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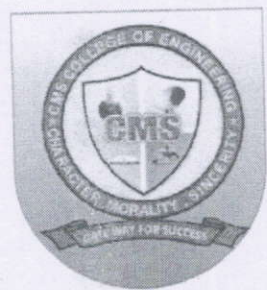
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**List of courses related to Gender, Human Values, Environment
and Sustainability in professional Ethics**



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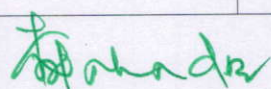
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List of courses related to gender, human values, Environment and Sustainability and Professional Ethics

| S.NO | Program Code | Program Name | Course Code | Name of the course | Name of the topic | Regulation of Anna University |
|------|--------------|---|-------------|---------------------------------------|--------------------------------|-------------------------------|
| 1 | 104 | Computer Science and Engineering | GE8291 | Environmental Science and Engineering | Environment And Sustainability | 2017 |
| 2 | 104 | Computer Science and Engineering | MG8591 | Principles of Management | Professional Ethics | 2017 |
| 3 | 106 | Electronics and Communication Engineering | GE8291 | Environmental Science and Engineering | Environment And Sustainability | 2017 |
| 4 | 106 | Electronics and Communication Engineering | MG8591 | Principles of Management | Professional Ethics | 2017 |
| 5 | 105 | Electrical and Electronics Engineering | GE8291 | Environmental Science and Engineering | Environment And Sustainability | 2017 |
| 6 | 105 | Electrical and Electronic Engineering | MG8591 | Principles of Management | Professional Ethics | 2017 |




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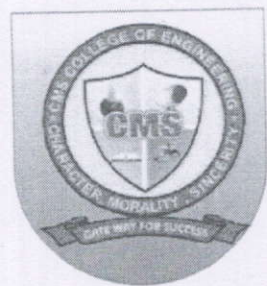
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| | | | | | | |
|---|-----|------------------------|--------|---------------------------------------|--------------------------------|------|
| 7 | 114 | Mechanical Engineering | GE8291 | Environmental Science and Engineering | Environment And Sustainability | 2017 |
| 8 | 114 | Mechanical Engineering | MG8591 | Principles of Management | Professional Ethics | 2017 |




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|------|--------------|---|-------------|--|------------------------|-------------------------------|
| 1 | 243 | Artificial Intelligence and data Science | GE3451 | Environmental Science and Sustainability | Environment protection | 2021 |
| 2 | 121 | Bio Medical Engineering | GE3451 | Environmental Science and Sustainability | Environment protection | 2021 |
| 3 | 104 | Computer Science and Engineering | GE3451 | Environmental Science and Sustainability | Environment protection | 2021 |
| 4 | 106 | Electronics and Communication Engineering | GE3451 | Environmental Science and Sustainability | Environment protection | 2021 |
| 5 | 105 | Electrical and Electronics Engineering | GE3451 | Environmental Science and Sustainability | Environment protection | 2021 |
| 6 | 114 | Mechanical Engineering | GE3451 | Environmental Science and Sustainability | Environment protection | 2021 |



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GE8291

ENVIRONMENTAL SCIENCE AND ENGINEERING

L T P C

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OBJECTIVES:

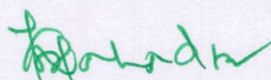
- To study the nature and facts about environment.
- To finding and implementing scientific, technological, economic and political solutions to environmental problems.
- To study the interrelationship between living organism and environment.
- To appreciate the importance of environment by assessing its impact on the human world; envision the surrounding environment, its functions and its value.
- To study the dynamic processes and understand the features of the earth's interior and surface.
- To study the integrated themes and biodiversity, natural resources, pollution control and waste management.

UNIT I ENVIRONMENT, ECOSYSTEMS AND BIODIVERSITY

14

Definition, scope and importance of environment – need for public awareness - 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 (a) forest ecosystem (b) grassland ecosystem (c) desert ecosystem (d) aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries) – Introduction to biodiversity definition: genetic, species and ecosystem diversity – biogeographical classification of India – value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values – 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




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biodiversity: In-situ and ex-situ conservation of biodiversity. Field study of common plants, insects, birds; Field study of simple ecosystems – pond, river, hill slopes, etc.

UNIT II ENVIRONMENTAL POLLUTION

8


Definition – causes, effects and control measures of: (a) Air pollution (b) Water pollution (c) Soil pollution (d) Marine pollution (e) Noise pollution (f) Thermal pollution (g) Nuclear hazards – solid waste management: causes, effects and control measures of municipal solid wastes – role of an individual in prevention of pollution – pollution case studies – disaster management: floods, earthquake, cyclone and landslides. Field study of local polluted site – Urban / Rural / Industrial / Agricultural.

