*, *trp* operons.

Gene regulation in Eukaryotes - Transcriptionally active and inactive form of chromatin, and role of promoters in Eukaryotic gene regulation.

Module 9 Gene Mutation

6 hrs

Types of mutation-Transition, Transversion and Frameshift mutation, Molecular basis of mutation, Mutagens; Chemical and Physical agents, tautomeric shift, alkylating agents, base analogues. DNA Repairing Mechanisms

Module 10 Human Genetics

5 Hrs

Mendelian principles and human genetics. Blood group in human beings; Quantitative inheritance in human beings-skin colour, IQ and other traits Haemophilia in man, Syndromes- Down, Turner, Klinefelter, Criducut, Human Genome Project and significance.

Oncogenes and cancer –Carcinogenesis, Characters of Cancer cells, Cellular oncogenes and Tumour suppressor genes

Module 11 Statistics and Genetics

2 Hrs

Statistical Probability and Mendelian genetics-Hypothesis testing-Chi-square test. Pedigree analysis- Symbols of Pedigree- Pedigrees of Sex-linked & Autosomal (dominant & recessive)

Module 12 Plant breeding

15 Hrs

History and objectives of Plant Breeding. Genetic resources-Centres of diversity, Origin of crop plants, Domestication, Conservation, Plant introduction and acclimatization. Plant quarantine measures.

Methods of Breeding- Hybridization-Heterosis and Selection, (Pedigree, Mass, Pureline and Clonal). Haploidy, Polyploidy breeding and Mutation breeding. Achievements in Rice, Wheat, Cotton, Sugarcane, Potato and Tomato.

Major plant breeding Institutes in India and its contributions.

Plant variety protection, Farmer's right and plant breeders rights.

Biotechnology and Crop improvement: Pest Resistance, Herbicide Resistance, Drought resistance, Enrichment of storage protein and Improvement of the nutritional quality.

Issues related to crop improvement

Practicals 3 hrs/week

1. Dihybrid inheritance
2. Allelic and Non allelic Gene interactions.
3. Chromosome mapping (two-point and three point crosses).
4. Chi square analysis
5. Probability factor in Genetics
6. Plant total DNA extraction.
7. Agarose gel electrophoresis of DNA samples
8. Breeding Methods-Budding, Layering and Grafting

References

1. Allard RW., 1960. Principles of plant breeding, John Wilson and Sons
2. Bajaj VPS 1990. Haploids in crop improvement.
3. Benjamin Lewin (2004) Gene VIII.Pearson Education international.
4. Bower F.O. (1935) - *Primitive Land Plants* - Cambridge , London
5. Chamberlain C.J Gymnosperm, Structure and Evolution.
6. Chaudhuri H.K (1984) Elementary principles of plant breeding. Oxford and IBH publishing Company.
7. De Robertis, E.D.P and De Robertis E.M.F (1997) Cell and Molecular Biology
8. Delevoryas, Theodore-PlantDiversification(2nd Edn),Halt,rinehart and winston
9. Dobzhansky,B(1961) Genetics and the origin of species Columbia University press, New York.
10. Gardner, E. J and Snustad, D.P (1984) Principles of Genetics
11. Gupta P.K (2000) Genetics, Rastogi Publications
12. Harlan.P.Banks(1972) Evolution and plants of the past,Macmillan
13. Jay.M.Savage (1977) Evolution .Halt,Rinehart and winston,New York
14. Joan Eiger Gottlieb (1971) Plants Adaptation through evolution.
15. Karvita B., Ahluwalia(2009, Edition : 2nd) Genetics. New age international Pvt Ltd, New Delhi
16. Laura Livingston Mays(1981);Genetics A Molecular approach: Macmillan publishing company.
17. Raven, PH; Johnson, GB; Losos, JB; Singer, SR (2005), *Biology, seventh edition*, Tata McGraw- Hill, New Delhi
18. Robert H.Tamarin (2002) Principles of Genetics
19. Sharma(1990) Principles and practice of plant breeding, Tata MC Graw Hill,New Delhi
20. Simmonds N.W.(Ed)(1976) Evolution of crop plants. Longman London and New York
21. Singh B.D. (2003) Plant Breeding -Principles and Methods -Kalyani publishersLudhiana, New Delhi.
22. Sinha,U and Sunitha Sinha(1997) Cytogenetics .plant Breeding and Evolution Vikas publishing House Pvt Ltd
23. Sinnot, E.W.Dunn, L.C and Dodzhansky,T.(1958) Principles of genetics
24. Stebins G.L.(1950)Variation and Evolution in plants. Columbiauniversity Press,Newyork
25. Stebins G.L.(1970) The process of organic evolution. Prentice hall,new Delhi
26. Sutton.H. An introduction to human Genetics (2: 1975)
27. Swanson, C.P (1957) Cytology and Genetics. Englewood cliffs, New York
28. Veera Bala Rastogi (2008), *Fundamentals of Molecular Biology*, Ane ebooks, India,
29. Verma P.S and Agarwal V.K() Genetics.
30. Watson, Hopkins, Roberts,Steitz, Weiner-Molecular Biology of the gene(4e 1987-1998 reprint) Benjamin/cummings publishing company ,JNC.
31. William Hexter and Henry T.Yost, Jr.(1977) The science of Genetics.
32. Acquaaah G., 2006. Principles of Plant Genetics and Breeding



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Chemistry-CHE2E01

CHE2E01 ENVIRONMENTAL CHEMISTRY AND DISASTER MANAGEMENT

TOTAL HOURS: 72

UNIT – I

18 HOURS

ENVIRONMENTAL AND ATMOSPHERIC POLLUTION

Components of environment. Factors effecting environment – segments of environmental. Atmosphere – composition and structure. Soil – composition and process of soil formation. Hydrosphere – sea water and river water composition. Environmental pollution – pollutant definition – origin, classification and types of pollution. Air pollution – sources (industrial, automobiles) – effect of SO₂, NO_x, CO, H₂S, smoke, hydrocarbons on human and plant systems. Cause and consequence of acid rain, green house effect, ozone depletion and photochemical smog. Air pollution control method. Air pollution accident – Bhopal tragedy

UNIT – II

18 HOURS

a) Soil, water, thermal and radioactive pollution

Soil pollution sources – effect of fertilizers as soil utilization and agricultural work, pesticide and herbicides. Control methods. Water pollution – sources, effect of pollutants – oxygen deficiency, eutrophication. Water quality criteria for industrial and domestic use. Sewage treatment – industrial waste water treatment, experimental determination DO, COD, and BOD. ISI standard of drinking water. Thermal and radioactive pollution. Sources and control of thermal pollution. Sources and effects of radioactive pollution

b) Instrumental methods in chemical analysis

A brief study i) AAS, ii) X-ray fluorescence, iii) gas chromatography and iv) ion selective electrodes

UNIT – III

18 HOURS

INTRODUCTION TO DISASTERS

Concepts, and definitions (Disaster, Hazard, Vulnerability, Resilience, Risks). Disasters: Classification (Natural and Manmade), Causes, Impacts (including social, economic, political, environmental, health, psychosocial, etc.). Differential impacts – in terms of caste, class, gender, age, location, disability. Global trends in disasters, urban disasters, pandemics, complex emergencies, Climate change

UNIT – IV

18 HOURS

DISASTER MANAGEMENT

Disaster management mechanism: Concepts of risk management and crisis management, Disaster management cycle, Response and Recovery, Development, Prevention, Mitigation and Preparedness, Planning for disaster management: Strategies for disaster management planning, Steps for formulating a disaster risk reduction plan, Disaster management Act and Policy in India, Organizational structure for disaster management in India, Preparation of state and district disaster management plans, Technologies for Disaster Management: Remote Sensing, GIS and GPS

REFERENCES

1. B K Sharma and H Kaur, Thermal and radioactive pollution, Krishna Prakashan Mandir, Meerut
2. B K Sharma and H Kaur, Water pollution, Krishna Prakashan Mandir, Meerut
3. T H Y Tebbut, Principles of water quality control A, Butterworth-Heinemann
4. Aril K De, Environmental chemistry 4th edn. New age International Pvt Ltd
5. Cleaning our environment-A chemical perspective 2nd edn. American Chemical Society
6. S K Banerjee, Environmental chemistry, Gool Publishing house, Meerut
7. L W Moore and E A Moore, Environmental chemistry, McGraw Hill Publication, Newyork
8. Gary W Varloon and Stephen J Duffy, Environmental chemistry-A global perspective, Oxford University Press
9. Baily Clark, Ferris Kraus and Strong, Chemistry of the environment, Elsevier
10. Alexander, D. Natural Disasters, ULC press Ltd, London, 1993.

Chemistry-5D03CHE

GENERIC ELECTIVE COURSE

Environmental Studies

SEMESTER	COURSE CODE	HOURS PER WEEK	CREDIT	EXAM HRS
V	5D03CHE/PCII	2	2	2

Contact hours:36Hrs

Course Outcome

On successful completion of this course, students should be able to

- CO 1) Differentiate the environmental segments and understand the importance of environmental segments
- CO 2) Identify the types of environmental pollution and the various sources of the pollution
- CO 3) Understand the consequences of environmental pollutions
- CO 4) Explain the measures of control of environmental pollution
- CO 5) Recognise various sustainable energy sources

UNIT1. Environmental segments

6 Hours

Environmental segments – Lithosphere: soil formation – components of soils. Hydrosphere: Hydrological cycle- Biosphere – Atmosphere- Structure and composition

UNIT 2.Air Pollution

9 Hours

Types of pollutants

Air pollution –Sources – pollutants –CO, NO_x, Sox, Hydrocarbons, Particulates. Effect on ecosystem., Ozone layer –importance, Ozone depletion-Control measures- Acid rain-control of acid rain- Green house effect-global warming-photochemical smog(Eqns not needed)- effect pollution on plants and human beings. Control of air pollution Noise Pollution – physiological response to noise – biological effects- carbon foot print

UNIT 3.Water Pollution 7 Hours

Water Pollution – Sources –Industrial effluents- agriculture discharge - oil spills- heavy metal- pesticides-biomagnifications and bioaccumulations

Dissolved oxygen in water, chemical oxygen demand (COD) and biochemical Oxygen demand (BOD)(Definition only)- control of water pollution- ISI/BIS standards of drinking water

UNIT 4.Soil Pollution8 Hours

Soil Pollution - Sources by industrial and urban wastes, radioactive pollutants, plastics heavy metals.Poisoning by heavy metals – Mina- matha&itai-Itai diseases. Control of soil pollution.- Solid waste Management -Thermal pollution definition-sources of thermal pollution ,harmful effect of thermal pollution prevention of thermal pollution.

UNIT 5.Sustainable Energy Sources & Technology

6 Hours

Green energy Sources- Wind-water-solar- use of solar energy in space- Production of electricity using solar energy- Tidal, Biomass and geothermal energy

References:

- 1.Text book of Environmental Studies for under graduate courses – ErachBhar
2. Essential Environmental studies- S. P. Misra – S. N. Pandey
3. Environmental chemistry and pollution control – S.S Dara (2nd Edition)
4. Environmental chemistry- Peter O' Neill
5. Environmental chemistry – B.K. Sharma
6. Fundamental concepts of environmental chemistry – G.S Sodhi
7. Environmental Chemistry. A.K De

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Chemistry-6B17CHE

CORE COURSE VII: ENVIRONMENTAL CHEMISTRY

(DISCIPLINE SPECIFIC ELECTIVE COURSE)

SEMESTER	COURSE CODE	HOURS PER WEEK	CREDIT	EXAM HRS
VI	6B17CHE/PCII- A	3	3	3

Course Outcome

On successful completion of this course, students should be able to

CO1 Know the importance of environmental studies and methods of conservation of natural resources.

