

MANDATORY COURSE

Common for all the disciplines of UG

MCGN9305	Environmental Science	2-0-0	Credit-0
<p>Unit 1: Multidisciplinary nature of environmental studies Definition, scope and importance), Need for public awareness.</p> <p>Renewable and non-renewable resources Natural resources and associated problems, role of an individual in conservation of natural resources, equitable use of resources for sustainable lifestyles.</p> <p>Unit 2: Ecosystems Concept of an ecosystem, Structure and function of an ecosystem, Producers, consumers and decomposers, Energy flow in the ecosystem, Ecological succession, Food chains, food webs and ecological pyramids, Introduction, types, characteristic features, structure and function of the following ecosystems:-</p> <ol style="list-style-type: none"> Forest ecosystem Grassland ecosystem Desert ecosystem Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries) <p>Unit 3: Biodiversity and its conservation</p> <ul style="list-style-type: none"> Introduction – Definition: genetic, species and ecosystem diversity. Bio geographical classification of India Biodiversity at global, National and local levels. India as a mega-diversity nation Hot-spots of biodiversity. Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts. Endangered and endemic species of India Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity. <p>Unit 4: Environmental Pollution Cause, effects and control measures of :- Air pollution, water pollution, soil pollution, noise pollution, nuclear hazards and solid waste Management: Causes, effects and control measures of urban and industrial wastes, Disaster management: floods, earthquake, cyclone and landslides.</p> <p>Unit 5: Social Issues and the Environment Sustainable development, water conservation, rain water harvesting, resettlement and rehabilitation of people; its problems and concerns. Environmental ethics: Issues and possible solutions. Climate change, global warming, acid rain, ozone layer depletion.</p> <p>Text Books</p> <ol style="list-style-type: none"> Environmental Science And Engineering by Rajesh Gopinath N. Balasubramanya, Cengage India. 			

2. Fundamental Concepts in Environmental Studies by Dr. D.D. Mishra S. Chand Publication.
3. Basic environmental Sciences for undergraduates by Dr. Sohini Singh, Dr. Tanu Allen and Dr. Richa K. Tyagi, Vayu education of India.

MANDATORY COURSE

MCHM9306	Universal Human Values	2-0-0	Credit-0
<p>Objective:</p> <ol style="list-style-type: none"> 1. To help students distinguish between values and skills, and understand the need, basic guidelines, content and process of value education. 2. To sensitize the student towards issues in society and nature. 3. To Strengthen self-reflection to know what the students ‘really want to be’ in their life and profession. 4. To understand harmony at all the levels of human living, applying the understanding of harmony in existence in their profession and lead an ethical life. 			
<p>Module I</p> <ol style="list-style-type: none"> 1. Need, basic guidelines, content and process for Value Education, Self-Exploration– content and process; 2. Happiness and Prosperity- A look at basic Human Aspirations, Right understanding, Relationship and Physical Facilities for Human Aspirations. 3. Method to fulfill the human aspirations: understanding and living in harmony at various levels. 		<p>10 Hours</p>	
<p>Module II</p> <ol style="list-style-type: none"> 1. Human being as a co-existence of the sentient ‘I’ and the material ‘Body’, Self (‘I’) and ‘Body’ - <i>Sukh</i> and <i>Suvidha</i> 2. Body as an instrument of ‘I’ (I being the doer, seer and enjoyer), the characteristics and activities of ‘I’ and harmony in ‘I’, 3. Harmony of I with the Body: <i>Sanyam</i> and <i>Swasthya</i>; Needs of Body and Psyche: <i>Sanyam</i> and <i>Swasthya</i> 		<p>10 Hours</p>	
<p>Module III</p> <ol style="list-style-type: none"> 1. Harmony in the Family, values in human-human relationship; Trust (<i>Vishwas</i>) and Respect (<i>Samman</i>) as the foundational values of relationship, meaning of <i>Vishwas</i> and <i>Samman</i> 2. Harmony in the society: <i>Samadhan</i>, <i>Samridhi</i>, <i>Abhay</i>, <i>Sah-astitva</i>, universal harmonious order in society- family to world family, harmony in the Nature : recyclability and self-regulation in nature 		<p>12 Hours</p>	

3. Natural acceptance of human values, Ethical Human Conduct, and Humanistic Education,

Module IV**08 Hours**

1. Competence in Professional Ethics: professional competence for augmenting universal human order, people-friendly and eco-friendly production systems, technologies and management
2. Strategy for transition from the present state to Universal Human Order
3. Being socially and ecologically responsible engineers with mutually enriching institutions and organizations.