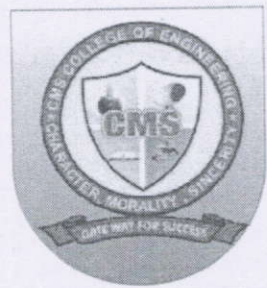
UNIT III NATURAL RESOURCES

10

Forest resources: Use and over-exploitation, deforestation, case studies- timber extraction, mining, dams and their effects on forests and tribal people – Water resources: Use and over- utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems – Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies – Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies – Energy resources: Growing energy needs, renewable and non renewable energy sources, use of alternate energy sources. case studies – Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification – role of an individual in conservation of natural resources – Equitable use of resources for sustainable lifestyles. Field study of local area to document environmental assets – river / forest / grassland / hill / mountain.




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UNIT IV SOCIAL ISSUES AND THE ENVIRONMENT

7

From unsustainable to sustainable development – urban problems related to energy – water conservation, rain water harvesting, watershed management – resettlement and rehabilitation of people; its problems and concerns, case studies – role of non-governmental organization- environmental ethics: Issues and possible consumerism and waste products – environment production act – Air (Prevention and Control of Pollution) act – Water (Prevention and control of Pollution) act – Wildlife protection act – Forest conservation act – enforcement machinery Public awareness.

UNIT V HUMAN POPULATION AND THE ENVIRONMENT

6

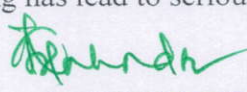
Population growth, variation among nations – population explosion – family welfare programme – environment and human health – human rights – value education – HIV / AIDS – women and child welfare – role of information technology in environment and human health – Case studies.

TOTAL: 45 PERIODS

OUTCOMES:

- Environmental Pollution or problems cannot be solved by mere laws. Public participation is an important aspect which serves the environmental Protection. One will obtain knowledge on the following after completing the course.
- Public awareness of environmental is at infant stage.
- Ignorance and incomplete knowledge has lead to misconceptions
- Development and improvement in std. of living has lead to serious environmental disasters




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TEXTBOOKS:

1. Benny Joseph, Environmental Science and Engineering’, Tata McGraw-Hill, New Delhi, 2006.
2. Gilbert M.Masters, Introduction to Environmental Engineering and Science’, 2nd edition, Pearson Education, 2004.

REFERECES :

1. Dharmendra S. Sengar, Environmental law’, Prentice hall of India PVT LTD, New Delhi, 2007.
2. Erach Bharucha, —Textbook of Environmental Studies, Universities Press(I) PVT, LTD, Hyderabad, 2015.
3. Rajagopalan, R, Environmental Studies-From Crisis to Cure’, Oxford University Press, 2005.
4. G. Tyler Miller and Scott E. Spoolman, —Environmental Sciencel, Cengage Learning India PVT, LTD, Delhi, 2014.



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MG8591

PRINCIPLES OF MANAGEMENT

L T P C

3 0 0 3

OBJECTIVE

- To enable the students to study the evolution of Management, to study the functions and principles of management and to learn the application of the principles in an organization

UNIT I INTRODUCTION TO MANAGEMENT AND ORGANIZATIONS

9

Definition of Management – Science or Art – Manager Vs Entrepreneur - types of managers - managerial roles and skills – Evolution of Management – Scientific, human relations , system and contingency approaches – Types of Business organization - Sole proprietorship, partnership, company- public and private sector enterprises - Organization culture and Environment – Current trends and issues in Management.

UNIT II PLANNING

9


Nature and purpose of planning – planning process – types of planning – objectives – setting objectives – policies – Planning premises – Strategic Management – Planning Tools and Techniques – Decision making steps and process.

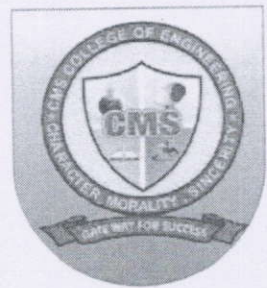
UNIT III ORGANISING

9

Nature and purpose – Formal and informal organization – organization chart – organization structure – types – Line and staff authority – departmentalization – delegation of authority – centralization and decentralization – Job Design - Human Resource Management – HR Planning, Recruitment, selection, Training and Development, Performance Management , Career planning and management.