CO2 Describe the structure and function of an ecosystem and explain the values and Conservation of bio-diversity.

CO3 Explain the sources, environmental effects and control measures of various types of pollutions.

CO4: Identify the toxic chemicals in environment and understand the sources, effects and treatment of heavy metal poisoning

CO5: Understand the methods of domestic water treatment, Sewage analysis and Sewage treatment

Contact hours 54

Unit I. Environmental segments (6 hours)

Environmental segments: Lithosphere, Hydrosphere, Atmosphere and Biosphere.

Atmospheric structure and composition - chemical composition of water in water bodies - (Ground water, river water and lake water, sea water wetlands)- Hydrological cycle.

Chemical Toxicology - Toxic chemicals in environment - Sources, effects and treatment

of heavy metal poisoning - Pb, As, Cd, Hg, Cr, Cu & Co. Minamata and Itai-Itai diseases.

Unit II. Air Pollution (14 hours)

Pollutant-classification

Air pollution - Air pollutants - CO, NO_x, SO₂, H₂S, Hydrocarbons, particulate matter.

Acid rain and its effects.

Green house effect and global warming - climate change - ozone chemistry and ozone

[Type text]

hole- chlorofluorocarbons, dioxins, Photochemical smog (reactions) - El Nino phenomenon. Bhopal gas tragedy. Control of air pollution - control by devices - Stacks, filters, electrostatic precipitators, cyclone separators, scrubbers and catalytic converters.

Unit III. Water pollution (12 hours)

Water resources, - water pollution - sources - Industrial effluents - agriculture discharge- oil spills - heavy metals - pesticides - detergents

Eutrophication - biomagnifications and bioaccumulation - experimental determination of

Dissolved oxygen, BOD and COD - Thermal Pollution - Control of water

pollution - ISI/BSI standards of drinking water. Hardness of water - causes and effects -

methods of estimation - removal of hardness. Domestic water treatment - Sewage -

Sewage analysis - Sewage treatment

Unit IV. Soil Pollution (11 hours)

Lithosphere - soil formation - Different types of weathering - components of soils - Acid

Base and ion exchange reactions in soil - soil pollution - soil acidification - effects on plants -

liming of soil - Industrial and urban wastes - plastics, pesticides and heavy metals in soil -

garbage - biomedical waste - E waste - Municipal Solid waste management. Bioremediation

Unit V. Noise and Radiation pollution (11 hours)

Noise pollution and Radioactive Pollution: Human acoustics - Noise - general features -

types of Noise - Measurement of noise - sound pressure and power levels - sources and

effects of noise pollution - prevention of hearing loss in industry - control of noise

pollution.

Radiation chemistry - Man made and natural radiations - biological effects of radiation -

radiation hazards from reactors - Fukushima nuclear disaster- radioactive waste management

References:-

1. Environmental Chemistry, A.K.De.
2. Environmental Chemistry, P.S. Sindhu
3. Environmental Chemistry, B. K. Sharma
4. Essentials of environmental studies, S.P. Misra & S.N. Pandey
5. Advanced Inorganic Chemistry Vol. II, Gurdeep Raj
6. Engineering Chemistry, Dr. B.K. Sharma
7. Engineering Chemistry, Jain & Jain, Dhanpat Rai Publishing Company

Commerce -1B01COM

CORE COURSE I: - MANAGEMENT CONCEPTS AND PRINCIPLES

SEMESTER	COURSE CODE	HOURS PER WEEK	CREDIT	EXAM HRS
I	1B01 COM	5	4	3

COURSE OUTCOME

After studying the course, students shall be able to;

CO1:- Understand the evolution of management thoughts, concept of management, scope and its functions.

CO2:- Familiarize with current management practices.

CO3:- Understand the importance of ethics in business.

CO4:- Acquire knowledge and capability to develop ethical practices for effective management.

CO5:- Describe the emerging trends in management.

Unit I

Management Concepts: Evolution of Management thoughts: Classical approaches - Scientific management, administrative management and bureaucracy- Neo classical approaches - Human relations and Behavioral approach - Modern approaches- Quantitative approach, systems approach, and contingency approach.

[15 Hours]

Unit II

Functions of management:- Planning-concept and importance - Planning process- Steps in Planning-barriers to effective planning- Organizing- Nature and purpose of organization-Types of organization - line, functional, line and staff - Staffing: Concepts - manpower planning - process and importance

[18 Hours]

Unit III

Functions of management :- Directing: Meaning-definition- principles -techniques of direction. Motivation:- concept and importance - Theories : Maslow's Need Hierarchy - Herzberg -Theory X and Theory Y - Leadership: concept - styles - leadership and management- Controlling: meaning-definition-essentials of effective control system.

(17 Hours)

Unit IV

Business Ethics: Meaning and scope - Types of ethics - Characteristics - Factors influencing business ethics - Arguments for and against business ethics - Basics of business ethics - Corporate social responsibility - Environmental issues in business-Ethics in advertising-Globalization and business ethics .

[20 Hours]

Unit V

Emerging concepts in management - Kaizen - TQM - TPM - MIS - ISO - Change management - Stress management - Fish bone (ISHIKAWA) Diagram - Business eco system - Logistic management.

[20 Hours]

References:

1. Boatwright, John R: Ethics and the Conduct of Business, Pearson Education, New Delhi.
2. Gupta, CB; Business management, Sultan Chand & sons
3. Koontz, H and Wehrick, H: Management, McGraw Hill Inc, New York.
4. Prasad, LM; Principles and Practice of Management; Sultan Chand & sons
5. Stoner, AF and Freeman RE; Management; Prentice Hall of India
6. Drucker, Peter, F., Management: Tasks, Responsibilities and Practices, Allied Publishers, New Delhi.
5. R.S Davar; Management Process 6. Rustum & Davan, Principles and Practice of Management.
7. Srinivasan & Chunawalla, Management Principles and Practice. 8. S. V. S. Murthy. Essentials of Management.



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Commerce -4A14COM

CORE COURSE I : - MANAGEMENT CONCEPTS AND PRINCIPLES

SEMESTER	COURSE CODE	HOURS PER WEEK	CREDIT	EXAM HRS
I	1B01 COM	5	4	3

COURSE OUTCOME

After studying the course, students shall be able to;

- CO1:- Understand the evolution of management thoughts, concept of management, scope and its functions.
 CO2:- Familiarize with current management practices.
 CO3:- Understand the importance of ethics in business.
 CO4:- Acquire knowledge and capability to develop ethical practices for effective management.
 CO5:- Describe the emerging trends in management.

Unit I

Management Concepts: Evolution of Management thoughts: Classical approaches - Scientific management, administrative management and bureaucracy- Neo classical approaches - Human relations and Behavioral approach - Modern approaches- Quantitative approach, systems approach, and contingency approach.

[15 Hours]

Unit II

Functions of management:- Planning-concept and importance - Planning process- Steps in Planning—barriers to effective planning-- Organizing- Nature and purpose of organization-Types of organization – line, functional, line and staff - Staffing: Concepts - manpower planning – process and importance

[18 Hours]

Unit III

Functions of management :- Directing: Meaning-definition- principles –techniques of direction. Motivation:- concept and importance – Theories : Maslow's Need Hierarchy – Herzberg –Theory X and Theory Y – Leadership: concept – styles – leadership and management— Controlling: meaning-definition-essentials of effective control system.

(17 Hours)

Unit IV

Business Ethics: Meaning and scope – Types of ethics – Characteristics – Factors influencing business ethics – Arguments for and against business ethics – Basics of business ethics – Corporate social responsibility - Environmental issues in business-Ethics in advertising-Globalization and business ethics .

[20 Hours]

Unit V

Emerging concepts in management – Kaizen – TQM – TPM – MIS – ISO – Change management – Stress management – Fish bone (ISHIKAWA) Diagram – Business eco system – Logistic management.

[20 Hours]

References:

1. Boatwright. John R: Ethics and the Conduct of Business, Pearson Education, New Delhi.
2. Gupta. CB; Business management, Sultan Chand & sons
3. Koontz, H and Wehrick, H: Management, McGraw Hill Inc, New York.
4. Prasad. LM; Principles and Practice of Management; Sultan Chand & sons
5. Stoner. AF and Freeman RE; Management; Prentice Hall of India
6. Drucker, Peter, F., Management: Tasks, Responsibilities and Practices, Allied Publishers, New Delhi. 5. R.S Davar; Management Process 6. Rustum & Davan, Principles and Practice of Management.
7. Srinivasan & Chunawalla, Management Principles and Practice. 8. S. V. S. Murthy. Essentials of Management.

Economics-4B05ECO

CORE COURSE V

RESEARCH METHODS AND TECHNIQUES FOR ECONOMIC ANALYSIS

SEMESTER	COURSE CODE	HOURS PER WEEK	CREDIT	EXAM HRS
IV	4B 05 ECO/ DEV ECO	5	4	2+1*

*computer practical

COURSE OUTCOME

1. To initiate students to the field of academic research.
2. Introduce quantitative, qualitative and analytical tools required to prepare small research projects.
3. To bridge the gap between theory and empirics and to familiarize the use and importance of data in research
4. To highlight the importance of scientific research in economics based on academic honesty, integrity and ethics

Module I:

Introduction: Importance of academic research in Economics. Positive science and Normative- deductive and inductive methods -Problems of Research in Social Sciences: Quantification, Organizing Controlled Experiments, Replication and Verification; Criteria of Good Research. Research Methods: Social Survey, Case Study, Experimental Method, Econometric Method. (Definition, Features, Importance and Limitations) (23 hours)

Module II:

Basics of Research in Economics –Significance of Theory and Hypothesis. The research Design: Steps in Research Process & Structure of Research Report-Identification of research problem-review of literature- framing research questions-hypothesis formation. (18 hours)

Module III:

Academic Report Writing: Preparation of Synopsis; Explaining the Research Problem and Preparation of Bibliography; Notations and Symbols; Techniques for Referencing; importance of footnotes, bibliography and references, Preparation of Articles for Journals; Books; Preparation of Abstracts.

Ethics in research: Scientific integrity, Plagiarism (definition of plagiarism- consequences of plagiarism- unintentional plagiarism- forms of plagiarism), Good reference practice, Verification and subsequent use of research material. (22 hours)

Module IV

Empirical Investigations: Sources of Primary and Secondary Data; Census and Sampling Methods; Economic Statistics in India. Major Sources of data.NAS and NSSO -Data structure, key concepts and variables- Data portal of RBI (12hours)

Written examination will be based on first four modules only. (30 marks) Practical examination based on fifth module for 10 marks

PRACTICAL

This introduces the student to the process extraction, analysis and presentation of data towards drawing statistical inferences. The students will be introduced to important data sources that are available in India and will be trained in the use of free statistical software to analyse data.