Text Book:

1. R R Gaur, R Sangal, G P Bagaria, 2009, A Foundation Course in Human Values and Professional Ethics.

References Books:

1. A Nagraj, 1998, Jeevan Vidya Ek Parichay, Divya Path Sansthan, Amarkantak.
2. A N Tripathy, 2003, Human Values, New Age International Publishers.
3. B P Banerjee, 2005, Foundations of Ethics and Management, Excel Books

Course Outcome:

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

1. Distinguish between values and skills; understand the need, basic guidelines, content and process of value education.
2. Distinguish between the Self and the Body; understand the meaning of Harmony in the Self the Co-existence of Self and Body.
3. Understand the value of harmonious relationship based on trust, respect and other naturally acceptable feelings.
4. Distinguish between ethical and unethical practices, and start working out the strategy to actualize a harmonious environment.

HONOURS

HNEC0303	Machine Learning	3-1-0	Credits 4
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COURSE OBJECTIVES

1. To introduce students to the basic concepts and techniques of Machine Learning.
2. To develop skills of using recent machine learning software for solving problems.

MANDATAORY COURSE

MCHM9203	CONSTITUTION OF INDIA	2-0-0	Credit-0
<p>OBJECTIVES OF THE STUDY</p> <ol style="list-style-type: none"> 1. To create awareness about the constitutional values and objectives written in the Indian Constitution. 2. To ascertain the views of student teachers regarding the achievement made in respect of each of the values /objectives in the present context in India. <p>Course content</p> <p>Module 1 Meaning of the constitution law and constitutionalism, Historical perspective of the Constitution of India, Salient features and characteristics of the Constitution of India, Scheme of the fundamental rights The scheme of the Fundamental Duties and its legal status</p> <p>Module 2 The Directive Principles of State Policy – Its importance and implementation, Federal structure and distribution of legislative and financial powers between the Union and the States</p> <p>Module 3 Parliamentary Form of Government in India – The constitution powers and status of the President of India Amendment of the Constitutional Powers and Procedure, The historical perspectives of the constitutional amendments in India</p> <p>Module 4 Emergency Provisions: National Emergency, President Rule, Financial Emergency Local Self Government – Constitutional Scheme in India</p> <p>Module 5 Scheme of the Fundamental Right to Equality Scheme of the Fundamental Right to certain Freedom under Article 19 , Scope of the Right to Life and Personal Liberty under Article 21</p> <p>REFERENCES</p> <ol style="list-style-type: none"> 1. Austin, Granville (1996), ³ 'The Indian Constitution: Cornerstone of a Nation', Oxford: Clarendon Press, p. 308. 2. Nehru, Jawaharlal (1949), ³ 'Independence and after', New Delhi: Publication Division, Govt. of India, p.375 3. Wheare, K.C.(1964), ³'Modern Constitutions', London: Oxford University Press,p.98. 4. Frankfurter, Felix (1961), ³'Mr. Justice Holmes and the Supreme Court', Cambridge: The Belknap press of Harvard University Press, P.59. 5. Kashyap, S.C.(1995), ³'Our Constitution', New Delhi: National Book Trust, India,p.51. 6. Basu, D.D.(1991), ³ 'Introduction to the Constitution of India', New Delhi 			

Course Outcomes:

After study of the course, the students are able to-

1. Have general knowledge and legal literacy and thereby to take up competitive examinations
2. Understand state and central policies, fundamental duties
3. Understand Electoral Process, special provisions
4. Understand powers and functions of Municipalities, Panchayats and Co-operative Societies, and
5. Understand Engineering ethics and responsibilities of Engineers.
6. Have an awareness about basic human rights in India

MANDATORY COURSE

MCHM9204	ESSENCE OF INDIAN TRADITIONAL KNOWLEDGE	2-0-0	Credit-0
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Course Objectives:

1. The course aims at imparting basic principles of thought process, reasoning and inferencing. Sustainability is at the core of Indian Traditional Knowledge Systems connecting society and nature.
2. Holistic life style of Yogic-science and wisdom capsules in Sanskrit literature are also important in modern society with rapid technological advancements and societal disruptions
3. The course focuses on introduction to Indian Knowledge System, Indian perspective of modern scientific world-view and basic principles of Yoga and holistic health care system.