Module V:

Elementary calculations: Measures of central tendency and dispersion: Forms of presentation of data: trend line, charts and graphs. Growth rates; Method of Splicing and Deflating Series. Modes of referencing. Specific Styles- APA and MLA (students are encouraged to use free software packages) (15 hrs)

Books for Study

1. Ranjith Kumar (2014): Research Methodology: A Step-by- Step Guide for Beginners, Sage.
2. Goode, William J. and Hatt, P.K(1980) Methods in Social Research, McGraw Hill, New Delhi
3. Uwe Flick (2012): Introducing Research Methodology: A Beginner's Guide to Doing a Research Project, Sage.
4. Ross, R. (1974): Research: An Introduction, Barnes & Noble Books, New York.
5. Kothari, C. R., and Garg, G. (2019). Research Methodology: Methods and Techniques.

Books for Reference

1. Kurien, C. T., (ed.1973) A Guide to Research in Economics. Sangam Publishers for Madras Institute of Development Studies, Madras
2. CORE THE ECONOMY : Economics for A Changing World, Available at: <http://www.core-econ.org/>
3. National committees for research Ethics in Norway, Guidelines for Research Ethics in the Social Sciences, Law and the Humanities, 2006
4. MLA Handbook for writers of Research Papers, East-West Press Pvt Ltd, New Delhi, 2009.
5. Informatics Technology in action, Pearson, Dorling Kindersley, 2011
6. Gilbert, Norma (1981): Statistics, Holt-Saunders, Japan
7. Bernard (1966): Statistics in Research, Oxford & IBH, Mumbai.



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Economics-4B06ECO

CORE COURSE VI: ENVIRONMENTAL ECONOMICS

SEMESTER	COURSE CODE	HOURS PER WEEK	CREDIT	EXAM HRS
IV	4B06 ECO/ DEV ECO	4	4	3

COURSE OUTCOME

1. To provide a deeper understanding about the interface between ecology and economy.
2. Understand the economic incentives to improve and conserve the environment.
3. To provide basic conceptual understanding of environmental disaster, its management and mitigation
4. Ultimately, greater awareness will be imparted about the issues of environmentally sustainable development in an interdisciplinary perspective.

Module I: Introduction to Environmental Economics

Meaning, need, nature and scope of environmental economics –Environment and Ecology- Environment and Economy interaction: Material Balance Model-the laws of thermodynamics– Environment and Ethics: Approaches – Bio centric and Anthropocentric (13 hours)

Module II: Natural Resources and Sustainable Development

Renewable and exhaustible resources- Resource taxonomy – Sustainable development: meaning, weak and strong sustainability, approaches and indicators, threats to sustainable development – Issues of natural resources related to forest resource, water resources, energy resources, food resources and land resources – Need for conservation of natural resources (17 hours)

Module III Market Failure and Externalities

Public Good: Meaning and features – Environmental quality as a public good – Externalities: Positive and Negative externalities – Market failure in the presence of externalities – free rider problem – Common Property Resources – Tragedy of Commons: Coase theorem and Property Rights – Abatement of externalities: Emission Standards, Pigouvian tax and Subsidies(20 hours)

Module IV Climate Change, Pollution and Disaster Management Climate Change and its impact: Green house effect and Global Warming, Acid Rain, Ozone layer Depletion, Loss of Bio diversity and Desertification –

- i) Types of Pollutions: Air, Water, Noise, Soil, Marine, Thermal, Nuclear pollution, Solid Waste and E-waste – Major Environmental issues in Kerala: consumerism and waste products, land sliding, sand mining and laterite stone mining. – Environmental awareness movements in India (Silent Valley and Narmada Bachao movements) –

- ii) Disaster Management: concepts of hazard, risk, vulnerability and disaster, types and classification of disasters, importance and relevance of disaster management in the present environmental scenario (22 hours)

Note: compulsory field visit to various eco spots/ecologically sensitive places NOT MORE THAN 5 days. Report of field visit may be considered as assignment of this paper.

Books /Reports for Study:

1. Kolstad, C. (2011). Intermediate Environmental Economics: International Edition. OUP
2. Callan, S. J., & Thomas, J. M. (2013). Environmental Economics and Management: Theory, Policy, and Applications. Cengage Learning.
3. Rabindra N. Battacharya, (2008) Environmental Economics: An Indian Perspective, OUP
4. Barry C Field, (2012) Natural Resource Economics: An Introduction, Waveland Press, Inc
5. Subhashini Muthukrishnan, (2015) Economics of Environment, PHI Private Limited, Delhi
6. On disaster management, visit at:
i) <https://ndma.gov.in/images/policyplan/dmplan/National%20Disaster%20Management%20Plan%20May%202016.pdf>; Web: www.ndma.gov.in
ii) Chaminda Pathirage, Krisanthi Seneviratne, Dilanthi Amarunga and Richard Haigh (2014) Knowledge factors and associated challenges for successful disaster knowledge sharing, Global Assessment Report on Disaster Risk Reduction, Centre for Disaster Resilience, University of Salford.

Books for Reference

1. Tom Tietenberg (2004) Environmental and Natural Resource Economics, Pearson
2. Vinod K. Sharma (1999) Disaster Management. National Centre for Disaster Management, IPE, New Delhi
3. Nick Hanley, Jason F Shogren & Ben White (1997), Environment Economics: Theory and Practice. Macmillan India Ltd
4. Singh Katar and Shishodia A (2007) Environmental Economics, Theory and Applications, Sage Publication.
5. John Asafu-Adjaye (2005) Environmental Economics for Non-economists: Techniques and Policies for Sustainable Development. World Scientific Publishing Pvt. Co.
6. Barry C Field and Martha K Field (2010), Environmental Economics-An Introduction, McGraw Hill.

Economics-5B08ECO

CORE COURSE VIII: HETERODOX ECONOMICS

SEMESTER	COURSE CODE	HOURS PER WEEK	CREDIT	EXAM HRS
V	5 B08ECO/ DEV ECO	4	4	3

Course Outcome

1. Familiarity with different perspectives of alternative schools of thought may get easily exposed to pluralistic approach to both economic theory and policy.
2. Through such an exposure the course will enhance and diversify the knowledge profile of the students and may get opportunities to pursue higher studies and research in heterodox economics.

Module 1 Features and Limitations of Mainstream Economics

Features of Mainstream or Orthodox Economics – rationality – optimizing behaviour of economic agents - existence of equilibrium- central role of market- Critique of Mainstream Economics – imperfect information- market failure- role of government- role of institutions (15 hrs)

Module 2 An Introduction to Heterodox Economics

Definition, Nature and Scope Principles and teaching of Heterodox Economics –Brief history of heterodox economics

(10 hrs)

Module 3 Foundations of Heterodox Economics: Marx and Veblen

Economic ideas of Marx – Dialectical Materialism-Modes of production- historical evolution of human society- labour theory of value- accumulation of capital- immiserization of proletariat- Concentration and centralisation of capital-decline in profit and crises of capitalism- current relevance of Marxism-Marx as a heterodox economist.

Veblen's Old Institutionalism- evolution and role of institutions-conspicuous consumption and leisure class- role of business enterprises- similarities of ideas between Veblen and Marx (28 hrs)

Module 4 New Developments in Heterodox Economics

- i) Institutionalism-Keynesian revolution-Schumpeter's economic ideas- behavioural economics - feminist economics - ecological economics – neuro-economics (brief descriptions only)
- ii) Evolution of Heterodox Economic ideas in India- Gandhian economics (19 hrs).

Books for study

1. Mearman, A., Berger, S., & Guizzo, D. (2019). *What is Heterodox Economics?: Conversations with Leading Economists*. Routledge.
2. Slaughter, C. (1985). *Marx and Marxism*, Orient Longman.
3. Ashokan.A (2019) *An Introduction to Heterodox Economics*(forthcoming)

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Economics-4C12ECO

COMPLEMENTARY ELECTIVE COURSE 12:

GENDER ECONOMICS

SEMESTER	COURSE CODE	HOURS PER WEEK	CREDIT	EXAM HRS
IV	4C 12 ECO	6	4	3

COURSE OUTCOMES

1. Students will be having an understanding of the basic concepts relating to gender as a social construct and its link with development.
2. Students are exposed to gender challenges to development

MODULE I: Introduction to Gender Economics

Meaning and importance of gender economics – Definition of gender: LGBTQ– Distinction between gender and sex- gender equity and gender equality– Patriarchal and Matriarchal families – Approaches of gender development: WID, WAD and GAD - Gender inequality indices - GDI, GII, GEM (18 hours)

MODULE II: Gender Status in India

Demography of female population in India : Sex ratio, Mortality, Morbidity and life expectancy – Gender inequalities in education - Health and nutrition – feminization of poverty – Concept of missing women – National Rural Health Mission – Equity in health delivery system. (20 hours)

MODULE III: Women and Labour Market

Discrimination in the labor market – Wage disparity- paid & unpaid work- Productive & unproductive work – Visible and invisible work –Female work participation rate – LFPR and Gender discrimination - Occupational segregation - Triple role of women- Housewifisation – Feminization and gender inequality (32 hours)

MODULE IV: Women Empowerment

Concept of women empowerment – Political participation & decision making: Ratio of Women law makers in the Centre, State and Local bodies - Education and Socio Economic empowerment – Issues related to women's education –Access, Enrolment, Dropouts - Women empowerment programmes in India with special reference to Kudumbasree in Kerala – Role of Government, NGOs and Self Help Groups in Women Empowerment. (38 hours)

Books for Study

1. Boserup, E. (1970). Women's Role in Economic Development George Allen and Urwin.
2. Desai, N. and M.K.Raj (1974), Women and Society in India, Research Centre for Women Studies, SNDT University, Bombay
3. Seth, M. (2000), Women and Development: The Indian Experience, Sage.
4. Pal, M., Bharati, P., Ghosh, B., & Vasulu, T. S. (2012). *Gender and Discrimination: Health, Nutritional Status, and Role of Women in India*. OUP.

Economics-ECO3C12

ECO3C12

ENVIRONMENTAL ECONOMICS

Module-1

The economy and environment- inter linkages between the economy and environment. Material balance model and the law of thermo dynamics - environmental ethics. Resource taxonomy – economics of natural resources – managing renewable and non renewable resources – common property resources.

Module-2

Economics of sustainable development – key aspects of sustainable development – intergeneration equity and intra generation equity-guideline for sustainable society - indicators of sustainability – Hartwick, Solow approach. Safe minimum standard – Daly's operational principle – Water conservation, rainwater harvesting and watershed management.

Module-3

Climate change and Agriculture development-Climate change issues and sustainable approach- Montreal Protocol and amendments – five principles of economic incentives for tackling international environmental problems – full cost principle, cost effectiveness principle, property right principle, sustainability principle and the information principle- Disaster management-major disasters- floods, earth quakes, cyclones, landslides -mitigation measures.

Module-4

Environment Impact Assessment (EIA)- Environmental planning and management. Accounting for environment- Environment and health. Carbon taxes and carbon emission trading – economic and distribution impacts of carbon taxes – biodiversity - magnitude and levels- value of biodiversity and threats to biodiversity.

Module-5

Regulating pollution – command and control – economic incentives for environmental protection (price, rationing, liability rules, quantity rationing, pollution taxes, tradable pollution permits) cost-benefit Analysis.

References:

1. Tom Tietenberg (2004), Environmental and Natural Resource Economics; Pearson
2. Prakash Vohra & Ragesh Mehta (2007), Environmental Economics; Commonwealth Publishers, New Delhi.
3. Charles D. Kolstad (2000), Environmental Economics; Oxford University Press.
4. Nick Hanley & Collin J. Roberts (2002), Blackwell Publishers Oxford.
5. Nick Hanley, Jagon, Shogern and Benwhite, Environmental Economics; Macmillan 1997.
6. Saxena H M (2006), Environmental Studies: Rawat Publications.
7. Misra S P & Pandey S N (2009), Essential environmental Studies; Ane Book Pvt. Ltd.
8. Aravind Kumar (2004), Environment and Health, APH Publishing Co., New Delhi.
9. U. Shankar, Environmental Economics.
10. Russel S Clifford (2001), Applying Economics to Environment; Oxford University Press.
11. Eban S Goodstein (2002) Economics and the environment, John Wiley and Sons



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English-1A02ENG

COMMON COURSE 2: Readings on Kerala

SEMESTER	COURSE CODE	HOURS PER WEEK	CREDIT	EXAMHRS
1A02 ENG/ 2A02 ENG	Readings on Kerala	4	3	3

Course Outcomes

- 1. Understand the basic facts and patterns regarding the cultural evolution of Kerala through articles, poems, stories, life writings and historical narratives.
- 2. Acquaint with the life and works of the illustrious leaders of Kerala Renaissance and the major events.
- 3. Assimilate the notion of Kerala as an emerging society and critically examine the salient features of its evolution.
- 4. Understand the evolution and contemporary state of the concept of "gender" with reference to Kerala
- 5. Understand the form and content of Kerala's struggle against "casteism" and for "secularism"
- 6. Develop an awareness about the ecological problems and issues in Kerala

Content Specifications

Module 1- (2 Hrs/Week)

1. "Conversation" :SreeNarayana Guru
2. "Curing Caste" :SahodaranAyyappan
3. Excerpts from "Eri" : PradeepanPambirikkunnu
4. Excerpts from *Kelu* : N. Sasidharan, E.P.Rajagopalan
5. Excerpts from "Parting from the Path of Life" : CherukadGovindaPisharodi

Module 2- (2 Hrs/Week)

1. "Not an Alphabet in Sight" : PoykayilAppachan
2. "KuttippuramPalam" : Idasseri
3. "Courageous Act" : AnasuyaMenon
4. "Vaikom Satyagraha" : K. N.Panikkar
5. "The Voice" : Suresh Menon

Prescribed Textbook: *Multiple Modernities: Readings on Kerala* published by Hornbill Publications

English-2A04ENG

English Common Course (ECC)- 2A04 ENG Readings on Gender

Name of the Course	Readings on Gender
Course Code	2A04 ENG
Semester Assigned	2
Number of Credits	3
Contact Hours per Week	4
Total Contact Hours	72
Prescribed Textbook	<i>Plural Perspectives</i> by Macmillan Publishers

Course Outcomes

1. Understand the basic themes and issues related to gender through articles, poems, stories, life writings and historical narratives.
2. Understand the divergent approaches towards gender issues.
3. Understand gender as a social construct and also as a site of struggle.
4. Critically engage with certain seminal topics that have become a part of gender studies.
5. Understand the basic gender issues faced by Kerala.
6. Appreciate and use gender sensitive and politically right terms and usages in everyday life.

Contents

Module – I (2 hours/week)

1. "An Introduction"- Kamala Das (Poem)
2. "Kitchen Rags"- Vijila Chirappadu (Poem)
3. "Dakshayani Velayudhan: A Life Sketch"- Meera Velayudhan (Biography)
4. "Learning to be a Mother: - Shashi Deshpande (Essay)
5. "Is this Desirable"- Lalithambika Antharjanam (Story)

Module – II (2 hours/week)

1. "Still I rise"- Maya Angelou (Poem)
2. "I am not that Woman"- Kishwar Naheed (Poem)
3. "Structural Violence and the Trans Struggle for Dignity"- Gee Imaan Semmalar (Essay)
4. "Gender Justice and Media"- Ammu Joseph
5. "Clothing Matters: Visiting the *Melundusamaram* in Kerala"- K M Sheeba



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English-2A03ENG

English Common Course (ECC)- 2A03 ENG Readings on Life and Nature

Name of the Course	Readings on Life and Nature
Course Code	2A03 ENG
Semester Assigned	2
Number of Credits	4
Contact Hours per Week	5
Total Contact Hours	90
Prescribed Textbook	<i>Nature Matters</i> by MainSpring Publishers

Course Outcomes

1. Understand the basic themes and issues related to ecology through articles, poems, stories, life writings and historical narratives.
2. Assume ecologically friendly attitudes in events related to everyday life.
3. Identify the specific ecological problems related to Kerala.
4. Identify the major ecological movements around the world and within the country.
5. Ability to express specific opinions when confronted with ecology/development binary.
6. Identify the major or minor ecological issues happening around the student's native place.

Contents

Module – I (2 hours/week)

1. Environmental Studies: Definition, Scope and Importance
2. Concept of an Ecosystem
3. The Fish – Elizabeth Bishop
4. Trophic Cascade – Camille T. Dungy
5. The Rightful Inheritors of the Earth – Vaikom Muhammad Basheer

Module – II (2 hours/week)

1. Biodiversity
2. Disaster Management: Floods, Earthquakes, Cyclones, Landslides
3. Real Estate - Sebastian
4. The Truth about the Floods – Nissim Ezekiel
5. Matsyagandhi – Sajitha Madathil

Module – III (1 hour/week)

1. Role of an Individual in Prevention of Pollution
2. Environmental Values
3. The End of Living - The Beginning of Survival – Chief of Seattle
4. Going Local – Helena Norberg-Hodge

English-3A05ENG

COMMON COURSE 5. Readings on Democracy and Secularism

SEMESTER	COURSE CODE	HOURS PER WEEK	CREDIT	EXAM HRS
3A05 ENG	Readings on Democracy and Secularism	5	4	3

Course Outcomes

- ☐ 1. Understand the relationship between higher education and nation building.
- ☐ 2. Understand the basic Constitutional values and themes through articles, poems, stories, life writings and historical narratives.
- ☐ 3. Evolve a deeper understanding and appreciation of the meaning of the words sovereignty, socialism, secularism and democracy in the Indian context.
- ☐ 4. Appreciate the relationship between higher education and the Constitutional directives regarding “scientific temper” and “the spirit of enquiry”.
- ☐ 5. Appreciate the prevalence of “human rights” as a prerequisite for democratic living.



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English-4A06ENG

COMMON COURSE 6. Readings on Philosophy of Knowledge

SEMESTER	COURSE CODE	HOURS PER WEEK	CREDIT	EXAM HRS
4A06 ENG	Readings on Philosophy of Knowledge	5	4	3

Course Outcomes

- ▣ 1. Understand the basic issues related to construction and acquisition of knowledge through articles, poems, stories, life writings and historical narratives.
- ▣ 2. Understand the relationship between higher education and nation building.
- ▣ 3. Evolve a deeper understanding of disciplines, multi-disciplinary approaches, interdisciplinary approaches and the various systems of knowledge.
- ▣ 4. Understand knowledge as a social construct and the dynamics of paradigm shifts.
- ▣ 5. Understand the epistemological and ontological factors within higher education.
- ▣ 6. Understand logical fallacies and apply critical thinking.

English-2B02ENG

2B02 ENG Academic Writing, Methodology and Research Project

Name of the Course	Academic Writing, Methodology and Research Project
Course Code	2B02 ENG
Semester Assigned	2
Number of Credits	5
Contact Hours per Week	6
Total Contact Hours	108
Prescribed Textbook	<i>Methodology of Humanities and Academic Writing</i> by Mainspring Publishers

- 5. Language and History
- 6. Language and Colonialism
- 7. Text Oriented Approaches
- 8. New Criticism

Course Outcomes

- 1. Understand and apply the nuances of academic writing.
- 2. Understand the various methodological as well as epistemological aspects of literary studies.
- 3. Familiarise with the approaches to literature.
- 4. Choose a tentative topic for the research project to be submitted in semester six.

Contents

Module – I (2 hours/week)

What are the Humanities

- 1. Introducing the Humanities
- 2. Difference Between Natural, Social and Human Sciences
- 3. Humanities and Sciences: Is There a Big Divide?
- 4. Study of Taste, Values and Belief Systems
- 5. Facts and Interpretation
- 6. History as Fiction
- 7. The Question of Ideology

Module – II (2 hours/week)

II Fundamentals of Language

- 1. Language, Culture and Subjectivity
- 2. The Social Construction of Reality
- 3. Agency in Language
- 4. Language in Relation to Region, Class, Caste, Race and Gender

Module – III (1 hour/week)

III Narration and Representation

- 1. Introducing Narration
- 2. Reality and Representation
- 3. Narrative Modes of Thinking
- 4. Textuality and Reading
- 5. Narration in Literature, Philosophy and History

Module – IV (1 hour/week)

Academic Writing

IV What is "Academic" Writing?

- 1. Introduction: The Academic Writing Task
- 2. Decoding College Writing Assignments
- 3. The Format of the Academic Essay

V Writing a Research Paper in Literary Studies

- 1. First Steps
- 2. Writing Your Paper
- 3. Plagiarism



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BA English Language and Literature Core Courses

Curriculum, Syllabus and Scheme for
6B13ENG: Women's Writing

Course Outcomes

- Understand women's writing as a specific genre.
- Appreciate the variety in women's literature and the correlation between such variety and specific socio-political contexts.
- Understand the various dialogic positions within women's writing.
-

Course Details

Course Code	6B13ENG
Title of the Course	Women's Writing
Semester Assigned	6
No. of Credits	4
Contact hours/week	5
Total No. of contact hours	90

Content Specifications

Module I-Essay (1 hour)

1. In Search of our Mothers' Gardens : Alice Walker
2. Performative Acts and Gender Constitution : Judith Butler

Module II-Drama (1hour)

1. *Bayen* : Mahasweta Devi
2. *Top Girls* : Caryl Churchill

Module III-Fiction (2 hours)

Room : EmmaDonoghue

Short Fiction

1. A Deer in the Forest : Ambai
2. The Yellow Wallpaper : Charlotte Perkins Gilman
3. Garments : Tahmima Anam
4. The Story of an Hour : Kate Chopin
5. Inside Every Woman Writer : Sarah Joseph
6. The Fly :

Katherine Mansfield

Module IV Poetry (1hour)

1. Identity : Julio Noboa Polanco
2. I am not that Woman : Kishwar Naheed
3. This is a photograph of me : Margaret Atwood
4. Aunt Jennifer's Tigers : Adrienne Rich
5. Phenomenal Woman : Maya Angelou
6. The Mother : Gwendolyn Brooks
7. Another Woman : Imtiaz Darker

Suggested Reading:

1. Barrett, Michele. *Women's Oppression Today*. London: Verso, 1988.
2. Belsey, Catherine and Jane Moore. Eds. *The Feminist Reader: Essays in Gender and the Politics of Literary Criticism*. 2nd edition. Basingstoke, Palgrave, 1997.
3. Christian, Barbara. *Black Feminist Criticism: Perspectives on the Black Women Writer*. New York: Pegamon Press, 1985.
4. Fuss, Diana. Ed. *Inside/Out*. New York and London: Routledge, 1991.
5. Moi, Toril. *Sexual/Textual politics*. London: Methuen, 1985.
6. Jacobus, Mary. *Women Writing and Writing About Women*. London: Croomhelm, 1979.
7. Eagleton, Mary. Ed. *Feminist Literary Criticism*. London: Longman, 1991.
8. Showalter, Elaine. Ed. *Speaking of Gender*. London: Routledge, 1989.
9. Showalter, Elaine. *A Literature of their Own*. London: Virago, 1978.
10. Butler, Judith. *Gender Trouble: Feminism and the Subversion of Identity*. New York and London: Routledge, 1990.
11. Virginia Woolf, *A Room of One's Own*. New York: Harcourt, 1957.
12. Lewis. Reina and Sara Mills. (2003). ed. *Feminist Postcolonial Theory: A Reader*. New York and London: Routledge. - Chandra Talpade Mohanty, bell hooks, Adrienne Rich, Sara Mills.