Course content :

□ Basic Structure of Indian Knowledge System (i) वेद, (ii) उन्वेद (आयुर्वेद, धनुर्वेद, गन्धर्वेद, स्थानत्यआदद) (iii) वेदांग (शिक्षा, कल्न, नरुत, व्याकरण, ज्योनतषछांद), (iv) उनाइग (धर्मस, र्ीर्ासा, नुराण, तकमिस)

I. VEDA II. UPAVEDA (AYURVEDA, DHANURVEDA, GANDHARVA VEDA, STHAPATYA Etc) iii. VEDANGA (SIKHYA, KALPA, NIRUTA, BYAKARANA, JYOTISYA CHHANDA) IV. UPANGA (DHARMA SASTRA, MIMANSA, TARKA SASTRA, PURANA)

- Modern Science and Indian Knowledge System
- Yoga and Holistic Health care
- Case Studies.

Course Outcomes:

Ability to understand, connect up and explain basics of Indian Traditional knowledge modern scientific perspective.

Suggested Text/Reference Books

1. V. Sivaramakrishna (Ed.), Cultural Heritage of India-Course Material, Bharatiya Vidya Bhavan,

Mumbai, 5th Edition, 2014

2. Swami Jitatmanand, Modern Physics and Vedant, Bharatiya Vidya Bhavan
3. Fritzo Capra, Tao of Physics
4. Fritzo Capra, The wave of Life
5. V N Jha (Eng. Trans.), Tarkasangraha of Annam Bhatta, International Chinmay Foundation, Velliarnad, Amaku,am
6. Yoga Sutra of Patanjali, Ramakrishna Mission, Kolkatta
7. GN Jha (Eng. Trans.) Ed. R N Jha, Yoga-darshanam with Vyasa Bhashya, Vidyanidhi Prakasham, Delhi, 2016
8. RN Jha, Science of Consciousness Psychotherapy and Yoga Practices, Vidyanidhi Prakasham, Delhi, 2016 9.
9. P R Sharma (English translation), Shodashang Hridayam

HONOURS

HNCH0201	Fundamentals of Unit Operations	3L-1T-0P	4 Credits
<p>Objective of the course: This course will enable students</p> <ol style="list-style-type: none"> 1. To know the fundamental concepts of fluid mechanics, heat and mass transfer. 2. To solve the engineering problems related to fluid flow, heat and mass transfer. 3. To understand the design concepts of fluid and particulate technology. 			
<p>Module-1 (10 Hours) Fluid definition and classification, Rheological behavior of fluids & Newton's Law of viscosity. Fluid statics- Pascal's law, Hydrostatic equilibrium, Barometric equation and pressure measurement(problems), Basic equations of fluid flow – Continuity equation, Euler's equation and Bernoulli equation; Types of flow – laminar and turbulent; Reynolds experiment; Flow through circular and non circular conduits – Hagen Poiseuille equation (no derivation). Flow past immersed bodies – drag and drag co-efficients, application of Kozney Karmen & Burke Plummer equation; Flow through stagnant fluids – theory of Settling and Sedimentation – Equipment (cyclones, thickeners) Conceptual numericals.</p>			
<p>Module-2 (10 Hours) Different types of flow measuring devices, flow measurements – Orifice meter, Venturimeter, Rotameter. Pumps – types of pumps (Centrifugal & Reciprocating pumps), application of Bernoulli's equation for Energy calculations in pumps. Properties and handling of particulate solids – characterization of solid particles, average particle size, screen analysis- Conceptual numericals of differential and cumulative analysis. Size reduction – characteristics of comminuted products, crushing laws, working principle of ball mill., Mixing – types of mixers (ribbon and muller mixer), power number and power number calculation; Filtration & types, filtration equipment (plate and frame, rotary drum). Conceptual numericals.</p>			

facilities.