English-5D01(1)ENG

BA English Language and Literature Generic Elective Courses

Curriculum, Syllabus and Scheme for
5D01 (1)ENG: English for Competitive Examinations

Course Outcomes

- To familiarise students with the language items required to take competitive examinations at various levels
- To acquaint the students with the basics of English grammar
- To enable the students to enrich their vocabulary
- To provide opportunities for the students to improve their listening and reading comprehension skills
- To familiarise the students with the questions that are commonly asked in various interviews and to help them frame the desirable responses

Course Details

Course Code:	5D01 (1)ENG
Title of the Course:	English for Competitive Examinations
Semester Assigned:	5
No. of Credits:	2
Contact hours/week:	2
Total No. of contact hours:	36

Content Specifications

Module I (1 hour)

Basic Grammar

- a) Concord
- b) Articles
- c) Modals
- d) Tenses

- e) Prepositions
- f) Question Tags
- g) Punctuations

Module II (1 hour)

Vocabulary and Writing

- a) Error Correction
- b) Vocabulary Test
- c) Rearrangement of words to form meaningful sentences
- d) Idiomatic Expressions
- e) Comprehension Passages
- f) Phrasal Verbs
- g) Collocation

Guidelines for Evaluation (5D01 (1) ENG)

Internal Evaluation: (Total Marks=5)

1. Model Examination = 2.5 Marks
2. Assignment/Viva Voce/Seminar = 2.5 Marks

End Semester Examination (Total Marks - 20)

Pattern of Question Paper

Time - 2 Hours Maximum Marks - 20

1. One short essay (150 words) out of two from Module- 1&2 (Marks -1x5=5)
2. Comprehension/Punctuation/Error Correction/ any other task (Marks =3)
3. Twelve short answer questions (Marks- 12x1 =12)

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English-ENG2E06

ENG 2E06 DALIT WRITINGS

Module 1

Background

Origins of Dalit literature:
Buddha (6th c.) Chokhamela (14 AD) Mahatma Phule (1828-1890)
Prof. S. M. Mate (1886-1957) Dr. Bheemrao Ramji Ambedkar (1891-1956)
Emergence of Dalit Literary Movement
Dalit aesthetics
Dalits and the Indian narrative-identity politics-social history-political assertion
Dalit poetry
Malayalam Dalit writing.

Module 2

Poetry

(Detailed)

Siddhalingaiah
Manohar Biswas
Pralhad Chendwankar
Hira Bansode
Namdeo Dhasal
Devadevan

(Non-Detailed)

Rajkumar N.D
Damodar More
Challappalli Swarupa Rani
Pravin Gadhave
Bapurao Jagtap
Jyoti Lanjewar

The Dalits are Coming
A Hut in a Segregated Compound
Empty Advice
Slave
Man You should Explode
Infection

A Wish
Poetry Reading
Forbidden History
Brainwash
This Country is Broken
Caves

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Module 3

Fiction/Autobiography

Bama
Narayanan
Om Prakash Valmiki
Baburao Ramchandra Bagul

Karukku-
Kocharethi-
Joothan-
"Mother" (From *Indian short stories, 1900-2000*, by
E.V. Ramakrishnan, Sahitya Akademi, 2005. Page
217.)
"The Midwife"
"Madness"-

Harish Mangalam

C.Ayyappan

Module 4

Prose

Kancha Ilaiah

Contemporary Hinduism (From *Why I am Not a Hindu*- Chapter IV)
Dalit Literature and Aesthetics (From *Towards an Aesthetic of Dalit Literature* Chapter VII).
Annihilation of Caste Sections I-VI-
"Dalit Literature: Past, Present and Future" Arjun Dangle

S.K. Limbale

B.R. Ambedkar

Suggested Reading

Kancha Ilaiah *Why I am not a Hindu*
James Massey *Roots: A Concise History of Dalits*.
D R Nagaraj *The Flaming Feet and Other Essays: The Dalit Movement in India*
Gail Omvedt *Dalit Visions: The Anti-Caste Movement and the Construction of an Indian Identity*
Arjun Dangle (Ed.) *Poisoned Bread*.
B.R. Ambedkar *Annihilation of Caste*
B.R. Ambedkar *Buddha, or Karl Marx*.
Sharmila Rege *Writing Caste/Writing Gender: Reading Dalit Women's Testimonies*.
Gail Omvedt *Buddhism in India: Challenging Brahmanism and Caste*
Susie J. Tharu *No Alphabet in Sight: New Dalit Writing from South India*

Question paper pattern

Duration: 3 Hrs

Maximum Marks: 80

I Essay (40 marks)

- | | |
|---|------------|
| (a) One essay of 350 words out of two from Module 1 | (10 marks) |
| (b) One essay of 350 words out of two from Module 2 | (10 marks) |
| (c) One essay of 350 words out of two from Module 3 | (10 marks) |
| (d) One essay of 350 words out of two from Module 4 | (10 marks) |

II Four out of six annotation questions (80 words) from the poems prescribed for detailed study in Module 2. (4 X 5 = 20 marks)

III Four out of six paragraph questions (100 words) from Modules 2 (non-detailed poems), 3 & 4. (4 X 5 = 20 marks)

English-ENG4C13

ENG 4C13 WOMEN'S WRITING

Module 1

Background

Theoretical Approaches to Women's Writing
Women's Tradition, Women's Canon
Women's Literary Lineage, Race, Class and Sexuality
Expansion of the Literary Canon—Styles and Strategies of Writing
Women's Writing in India—Gender and Genre
Post-Colonialism and Feminism

Module 2

Fiction/Non Fiction

Margaret Atwood
Maya Angelou
Lalithambika Antharjanam

The Handmaid's Tale.
I Know Why the Caged Bird Sings
Agnisakshi

Module 3

Poetry

Detailed

Akkamaha Devi
Janabai
Kamala Das
Judith Wright
Anne Sexton

Non-detailed

Judith Wright
Denise Levertov
Anne Sexton
Sappho

You have Come
Cast off all Shame
An Introduction
The Killer
After Auschwitz

The Company of Lovers
Talking to Grief
Briar Rose (Sleeping Beauty.)
On What is Best, One Girl

Module 4

Theory

Elaine Showalter

Juliet Mitchell

Ann Barr Snitow
Bell hooks

Jonathan Culler
Judith Butler

From *A Literature of Their Own: British Novelists from Bronte to Lessing*.
Femininity, Narrative and
Psychoanalysis.
Mass Market Romance"
Postmodern Blackness: 'Yearning,
Race, Gender and Cultural Politics,
Reading as a Woman.
Gender Trouble: Feminism and the
Subversion of Identity."

(All essays/sections are from *Feminist Literary Theory: A Reader*, Ed. Mary Eagleton)

Module 5

Drama

Detailed

Caryl Churchill

Maria Irene Fornes
Elizabeth Robins

Top Girls

Fefu and Her Friends
Votes for Women!

Suggested Reading

Ed Sue Roe *Women Reading Women's Writing*
Catherine Belsey *Critical Practice*
Nancy Armstrong *Desire and Domestic Fiction: A Political History of the Novel*
Juliet Mitchell *Women: The Longest Revolution*
Ellen Moers *Literary Women*
Maren Tova Linett *The Cambridge Companion to Modernist Women Writers*
Janet Todd *Feminist Literary History: A Defence*
Ellen Rooney *The Cambridge Companion to Feminist Literary Theory*
Toril Moi *Textual/Sexual Politics: Feminist Literary Theory*
Ed. Toril Moi *French Feminist Thought: A Reader*
Alice Walker *In Search of Our Mothers' Gardens*
Signs: Journal of Women in Culture and Society.



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History-5B08HIS

History of India V: Making of the Nation (1885-1947)

V semester core course 5B08 HIS

Course Outcome: students should be able to:

- CO.1 Understand political, social and economic background of freedom struggle
- CO.2 Specify major stages of freedom struggle and their ideological distinctions
- CO.3 Analyze the role of nationalist movement in the making of modern India
- CO.4 Develop an attitude of nationalism cutting across limited boundaries of religion and caste in order to resist communal forces

UNIT I: Nationalism and Historiography

Concept of Nationalism –Historiography of Indian Nationalism – Bipan Chandra, A.R. Desai, Tara Chand, R.P. Dutt - Anil Seal and Neo-Cambridge historiography- Subaltern Studies

UNIT II: Era of Moderate and Extremist Nationalists

Emergence of Nationalism - Formation of Indian National congress – Moderate Phase - Its ideology, and methods - Partition of Bengal- Swadeshi Movement - Formation of Muslim League - Minto-Morley Reforms – World War I and National Movement - Home Rule League - Ghadr Party - Montague-Chelmsford Reforms.

UNIT III: Era of Mass Nationalism

Gandhian Era - Sathyagraha - Rowlatt Act – Khilafat and Non-co-operation Movement - Swarajist party - Gandhian methods - Constructive programmes – Simon Commission - Nehru Report - Emergence of socialist ideas –workers and peasants – Bardoli satyagraha- Trade union movement - Revolutionary movements: Bhagat Singh, Surya Sen.

UNIT IV: Moving Towards Freedom

Civil Disobedience Movement - Round Table conference, Poona pact - Rise of Leftism – CSP - Government of India Act of 1935 – Congress Ministries - National Movement and World War II – Cripps Mission - Quit India Movement - Subhash Chandra Bose and INA - RIN Mutiny - Rise of Communal politics and its effects - Jinnah and Two Nation Theory - Mountbatten Plan – Indian Independence - Integration of Indian states.

Map Study

1. The Partition of Bengal
2. Important centers of Salt Sathyagraha
3. Major centers of Quit India Movement
4. Partition of India in 1947

Essential Readings:

BipanChandra, *Modern India*

-----, *India's Struggle for Independence*

-----, *Nationalism and Colonialism in Modern India*

-----, *Communalism in Modern India*

A.R. Desai, *Social Background of Indian Nationalism*

Sumit Sarkar, *Modern India 1885 – 1947*

R.P. Dutt, *India Today*

R.C. Majumdar, *History of India's Struggle for Freedom*

Shekhar Bandyopadhyay, *From Plassey to Partition: A History of Modern India*

Anil Seal, *The Emergence of Indian Nationalism, Competition and Collaboration in the Late 19th Century*

Tara Chand, *History Freedom Movement in India*

D.N. Dhanagare, *Peasant Movements in India*

B.R. Nanda, *Mahatma Gandhi: A Biography*

Satyabrata Rai Chowdhury, *Leftist Movements in India: 1917-1947*

G.Aloysius, *Nationalism without a Nation in India*

Sanjay Joshi, *The Middle Class in Colonial India.*

History-5B09HIS

CORE COURSE 09

History of Kerala II: Making of Modern Kerala (1500 to 1970)

V semester core course 5B09 HIS

Course Outcomes: students should be able to:

- CO.1 Understand factual knowledge of modern Kerala history
- CO.2 Explain political, social, cultural, religious and intellectual factors that led to the formation of modern Kerala
- CO.3 Analyze and discern the influence of caste and communal organizations in Kerala society and politics
- CO.4 Understand the significance of secular and egalitarian values and forces in the making of the cultural identity of Kerala

UNIT I: Colonial Transformations and Early Resistances

Pre-colonial society and polity – Colonial interventions - Western Education – Christian Missionary contributions – Colonial Modernity – Early Anti-colonial uprisings: Attingal Revolt, Pazhassi Revolt, Velu Thampi, Kurichiya Revolt

UNIT II: Society in Transition

Reform Movements: Sree Narayana Guru - Life and Teachings – Chattampi Swamikal - Sahodaran Ayyappan - Mitavadi C. Krishnan – Ayyankali – Sadhu Jana Paripalana Sangam – Poyikayil Kumara Gurudevan – Pandit Karuppan - Shivayogi - Vagbhatananda – Ananda Thirthan – Vakkom Moulavi – Rise of Caste Organizations - SNDP, Nair Service Society and Yogakshema Sabha .

UNIT III: Emergence of National Movement

Growth of political activity in Kerala: Memorials – Malabar Rebellion — Civil Disobedience Movement – Salt Satyagraha – Temple Entry Movements - Vaikom and Guruvayur Satyagraha– Temple Entry Proclamation (1936) Quit India agitation – Peasant and Working Class Movements: Kayyur and Punnapra Vayalar - Role of Women in National movement

UNIT IV: Formation of Kerala State

Aikya Kerala Movement – Communist ministry of 1957- Land Reforms – Educational Reforms – *Vimochana Samaram*

Essential Readings

A. Sreedhara Menon , *A Survey of Kerala History*

P.J. Cherian (Ed.), *Perspectives on Kerala History*

P. Bhaskaranunni, *Pathonpatham Noottantile Keralam* (Mal)

28

S. Ramachandran Nair, *Social and Cultural History of Colonial Kerala*

P.K.K. Menon, *Freedom Movement in Kerala* Vol. II

S.Raimon (Ed.), *Freedom Movement in Kerala* Vol. III

E.M.S. Namboothiripad, *The National Question in Kerala*

K.N.Panikkar, *Against Lord and State*

K K.N.Kurup , *Modern Kerala*

-----, *Quit India Samaravum Keralavum* (Mal.)

-----, *Pazhassi Samara Rekhalak* (Mal)

Joseph Tharamangalam, *Dalit Movements in South India*

Asgar Ali Engineer, *Kerala Muslims: A Historical Perspective*

V.V. Kunhi Krishnan, *Tenancy Legislation in Malabar (1880-1970)*

M.K. Sanu, *Sree Narayana Guru*

T'.K. Ravindran , *Vaikom Sathyagraha and Gandhi*

Velayudhan Panikkasseri, *Ayyankali Muthal V.T. Vare* (Mal.)

K.P. Kesava Menon, *Kazhinja Kalam* (Mal.)

P. Govinda Pillai, *Keralathile Samoohya Navodhana Prasthanam* (Mal.)



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History-6B13HIS

CORE COURSE 13 History of the Contemporary World (1945 -2000)

VI semester core course 6B13 HIS

Course Outcomes: students should be able to:

1. Understand major political issues and events in the world since World War II.
2. Analyze international problems in the context of diverse political interests and ideological movements
3. Interpret the present political issues in relation with pertinent international events in the twentieth century
4. Develop anti-colonial and anti-racist attitude and universal citizen concept.

UNIT I: Towards a Bi-Polar World

Impact of World War II – USA, USSR and Cold War – Truman Doctrine – Marshall Plan – Military Alliances: NATO - CENTO - Warsaw Pact - Communism in Europe

Major Crises: Vietnam, Cuba, Korea – NAM

UNIT II: West Asian Crisis

Establishment of Israel – Palestine – Zionism – Arab-Israel Wars – Camp David Accord – PLO – Yasser Arafat – Iran-Iraq War – Persian Gulf War – European and U.S. interventions – OPEC – The Arab League – GCC.

UNIT III: From Bipolar to Unipolar

Post-Cold War Era – USSR: Stalin to Breshnev – Gorbachev: Glasnost and Perestroika – Collapse of USSR – Role of USA in the new context – EEC – WTO – GATT- EU Globalization and its Impact

UNIT IV: Liberation Movements

Apartheid – Anti-racist movement – Afro-Americans – Civil Rights Movement in USA – Martin Luther King Jr. – ANC and Nelson Mandela – End of Colonialism in Africa.

Essential Readings:

William J. Duiker, *Contemporary World History*
Gerhard L. Weinberg, *World War II: A Very Short Introduction*
Robert McMahon, *The Cold War: A Very Short Introduction*
Paul Wilkinson, *International Relations: A Very Short Introduction*
John Lewis Gaddis, *Cold War: A New History*
Arjun Dev and Indira Arjun Dev, *History of the World*
B.V. Rao, *History of Modern Europe*
36
William L. Cleveland, *A History of Modern Middle East*
Mark Tessler, *A History of the Israeli-Palestinian Conflicts*
Moshe Shemesh, *The Palestinian Entity: 1959-1974 Arab Political and PLO*
Andrew Langley, *The Collapse of the Soviet Union*
Leonard Thompson, *A History of South Africa*
Nelson Mandela, *Long Walk to Freedom*
Thomas F. Jackson, *From Civil Rights to Human rights. Martin Luther King Juniors, Struggle for Economic Justice.*

Geology-5D03GEO

GENERIC ELECTIVE COURSE III: ENVIRONMENTAL MANAGEMENT AND SUSTAINABLE DEVELOPMENT

SEMESTER	COURSE CODE	HOURS PER WEEK	CREDIT	EXAM HRS
V	5 D 03 GEO	2	2	2

COURSE OUTCOME

CO 1:

Understand the concepts of sustainable development, development of the principles and definitions of terms.

CO2:

Understand the ecosystem and ecosystem services and climate challenges in various sectors and need of sustainable development.

CO3:

Understand the Sustainable Development goals, goal based planning and implementation

CO4:

Understand the policies for sustainable development in India.

Unit I

Principles of Sustainable Development: History and emergence of the concept of Sustainable Development, Definitions: Environmental issues and crisis, Resource degradation, greenhouse gases, desertification, social insecurity, Industrialisation, Globalisation and Environment. (10 Hours)

UNIT II

Ecosystems and Ecosystem services and resources, Climate change and challenges in Energy Water Resources and Agriculture. (8 Hours)

UNIT III

United Nations Sustainability Development Goals. Overview of 17 goals, benefits of goal based planning, challenges in implementation (8 Hours).

UNIT IV

Sustainable Resource Management Policies in India - Environment policy, water policy and mining policy. Basic objectives of the policies along with goals and visions. (10 Hours).

Books for Reference:

1. Martin J. Ossewaard(2018) Introduction to Sustainable Development: SAGE Publications Pvt. Ltd; First edition.

2. Brown, L.(2009). Plan B 4.0. Norton Publishers, New York.

(http://www.earthpolicy.org/images/uploads/book_files/pb4book.pdf).



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Geology-GEO3E04

Marks: External (ESE): 48
Internal (CE): 12

Hrs/week: 4; Total Hrs: 72; Credits: 4

GEO 3E 04 – ENVIRONMENTAL GEOLOGY

MODULE 1

Environmental Geology: Scope of environmental geoscience. Natural resources: - Renewable resources, non-renewable resources. Sustainable management of resources. Conservation and preservation. Alternative energy sources – bio mass energy, wind energy, solar energy, geothermal energy, tidal energy, wave energy, ocean thermal energy and other alternate emerging energy sources for the future. Land, its uses and management–Resources of the ocean floor. Mineral Resources: Conservation, management and concept of sustainable development. (10 hours)

MODULE 2

Natural hazards: Earthquakes and seismic hazards, earthquake prediction and protection. Cyclones-effects and control measures. Coastal hazards–Tsunamis, coastal erosion, sea level changes and impact on coastal areas. Landslides–Identification of landslide-prone areas – Flood hazards and its management. Droughts–Causes and prevention. Zoning and risk assessment– Hazard Zonation maps. Disaster Management: introduction, identification of areas, causes, prevention and management. (8 hours)

MODULE 3

Waste Management: Changing concepts of wastes, their disposal, solid, liquid, gaseous and radioactive wastes. Waste management – Prevention, minimization, re-use, recycling. Waste disposal methods – open dumping, incineration, pyrolysis, gasification, landfill, area landfill method, depression landfill method, suitable sites for waste disposal, secure landfills, hazardous chemical waste, deep well disposal, ocean dumping and waste water treatment. Waste generation due to mining, environmental impacts of mining activities on land surface, air and water environment. Mine site decommissioning. (10 hours)

MODULE 4

Pollution: Problems of pollution of geospheres and waste management. Pollution and climatic changes. Greenhouse Effect and Ozone Layer Depletion. Impacts of mining on depositional environments, reservoirs, lakes, lagoons and estuarine environments. Radioactive pollution – Radioactivity, characteristics of radioactive waste. Classification – low level, intermediate level and high level. Disposal of high level radioactive waste. Soil pollution- sources, effects and control (8 hours)

MODULE 5

Groundwater pollution – Sources of groundwater pollution- heavy metals, radioactive materials, acid mine drainage, fluoride, pesticide, fertilizers and arsenic contaminations. Collection and treatment, detoxification and biodegradation, health hazards due to ground water pollution, microbes, BOD and COD. Controls of ground water pollution. Marine Pollution: Sources of marine pollution – industrial effluents, marine ship effluents, oil spillage, inflow of fertilizers and pesticides, nuclear waste. Major impacts of marine pollution (9 hours)

MODULE 6

Development of technology and human factors. Environmental geologic mapping. Environmental change: natural and man-made. Prediction of environmental changes and areas of human concern and impact indicators. Geology and urban planning. Problems of urbanization. Desertification – causes, symptoms and prevention. Soil erosion- causes, effects and control. (9 hours)

MODULE 7

EIA: Introduction, Definition, aim, principles and concept. Relationship of EIA in sustainable development. Methods for preparing EIA: Socio-economic aspects, making inventories, sampling and data process, baseline study. Impact prediction: Positive and negative impact, primary and secondary impact, impact on physical, social and biotic environment. evaluation of proposed action: Risk assessment and risk management, mitigation measures, comparison of alternatives, Review and decision making. Practices and guidelines in India. (9 hours)

MODULE 8

EIA for different environmental programmes: Industries, urban development, landuse, Energy projects-Hydel, Thermal, Nuclear, oil and gas. Environmental Impact Analysis of dams, buildings, highways and tunnels. EIA case studies. (9 hours)

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Geology-5D04GEO

GENERIC ELECTIVE COURSE IV: COMMUNITY PREPAREDNESS FOR DISASTER MANAGEMENT

SEMESTER	COURSE CODE	HOURS PER WEEK	CREDIT	EXAM HRS
V	5 D 04 GEO	2	2	2

COURSE OUTCOME

CO 1:

Understand the different types of hazards, risk, vulnerability, concept of disaster management.