References:

Motivating UG Students Towards Studies, Rajeev Sangal, IIT BHU Varanasi, Gautam Biswas, IIT Guwahati, Timothy Gonsalves, IIT Mandi, Pushpak Bhattacharya, IIT Patna, (Committee of IIT Directors), 31 March 2016, IIT Directors' Secretariat, IIT Delhi.

MCGN9102 (D)	Professional Ethics	2-0-0	Credit 0
Module-I			
1. Introduction to Ethics:			
1.1 Basic terms- Moral, Ethics, Ethical dilemma, Emotional intelligence			
1.2 Moral development theories of Kohlberg and Piaget			
1.3 View on ethics by Aristotle			
1.4 Governing factors of an individual's value system			
1.5 Personal and professional ethics			
Module-II			
2. Profession and Professionalism:			
2.1 Clarification of the concepts: Profession, Professional, Professionalism, Professional accountability, Professional risks, Profession and Craftsmanship, Conflict of interest			
2.2 Distinguishing features of a professional			
2.3 Role and responsibilities of professionals			
2.4 Professionals' duties towards the organization and vice-a-versa			
3. Ethical Theories:			
3.1 Various ethical theories and their application- Consequentialism, Deontology, Virtue theory, Rights Theory, Casuist theory			
3.2 Ethical terms: Moral absolutism, Moral Relativism, Moral Pluralism etc.			
3.3 Resolving Ethical Dilemma			
Module-III			
4. Ethics in Engineering:			
4.1 Purpose and concept of Engineering Ethics			
4.2 Engineering as social experimentation			
4.3 Types of inquiry			
4.4 Issues in engineering ethics			
5 Engineers' Responsibility and Safety:			
5.1 Safety, Risk, Underestimating the risk, Over estimating the risk, Risk-benefit analysis			
5.2 Causes of an accident and identification of the preventive measures to be taken			
5.3 Case Studies			
Module-IV			
6. Global Ethical Issues:			
6.1 Different ethical issues in business, environment, IT, Bioethics, Intellectual Property Rights (IPR),			

Research, Media, CSR etc.

7. Ethical Codes:

- 7.1 Meaning and the significance of ethical codes
- 7.2 The limitations of ethical codes.

Recommended Books For Reference:

1. R. Subramanian, "Professional Ethics" , Oxford University Press, New Delhi, 2013
2. Mike W. Martin and Roland Schinzinger, "Ethics in Engineering", Tata McGraw Hill, New Delhi, 2013
3. Charles E Harris, Michael S Pritchard and Michael J Rabins, "Engineering Ethics – Concepts and Cases", Thompson Learning, 2003.
4. Daniel Albuquerque, "Business Ethics", Oxford University Press, New Delhi, 2013
5. Edmund G. Seebauer and Robert L. Barry, "Fundamentals of Ethics", Oxford University Press, New Delhi, 2012.

M.Tech

Common for all the disciplines of PG

Audit Courses**List of Audit courses**

1. AHM101 English for Research Paper Writing
2. ACE101 Disaster Management
3. AHM102 Sanskrit for Technical Knowledge
4. AHM103 Value Education
5. AHM104 Constitution of India
6. AHM105 Pedagogy Studies
7. AHM106 Stress Management by Yoga
8. AHM107 Personality Development through Life Enlightenment Skills

AHM101	English for Research Paper Writing	2-0-0	Credits 0
<p>Course Objectives: Students will be able to:</p> <ol style="list-style-type: none"> 1. Understand that how to improve your writing skills and level of readability 2. Learn about what to write in each section 3. Understand the skills needed when writing a Title <p>Ensure the good quality of paper at very first-time submission</p>			
MODULE-I		(4 Hours)	
Planning and Preparation, Word Order, Breaking up long sentences, Structuring Paragraphs and Sentences, Being Concise and Removing Redundancy, Avoiding Ambiguity and Vagueness.			
MODULE-II		(4 Hours)	
Clarifying Who Did What, Highlighting Your Findings, Hedging and Criticising, Paraphrasing and Plagiarism, Sections of a Paper, Abstracts. Introduction.			
MODULE-III		(4 Hours)	
Review of the Literature, Methods, Results, Discussion, Conclusions, The Final Check.			
MODULE-IV		(4 Hours)	
key skills are needed when writing a Title, key skills are needed when writing an Abstract, key skills are needed when writing an Introduction, skills needed when writing a Review of the Literature.			
MODULE- V		(4 Hours)	

Skills are needed when writing the Methods, skills needed when writing the Results, skills are needed when writing the Discussion, skills are needed when writing the Conclusions.

MODULE-VI**(4 Hours)**

Useful phrases, how to ensure paper is as good as it could possibly be the first- time submission.

Suggested Studies:

1. Goldbort R (2006) Writing for Science, Yale University Press (available on Google Books)
2. Day R (2006) How to Write and Publish a Scientific Paper, Cambridge University Press
3. Highman N (1998), Handbook of Writing for the Mathematical Sciences, SIAM. Highman's book.
4. Adrian Wallwork, English for Writing Research Papers, Springer New York Dordrecht Heidelberg London, 2011.

ACE101	Disaster Management	2-0-0	Credits 0
<p>Course Objectives: Students will be able to:</p> <ol style="list-style-type: none"> 1. Learn to demonstrate a critical understanding of key concepts in disaster risk reduction and humanitarian response. 2. Critically evaluate disaster risk reduction and humanitarian response policy and practice from multiple perspectives. 3. Develop an understanding of standards of humanitarian response and practical relevance in specific types of disasters and conflict situations. 4. Critically understand the strengths and weaknesses of disaster management approaches, planning and programming in different countries, particularly their home country or the countries they work in. 			
<p>MODULE-I</p> <p>Introduction</p>		<p>(4 Hours)</p>	
<p>Disaster: Definition, Factors and Significance; Difference between Hazard and Disaster; Natural and Manmade Disasters: Difference, Nature, Types and Magnitude.</p>			
<p>MODULE-II</p> <p>Repercussions of Disasters and Hazards:</p>		<p>(4 Hours)</p>	
<p>Economic Damage, Loss of Human and Animal Life, Destruction of Ecosystem.</p> <p>Natural Disasters: Earthquakes, Volcanisms, Cyclones, Tsunamis, Floods, Droughts and Famines, Landslides and Avalanches, Man-made disaster: Nuclear Reactor Meltdown, Industrial Accidents, Oil Slicks and Spills,</p>			

Outbreaks of Disease and Epidemics, War and Conflicts.

MODULE-III

(4 Hours)

Disaster Prone Areas In India

Study of Seismic Zones; Areas Prone To Floods And Droughts, Landslides and Avalanches; Areas Prone to Cyclonic and Coastal Hazards with Special Reference to Tsunami; Post-Disaster Diseases and Epidemics

MODULE-IV

(4 Hours)

Disaster Preparedness and Management

Preparedness: Monitoring of Phenomena Triggering a Disaster or Hazard; Evaluation of Risk: Application of Remote Sensing, Data From Meteorological and Other Agencies, Media Reports: Governmental and Community Preparedness.

MODULE-V

(4 Hours)

Risk Assessment

Disaster Risk: Concept and Elements, Disaster Risk Reduction, Global and National Disaster Risk Situation. Techniques of Risk Assessment, Global Co-Operation in Risk Assessment and Warning, People's Participation in Risk Assessment. Strategies for Survival.

MODULE-VI

(4 Hours)

Disaster Mitigation

Meaning, Concept and Strategies of Disaster Mitigation, Emerging Trends in Mitigation. Structural Mitigation and Non-Structural Mitigation, Programs of Disaster Mitigation In India.

Text / Reference Books:

1. R. Nishith, Singh AK, "Disaster Management in India: Perspectives, issues and strategies, New Royal book Company.
2. Sahni, Pardeep Et.Al. (Eds.), "Disaster Mitigation Experiences and Reflections", Prentice Hall Of India, New Delhi.
3. Goel S. L, Disaster Administration And Management Text And Case Studies" ,Deep &Deep Publication Pvt. Ltd., New Delhi.