CO2:

Understand risk reduction and crisis management, warning systems and phases of disaster.

CO3:

Understands inter relationship between disasters and development, geological factors contributing to risk and impacts of development projects.

CO4

Understands hazards and vulnerability profiles of India and responsibility of authorities

CO5:

Understand disaster management plan and how to support the disaster management system in the State

Unit I

Disaster, Hazard, Vulnerability, Risk, Capacity building, Disaster and Development, Disaster management. Classification of disasters, Natural and Manmade, Hydro-meteorological, Geologically related, Accidental related, Chemical, Industrial and nuclear related, Biological related management, Global Disaster Trends – Emerging Risks of Disasters. Climate Change (8 hours)

Unit II :

Risk reduction and Crisis Management, Disaster management cycle and its analysis, Pre-disaster phase, Risk Assessment and Analysis, Risk Mapping, Zonation and Microzonation, Prevention and Mitigation of Disasters, Early Warning System; Preparedness, Capacity Development; Awareness, Community based disaster management, Understanding of warning and de-warning messages, Disaster Phase, Post disaster phase –Rehabilitation, Role of geologists in disaster management.(8 hours)



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Geology-6B10GEO

Core Course X: Environmental Geology

Semester	Course code	Hours per week	Credit	Exam Hours
VI	6B10GEO	3	3	3

COURSE OUTCOME

CO 1:

Understand earth systems to the student's scientific literacy

CO2:

Understand the tools necessary to interpret change in global environments with special emphasis to earth system.

CO3:

Understand effective problem-solving methodologies for sustainability in human-landscape interactions

CO4

Understand environmental planning and management:

CO5:

Understand the ecosystem services provided by the natural systems.

Unit I :

Environmental Geoscience: Environment--concept, definition, scope and importance; Ecosystem--the physical environment, atmosphere, hydrosphere and lithosphere; Anthropogenic environment. (10 hours)

Unit II :

Environment and Natural Processes:

Natural Resources: Renewable and Non-renewable resources and its utilization & Waste Generation, Concept of sustainable development. Issues affecting future development (population, urbanization, health, water scarcity, energy, climate change, toxic chemicals, finite resources etc.); Environmental units. (10 hours).

Unit III:

Environmental Pollution:

Water pollution--causes, effects, prevention and control. Water quality parameters and standards. Solid waste pollution- Domestic, industrial and urban wastes, Solid waste disposal and site identification, Nuclear wastes and safe disposal.

Air pollution--causes, effects, Air pollution and climate. Greenhouse Effect and Ozone Depletion. Air pollution preventive measures (14 hours)

Unit IV:

Environmental Planning and Management: Environmental Impact Assessment. Environmental Impact of urbanization. Geology and Urban planning. Role of Geologist in conservation of environment, Environmental protection legislations (10 hours)

Unit V:

Ecosystem services- River ecosystem, Natural flow regimes: The river ecosystem, Ecosystem functioning, River flood plain interaction, Interaction of flow with other ecosystem components, Impact of regulation of rivers, Environment flow concept and history, Environmental flow assessment. Wetlands and Ecosystem services, valuation of ecosystem services. (10 hours)

Books for Reference:

1. Valdiya, K.S. (1987) Environmental Geology--Indian Context, Tata McGraw Hills.
2. Strahler, A.N. and Strahler, A.H. (1973) Environmental Geosciences, Wiley Eastern.
3. Donald. R. Coates (1981) Environmental Geology, John Wiley & Sons.
4. Peter. T. Elawan (1970) Environmental Geology, Harper & Row.
5. Keller, E.A. (1978) Environmental Geology, Bell & Howell, USA.
6. Bryante (1985) Natural Hazards, Cambridge University Press.
7. Das, R.C. and Behera, D.K. (2008) Environment Science Principles and Practice, Prentice Hall of India.
8. Davis, et. al., (1976), Environmental Geoscience, Wiley Eastern.
9. Environmental flows- An introduction for Water resource Managers, Brij Gopal National Institute of Ecology, 2013

Marks including choice:

Unit	Marks
I	14
II	12
III	14
IV	10
V	10

Geology-6B11GEO

Core Course XI: Disaster Management

SEMESTER	COURSE CODE	HOURS PER WEEK	CREDIT	EXAM HRS
VI	6B11GEO	3	3	3

COURSE OUTCOME

CO 1:

Understand the different types of hazards, Risk, Vulnerability, concept of disaster management.

CO2:

Understand various geohazards, its causes, mitigation measures and preparation of hazard zonation maps

CO3:

Understand the three cycles of disaster management, warning systems, response and post disaster responsibility.

CO4:

Understand relationship between disasters and development and disaster management in India.

CO5

Understand disaster management plan and how to support the disaster management system in the State

Unit I

Understanding the Concepts and definitions - Disaster, Hazard, Vulnerability, Risk, Capacity building, Disaster and Development, Disaster management, Classification of disasters, Natural and Manmade, Hydro-meteorological, Geological, Accidental, chemical, Industrial, nuclear and Biological related. Global Disaster Trends - Emerging Risks of Disasters - Climate Change(10 hours).

Unit II

Geological Hazards - Earthquakes - Seismic zones classification and Seismic Zones in India, hazard Management, mitigation measures, warning system, Institutional mechanism in implementation.

Landslides- Morphology of landslides, causal factors for landslides, Classification of Conditions/Factors responsible for Landslides, landslide risk reduction measures. Tsunami - Causes, Vulnerability analysis, mitigation, early warning system and Tsunami Vulnerability

in India and preparedness. Volcanoes - causes, types, mitigation measures, warning system. Mine fire- causes, types, mitigation measures, warning system. Dam burst - causes, flood inundation mapping, mitigation measures, alert and warning systems. Geo-hazard mapping and preparation of zonation maps. (10 hours)

Unit III

Disaster Management- Risk reduction and Crisis Management, Disaster management cycle and its analysis, Pre-disaster phase, Risk Assessment and Analysis, Risk Mapping, zonation and Microzonation, Prevention and Mitigation of Disasters, Early Warning System; Preparedness, Capacity Development; Awareness, Community based disaster management, Understanding of warning and de-warning messages, Disaster Phase, Post disaster phase - Rehabilitation, Role of geologists in disaster management. (12 hours).

Unit IV

Disaster management and Development: Inter relationship between disasters and development; Geological factors contributing to Risk; Impacts of development projects such as dams, embankments, changes in land use.

Disaster Management in India- Hazards and vulnerability profiles of India, Institutional Mechanism, Role and Responsibility of various institutions- Panchayathi Raj Institutions, District, State and Central Governments and other stakeholders, Disaster Management Act and policy (16 hours)

Unit V

Disaster Management Plan -Preparation of District and State Disaster management plans - Framework -Coordinating and Monitoring Mechanism- Sections of the Framework- Suggested Outline-Disaster specific action plan (Flood, Landslide, Pesticide contamination, Road accident and Epidemics), Preparation of community level disaster management plans (6 hours).

Books for Reference:

1. David, A. (2000) Introduction in confronting catastrophe. Oxford Univ. Press.
2. Cuny, F. (1983) Development and disasters. Oxford University Press.
3. Govt. of India (2005) Disaster Management Act, New Delhi.
4. Govt. of India (2009) National Disaster Management Policy.
5. Gupta, A.K. and Nair, S.S. (2011) Environmental Knowledge for disaster Risk Management, NIDM, New Delhi.
6. Murthy, R.K. (2012) Disaster Management, Wisdom Press, New Delhi.
7. Tearfund (2006) Reducing risk of disaster in our communities, Disaster theory.
8. Vasudevan, V., Krishnan, K.R.S., Baba, M. and Kumar, P (eds.) Natural Hazards and



Name and Signature of the Principal
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Kannada-KAN1E02

P.G. DEGREE PROGRAMME - KANNADA

SEMESTER I

COURSE 6. FEMINIST READING IN MODERN KANNADA POETRY

COURSE CODE : KAN1E02
Time : 3 hours

Maximum Marks 100
Credit : 4

AIM OF THE COURSE

Feminism is a contemporary discipline which highly influenced Modern Kannada poetry. From the age of romanticism, Kannada poets expressed their opinion on feminism in variegated views. This course steps towards an intensive study on feminist reading in Modern Kannada poetry.

OBJECTIVES

1. To understand the feministic views in literature
2. To study the development of feminism in Kannada literature.
3. To study the methodology of feministic poetry.
4. To read Kannada poetry in the view of feminism.

COURSE OUTLINE MODULES

1. Concepts of Feminist creativity
2. Navodaya poetry – women in the vision of man -Kuvempu, Bendre, Pu.Ti.Na.
3. Navya poetry- Symbolism – Adiga, Kambar, Tirumalesh
4. Navyothara Poetry – Dalita, Bandaya and Streevadi views –Lankesh, siddalingayya, Vaidehi, Savitha nagabhushana, H.L. Pushpa, Prathibha Nandakumar

BOOKS FOR REFERENCE

- | | |
|--------------------------------|----------------------|
| 1. Mahila Sahitya Charitre | H.S. Shreemathi |
| 2. Mahile-Shoshane, savalugalu | Vijayashree Sabarada |
| 3. Gaureedukha | H.S. Shreemathi |
| 4. Mahila Sankathana | Gayathri Navada |
| 5. Idu maanushiya oodu | Maheshwari U. |
| 6. Naduve suliva aathma | M.S. Ashadevi |
| 7. Mahile Bidugdeya Hadiyalli | N. Gayatri |
| 8. The second sex | Simon De Bua |

Kannada-KAN2E04

P.G. DEGREE PROGRAMME - KANNADA

SEMESTER II

COURSE 12. CULTURAL STUDIES

COURSE CODE : KAN2E04
Time : 3 hours

Maximum Marks 100
Credit : 4

AIM OF THE COURSE

Karnataka is a multi cultural state. The life style, literature and art of Karnataka reflects the cultural uniqueness, traditions and peculiarity of Karnataka. This course is intended to provide general awareness of the cultural heritage of Karnataka.

OBJECTIVES

- 1.To Study the Culture and Tradition of India and Karnataka
- 2.To understand the concept of Culture Ancient and Modern Period.
- 3.To study about the different Religions, Arts, Languages and Lifestyle of People.