AHM102	Sanskrit for Technical Knowledge	2-0-0	Credits 0
Course Objectives:			
1. To get a working knowledge in illustrious Sanskrit, the scientific language in the world			

2. Learning of Sanskrit to improve brain functioning
3. Learning of Sanskrit to develop the logic in mathematics, science & other subjects enhancing the memory power
4. The engineering scholars equipped with Sanskrit will be able to explore the huge knowledge from ancient literature

MODULE-I**(8 Hours)**

- Alphabets in Sanskrit
- Past/Present/Future Tense
- Simple Sentences

MODULE-II**(8 Hours)**

- Order
- Introduction of roots
- Technical information about Sanskrit Literature

MODULE-III**(8 Hours)**

- Technical concepts of Engineering-Electrical, Mechanical, Architecture, Mathematics

Suggested reading:

1. “Abhyaspustakam” – Dr.Vishwas, Samskrita-Bharti Publication, New Delhi
2. “Teach Yourself Sanskrit” Prathama Deeksha-Vempati Kutumbshastri, Rashtriya Sanskrit Sansthanam, New Delhi Publication
3. “India’s Glorious Scientific Tradition” Suresh Soni, Ocean books (P) Ltd., New Delhi.

Course Output: Students will be able to

1. Understanding basic Sanskrit language
2. Ancient Sanskrit literature about science & technology can be understood
3. Being a logical language will help to develop logic in students

AHM103	Value Education	2-0-0	Credits 0
Course Objectives: Students will be able to			

1. Understand value of education and self- development
2. Imbibe good values in students
3. Know about the importance of character

MODULE-I**(6 Hours)**

- Values and self-development –Social values and individual attitudes. Work ethics, Indian vision of humanism.
- Moral and non- moral valuation. Standards and principles.
- Value judgements

MODULE-II**(6 Hours)**

- Importance of cultivation of values.
- Sense of duty. Devotion, Self-reliance. Confidence, Concentration. Truthfulness, Cleanliness.
- Honesty, Humanity. Power of faith, National Unity.
- Patriotism. Love for nature, Discipline

MODULE-III**(6 Hours)**

- Personality and Behaviour Development - Soul and Scientific attitude.
- Positive Thinking. Integrity and discipline.
- Punctuality, Love and Kindness.
- Avoid fault Thinking.
- Free from anger, Dignity of labour.
- Universal brotherhood and religious tolerance.
- True friendship.
- Happiness Vs suffering, love for truth.
- Aware of self-destructive habits.
- Association and Cooperation.
- Doing best for saving nature

MODULE-IV**(6 Hours)**

- Character and Competence –Holy books vs Blind faith.
- Self-management and Good health.
- Science of reincarnation.
- Equality, Nonviolence, Humility, Role of Women.

- All religions and same message.
- Mind your Mind, Self-control.
- Honesty, Studying effectively

Text / Reference Books

1. Chakroborty, S.K. “Values and Ethics for organizations Theory and practice”, Oxford University Press, New Delhi

Course outcomes: Students will be able to

1. Knowledge of self-development
2. Learn the importance of Human values
3. Developing the overall personality

AHM104	Constitution of India	2-0-0	Credits 0
<p>Course Objectives: Students will be able to:</p> <ol style="list-style-type: none"> 1. Understand the premises informing the twin themes of liberty and freedom from a civil rights perspective. 2. To address the growth of Indian opinion regarding modern Indian intellectuals’ constitutional role and entitlement to civil and economic rights as well as the emergence of nationhood in the early years of Indian nationalism. 3. To address the role of socialism in India after the commencement of the Bolshevik Revolution in 1917 and its impact on the initial drafting of the Indian Constitution. 			
<p>MODULE-I</p> <ul style="list-style-type: none"> • History of Making of the Indian Constitution: History Drafting Committee, (Composition& Working) 		<p>(4 Hours)</p>	
<p>MODULE-II</p> <ul style="list-style-type: none"> • Philosophy of the Indian Constitution: Preamble Salient Features 		<p>(4 Hours)</p>	
<p>MODULE-III</p>		<p>(4 Hours)</p>	

- **Contours of Constitutional Rights & Duties:**

Fundamental Rights
 Right to Equality
 Right to Freedom
 Right against Exploitation
 Right to Freedom of Religion
 Cultural and Educational Rights
 Right to Constitutional Remedies
 Directive Principles of State Policy
 Fundamental Duties.

MODULE-IV**(4 Hours)**

- **Organs of Governance:**

Parliament
 Composition
 Qualifications and Disqualifications
 Powers and Functions
 Executive
 President
 Governor
 Council of Ministers
 Judiciary, Appointment and Transfer of Judges, Qualifications
 Powers and Functions

MODULE-V**(4 Hours)**

- **Local Administration:**

District's Administration head: Role and Importance,
 Municipalities: Introduction, Mayor and role of Elected Representative, CEO of Municipal Corporation.
 Pachayati raj: Introduction, PRI: Zila Pachayat.
 Elected officials and their roles, CEO Zila Pachayat: Position and role.
 Block level: Organizational Hierarchy (Different departments),
 Village level: Role of Elected and Appointed officials,
 Importance of grass root democracy
 Model Curriculum of Engineering & Technology PG Courses [Volume -II]

MODULE-VI**(4 Hours)**

- **Election Commission:**

Election Commission: Role and Functioning.

Chief Election Commissioner and Election Commissioners.

State Election Commission: Role and Functioning.

Institute and Bodies for the welfare of SC/ST/OBC and women.

Text / Reference Books:

1. The Constitution of India, 1950 (Bare Act), Government Publication.
2. Dr. S. N. Busi, Dr. B. R. Ambedkar framing of Indian Constitution, 1st Edition, 2015.
3. M. P. Jain, Indian Constitution Law, 7th Edn, Lexis Nexis, 2014.
4. D.D. Basu, Introduction to the Constitution of India, Lexis Nexis, 2015.

Course Outcomes: Students will be able to:

1. Discuss the growth of the demand for civil rights in India for the bulk of Indians before the arrival of Gandhi in Indian politics.
2. Discuss the intellectual origins of the framework of argument that informed the conceptualization of social reforms leading to revolution in India.
3. Discuss the circumstances surrounding the foundation of the Congress Socialist Party [CSP] under the leadership of Jawaharlal Nehru and the eventual failure of the proposal of direct elections through adult suffrage in the Indian Constitution.
4. Discuss the passage of the Hindu Code Bill of 1956.

AHM105	Pedagogy Studies	2-0-0	Credits 0
Course Objectives: Students will be able to: <ol style="list-style-type: none"> 1. Review existing evidence on the review topic to inform programme design and policymaking undertaken by the DfID, other agencies and researchers. 2. Identify critical evidence gaps to guide the development. 			
MODULE-I			(4 Hours)

• Introduction and Methodology:

- Aims and rationale, Policy background, Conceptual framework and terminology
- Theories of learning, Curriculum, Teacher education.
- Conceptual framework, Research questions.
- Overview of methodology and Searching.

MODULE-II**(2 Hours)**

- Thematic overview: Pedagogical practices are being used by teachers in formal and informal classrooms in developing countries.
- Curriculum, Teacher education.

MODULE-III**(4 Hours)**

- Evidence on the effectiveness of pedagogical practices
 - Methodology for the in depth stage: quality assessment of included studies.
 - How can teacher education (curriculum and practicum) and the school curriculum and guidance materials best support effective pedagogy?
 - Theory of change.
 - Strength and nature of the body of evidence for effective pedagogical practices.
 - Pedagogic theory and pedagogical approaches.
 - Teachers' attitudes and beliefs and Pedagogic strategies.

MODULE-IV**(4 Hours)**

- Professional development: alignment with classroom practices and follow up support
- Peer support
- Support from the head teacher and the community.
- Curriculum and assessment
- Barriers to learning: limited resources and large class sizes

MODULE- V**(2 Hours)**

- **Research gaps and future directions**
 - Research design
 - Contexts
 - Pedagogy
 - Teacher education
 - Curriculum and assessment

- Dissemination and research impact.