COURSE OUTLINE MODULES

1. Samskrithi Endarenu? Samskrithi Padada Artha mathu Vyakye – Samskrithiya Lakshana, Parikalpane, Swaroopagalu.
2. Jeevana mathu Samskrithi, Bhashe mathu Samskrithi, Dharma mathu Samskrithi, Kale mathu Samskrithi
3. Bharathiya parampareyalli Samskrithi grahike. Desha – Nadu – Nudi - Samskrithi Nelegalu. Adarsheekarana, Kaala Deshamuktha Nele, Dharma, Dharmikatege Sambadhisidanthe Bhakthi Panthada Nelegalu. Boudha, Jaina, Vaidika, Veerashaiva Paschatya, Pourvathya Samskrithi grahikeya Nelegalu. Vasahatu, Bharathada mathu Vasathothara Bharatada Samskrithi Chintanegalu.
4. Vyakthi mathu Samajakendrita (Antarika – Bahya) Samskriti Nelegalu. Varga – Varna- Linga Bheda- Jatheeya Shreeneekarana Nelegalu.
5. Bharateeya Punaruthana sandharbhadalli Rajaram Mohanroy, Gokhale, Thilak, Gandhivada, Samajavada, Jyothibapule, Ambedkar, Periyar, Lohiya- Vadagala hinnaleyalli Samskrithi Chintanegalu.
6. Adhunikochara yugadalli Samskrithika adhyayanada Swaroopa. Vismrithi, Upasamskrithi, Prathi samskrithi Jagathika Marukatte Samskrithi, Cyber Samskrithi.
7. Samskrithiyalli baruva Vairudhyagala Adhyayana. Nithya – Anithya, Shishta – Janapadha, Kappu – Bilupu, Sthree – Purusha, Maathu – Baraha -etc.
8. Field visit to important cultural centres.-A study tour



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Kannada-KAN3E07

P.G. DEGREE PROGRAMME - KANNADA

SEMESTER III COURSE 19. WRITINGS IN JOURNALISM

COURSE CODE : KAN3E07
Time : 3 hours

Maximum Marks 100
Credit : 4

AIM OF THE COURSE

Journalism is rapidly developing field. It plays an important role in the development of language and literature. It is an area where language experts may work easily. Being a journalist is a challenging factor of modern period. To open the doors of job opportunities in media world, the course is introduced.

OBJECTIVES

1. To acquire knowledge of Journalism
2. To know the current events and react properly through writings
3. To understand various types of writings appearing in different Journals
4. To develop Language and Literature by using the media

COURSE OUTLINE MODULES

1. A brief History of Kannada journalism.
2. **Ethics of Journalism**
3. Editorial and Reporting- Sports, Political, Development, Local, Cinema, Grameena etc.
4. Crime and Investigation reports
5. Feature writing and Column writing
6. Articles, Interviews, Readers column
7. Patrika baravanige mattu sahitya

BOOKS FOR REFERENCE

- | | |
|-----------------------------------|-------------------|
| 1. Vrutti Pathrikodyama | M.V. Kamath |
| 2. Devakaaru | Satish Chapparike |
| 3. Thems Thatada Thavaka Thallana | Satish Chapparike |
| 4. Suddimane Kathe | Vishweshwara Bhat |
| 5. Sarigama Pada | Vishweshwara Bhat |
| 6. Nammolagina Brahmaanda | Nagesh Hegade |
| 7. Enthado Thunthuru | Nagesh Hegade |

Hindi-1A07_1HIN

ADDITIONAL COMMON COURSE :VII-I

कविता और कहानी (KAVITHA AUR KAHANI)

SEMESTER	COURSE CODE	HOURS PER WEEK	CREDIT	EXAM HRS
I	1A07-1HIN	5	4	3

COURSE OUTCOME

CO 1 : Understand the hindi poetry.

CO 2 : Understand hindi short stories.

CO 3 : Understand the style and trends in hindi poetry and short story right from the ancient to post modernism.

CO 4 : Develop creative thinking.

Unit I :

1. कबीर - प्रथम पाँच दोहे
2. सूरदास - प्रथम दो पद

(15 Hrs)

Unit II :

1. जयशंकर प्रसाद - ले चल वहाँ भुलावा देकर
2. सूर्यकांत त्रिपाठी निराला - जुही की कली
3. सुदामा पांडेय धूमिल - रोटी और संसद

(20 Hrs)

Unit III:

1. मंगलेश डबराल - गुमशुदा
2. कात्यायनी - इस स्त्री से डरो
3. ओमप्रकाश वाल्मीकी - बस बहुत हो चुका
4. नीलेश रघुवंशी - हंडा

(25 Hrs)

Unit IV:

1. प्रेमचंद - बूढ़ी काकी
2. यशपाल - फूलों का कुर्ता
3. कमलेश्वर - बयान
4. कृष्णा सोबती - सिक्का बदल गया

(30 Hrs)

Books for Study:

1. साहित्य वीथिका -ed. by Board of studies U G Kannur University वाणी प्रकाशन, नई दिल्ली



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ADDITIONAL COMMON COURSE : IX

कथा साहित्य (KATHA SAHITHYA)

(15Hrs)

SEMESTER	COURSE CODE	HOURS PER WEEK	CREDIT	EXAM HRS
III	3A09HIN	5	4	3

COURSE OUTCOME

CO1 : Analyze variety of short stories in the cultural and historical context.

(15 Hrs)

CO2 : Analyze novel in the modern context.

CO3 : Understand the story content and structure in depth.

CO4 : Collaborate with peers of roll playing story analysis and presentations planning.

Unit I :

- उपन्यास - सपनों की होम डेलिवरी (अविस्तृत अध्ययन) - ममता कालिया

(45- Hrs)

Unit II :

- पूँस की रात - प्रेमचन्द
- बिसाती - जयशंकर प्रसाद

Unit III:

- मक्रील - यशपाल

- स्विमिंग पूल - असगर वजाहत

(15 Hrs)

Unit IV:

- नो बार - जयप्रकाश करदम

- हरी बिंदी - मृदुला गर्ग

(15 Hrs)

Books for Study:

- सपनों की होम डेलिवरी - ममता कालिया , राजकमल प्रकाशन, दरियागंज नई दिल्ली - 110002.
- कथा तरंग - ed. by board of studies hindi U G Kannur university राजपाल एण्ड सन्स, काश्मीरी गेट, नई दिल्ली, 110006.

Hindi-1A07HIN

ADDITIONAL COMMON COURSE : VII

हिन्दी कविता (HINDI KAVITHA)

SEMESTER	COURSE CODE	HOURS PER WEEK	CREDIT	EXAM HRS
I	1A07HIN	4	4	3

COURSE OUTCOME

CO1 : Understanding the role played by the poets of bhakthikal in literature and society.

CO2 : Understanding the philosophy of life as well as poems of chayavad.

CO3 : Understanding the poems of Modern poets in context with their experience of life.

CO4 : Understanding the contemporary spirit of the poets.

Unit I :

- कबीरदास - पद- 1
दोहा- प्रथम पाँच
- सूरदास - पद- 1, 2, 3
- तुलसीदास - विनय के पद- 1, 2
- रहीम - दोहा- प्रथम पाँच

(15 Hrs)

Unit II :

- मैथिलीशरण गुप्त- आर्य
- सूर्यकांत त्रिपाठी निराला- जागो फिर एक बार
- महादेवी वर्मा- पंथ होने दो अपरिचित
- हरिवंशराय बच्चन - अग्निपथ



Name and Signature of the Principal
Dr. Ananthapadmanabha A.C.



Political Science-4C04POL

COMPLEMENTARY ELECTIVE COURSE II: 4C04POL- DYNAMICS OF INDIAN POLITICAL SYSTEM

SEMESTER	COURSE CODE	HOURS PER WEEK	CREDIT	EXAM HRS
4	4C04POL-DYNAMICS OF INDIAN POLITICAL SYSTEM	6	4	3

COURSE OUTCOME

- CO1:** Students will have a thorough understanding of the structure and various provision of the constitution
CO2: Enable students to understand the function of different constitutional bodies and institutions
CO3: Students will be able to evaluate the working of the political system
CO4: Empower the students with skills necessary for a good citizen in a democracy

Unit 1 : BASICS OF THE INDIAN CONSTITUTION:

- Constituent Assembly, structure, and working
- Salient Features of India's Constitution
- Philosophy of Indian Constitution-Preamble

Unit.2. CITIZEN AND STATE

- Fundamental Rights
- Directive Principles of state policy.
- Fundamental duties.

Unit.3. ORGANISATION OF STATE

- Union Executive- the President , Prime minister and Council of Ministers
- Union Legislature - The Parliament,- Speaker. Legislative Process
- Supreme court of India: powers and functions, judicial review, Judicial activism
- State Executive- Governor, Chief minister and Council of Ministers
- State Legislature, Speaker.
- High court powers and functions

UNIT.4 CONSTITUTIONAL AND STATUTORY BODIES

- Election commission
- Union Public Service Commission,
- The Finance Commission,
- NITI Aayog

Unit 5: DECENTRALISATION AND GRASS ROOT DEMOCRACY.

- Evolution of Decentralisation in India
- Panchayath raj system
- 73rd and 74th Amendment

Unit 6: FEDERALISM IN INDIA

- Nature of Indian federalism
- Emergency provisions in India
- Amendment of Constitution

Books for Reference:

- D.D. Basu: An Introduction to the Constitution of India, New Delhi, Prentice Hall, 2013.
- G. Austin: 'Working a Democratic Constitution – The Indian Experience' Delhi, Oxford University Press, 2000.
- S. K. Chaube: Constituent Assembly of India – Spring Board of Revolution, New Delhi, Peoples' Publishing House, 1973.
- S. Kaviraj : Politics in India, Delhi, OUP. 1998.
- W. H. Morris Jones: Government and Politics in India, Delhi, 1974.
- M. V. Pylee- Constitutional Government in India, Bombay, Asia Pub. House, 1977.
- M. V. Pylee – An Introduction to Constitution of India, New Delhi, Vikas, 1998.
- Brij Kishore Sharma: Introduction to the Constitution of India, Prentice Hall: New Delhi, 2005.
- B.L. Fadia : Indian Government and Politics, SahityaBhawan Publications: Agra, 2007.
- U. Baxi, The Indian Supreme Court and Politics, Delhi, Eastern Book Company, 1980.
- Ivor. Jennings, Some Characteristics of the Indian Constitution, London, Oxford University Press, 1953.
- S. Kashyap, Our Parliament, New Delhi, National Book Trust, 1992.
- Singh, M.P. and H. Roy (eds.), Indian Political System: Structure, Policies, Development, New Delhi, Jnanada Prakashan, 1995

Political Science-2C02POL

COMPLEMENTARY ELECTIVE COURSE II: 2C02POL INTRODUCTION TO INDIAN POLITICAL SYSTEM

SEMESTER	COURSE CODE	HOURS PER WEEK	CREDIT	EXAM HRS
2	2C02POL Introduction to Indian Political system	6	4	3

COURSE OUTCOME

- CO1:**Students will have a thorough understanding of the structure and various provisions of the constitution
CO2:Enable students to understand the function of different constitutional bodies and institutions
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Unit 1 : BASICS OF THE INDIAN CONSTITUTION:

- Constituent Assembly, structure, and working
- Salient Features of India's Constitution
- Philosophy of Indian Constitution-Preamble

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- Directive Principles of state policy.
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- Nature of Indian federalism
- Emergency provisions in India
- Amendment of the constitution



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