Text / Reference Books:

1. Ackers J, Hardman F (2001) Classroom interaction in Kenyan primary schools, Compare, 31 (2):245-261.
2. Agrawal M (2004) Curricular reform in schools: The importance of evaluation, Journal of Curriculum Studies, 36 (3): 361-379.
3. Akyeamong K (2003) Teacher training in Ghana - does it count? Multi-site teacher education research project (MUSTER) country report 1. London: DFID.
4. Akyeamong K, Lussier K, Pryor J, Westbrook J (2013) Improving teaching and learning of basic maths and reading in Africa: Does teacher preparation count? International Journal Educational Development, 33 (3): 272–282.
5. Alexander RJ (2001) Culture and pedagogy: International comparisons in primary education. Oxford and Boston: Blackwell.
6. Chavan M (2003) Read India: A mass scale, rapid, 'learning to read' campaign.
7. www.pratham.org/images/resource%20working%20paper%202.pdf.

Course outcomes: Students will be able to understand:

1. What pedagogical practices are being used by teachers in formal and informal classrooms in developing countries?
2. What is the evidence on the effectiveness of these pedagogical practices, in what conditions, and with what population of learners?
3. How can teacher education (curriculum and practicum) and the school curriculum and guidance materials best support effective pedagogy?

AHM106	Stress Management by Yoga	2-0-0	Credits 0
<p>Course Objectives:</p> <ol style="list-style-type: none"> 1. To achieve overall health of body and mind 2. To overcome stress <p>MODULE-I (8 Hours)</p> <ul style="list-style-type: none"> • Definitions of Eight parts of yoga. (Ashtanga) <p>MODULE-II (8 Hours)</p>			

- Yam and Niyam.
Do`s and Don`t`s in life.
- i) Ahinsa, satya, astheya, bramhacharya and aparigraha
- ii) Shaucha, santosh, tapa, swadhyay, ishwarpranidhan

MODULE-III**(8 Hours)**

- Asan and Pranayam
- i) Various yog poses and their benefits for mind & body
- ii) Regularization of breathing techniques and its effects-Types of pranayam

Text / Reference Books:

1. ‘Yogic Asanas for Group Training-Part-I’ :Janardan Swami Yogabhyasi Mandal, Nagpur
2. “Rajayoga or conquering the Internal Nature” by Swami Vivekananda, AdvaitaAshrama (Publication Department), Kolkata

Course outcomes: Students will be able to:

1. Develop healthy mind in a healthy body thus improving social health also
2. Improve efficiency

AHM107	Personality Development through Life Enlightenment Skills	2-0-0	Credits 0
<p>Course Objectives:</p> <ol style="list-style-type: none"> 1. To learn to achieve the highest goal happily 2. To become a person with stable mind, pleasing personality and determination 3. To awaken wisdom in students <p>MODULE-I (8 Hours)</p> <p>Neetisatakam-Holistic development of personality</p> <ul style="list-style-type: none"> • Verses- 19,20,21,22 (wisdom) • Verses- 29,31,32 (pride & heroism) • Verses- 26,28,63,65 (virtue) • Verses- 52,53,59 (dont`s) 			

- Verses- 71,73,75,78 (do's)

MODULE-II**(8 Hours)**

Approach to day to day work and duties.

- Shrimad Bhagwad Geeta: Chapter 2-Verses 41, 47,48,
- Chapter 3-Verses 13, 21, 27, 35, Chapter 6-Verses 5,13,17, 23, 35,
- Chapter 18-Verses 45, 46, 48.

MODULE-III**(8 Hours)**

Statements of basic knowledge.

- Shrimad Bhagwad Geeta: Chapter 2-Verses 56, 62, 68
- Chapter 12 -Verses 13, 14, 15, 16,17, 18
- Personality of Role model. Shrimad Bhagwad Geeta: Chapter 2-Verses 17, Chapter 3-Verses 36,37,42,
- Chapter 4-Verses 18, 38,39
- Chapter18 – Verses 37,38,63

Text / Reference Books:

1. “Srimad Bhagavad Gita” by Swami Swarupananda Advaita Ashram (Publication Department), Kolkata
2. Bhartrihari's Three Satakam (Niti-sringar-vairagya) by P.Gopinath, Rashtriya Sanskrit Sansthanam, New Delhi.

Course outcomes: Students will be able to:

1. Study of Shrimad-Bhagwad-Geeta will help the student in developing his personality and achieve the highest goal in life
2. The person who has studied Geeta will lead the nation and mankind to peace and prosperity
3. Study of Neetishatakam will help in developing versatile personality of students.