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UNIT IV DIRECTING 9

Foundations of individual and group behaviour – motivation – motivation theories – motivational techniques – job satisfaction – job enrichment – leadership – types and theories of leadership – communication – process of communication – barrier in communication – effective communication – communication and IT.

UNIT V CONTROLLING 9

System and process of controlling – budgetary and non-budgetary control techniques – use of computers and IT in Management control – Productivity problems and management – control and performance – direct and preventive control – reporting.

TOTAL: 45 PERIODS

OUTCOME:

upon completion of the course, students will be able to have clear understanding of managerial functions like planning, organizing, staffing, leading & controlling and have same basic knowledge on international aspect of management

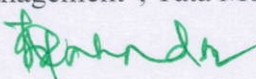
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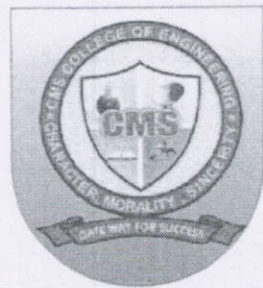
1. JAF Stoner, Freeman R.E and Daniel R Gilbert “Management”, 6th Edition, Pearson Education, 2004.
2. Stephen P. Robbins & Mary Coulter, “Management”, Prentice Hall (India) Pvt. Ltd., 10th Edition, 2009.

REFERENCES:

1. Harold Koontz & Heinz Weihrich, “Essentials of Management”, Tata McGraw Hill, 1998.




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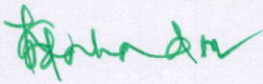
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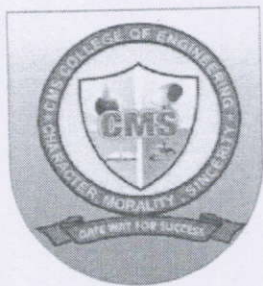
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2. Robert Kreitner & Mamata Mohapatra, "Management", Biztantra, 2008.
3. Stephen A. Robbins & David A. Decenzo & Mary Coulter, "Fundamentals of Management", 7th Edition, Pearson Education, 2011.
4. Tripathy PC & Reddy PN, "Principles of Management", Tata Mcgraw Hill, 1999




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GE3451

ENVIRONMENTAL SCIENCES AND SUSTAINABILITY

L T P C

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OBJECTIVES:

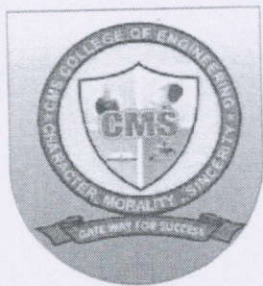
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- To finding and implementing scientific, technological, economic and political solutions to environmental problems.
- To study the interrelationship between living organism and environment.
- To appreciate the importance of environment by assessing its impact on the human world; envision the surrounding environment, its functions and its value.
- To study the dynamic processes and understand the features of the earth's interior and surface.
- To study the integrated themes and biodiversity, natural resources, pollution control and waste management.

UNIT - I: ENVIRONMENT AND BIODIVERSITY

Definition, scope and importance of environment – need for public awareness. Eco-system and Energy flow– ecological succession. Types of biodiversity: genetic, species and ecosystem diversity– values of biodiversity, 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.



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UNIT – II: ENVIRONMENTAL POLLUTION

Causes, Effects and Preventive measures of Water, Soil, Air and Noise Pollutions.

Solid, Hazardous and E-Waste management. Case studies on Occupational Health and Safety Management system (OHSAS). Environmental protection, Environmental protection acts.

UNIT – III : RENEWABLE SOURCES OF ENERGY .

Energy management and conservation, New Energy Sources: Need of new sources. Different types new energy sources. Applications of- Hydrogen energy, Ocean energy resources, Tidal energy conversion. Concept, origin and power plants of geothermal energy.

UNIT - IV : SUSTAINABILITY AND MANAGEMENT

Development , GDP ,Sustainability- concept, needs and challenges-economic, social and aspects of sustainability-from unsustainability to sustainability-millennium development goals, and protocols- Sustainable Development Goals-targets, indicators and intervention areas Climate change- Global, Regional and local environmental issues and possible solutions-case studies. Concept of Carbon Credit, Carbon Footprint. Environmental management in industry-A case study.

UNIT - V : SUSTAINABILITY PRACTICES

Zero waste and R concept, Circular economy, ISO 14000 Series, Material Life cycle assessment, Environmental Impact Assessment. Sustainable habitat: Green buildings, Green materials, Energy efficiency, Sustainable transports. Sustainable energy: Non-conventional Sources, Energy Cycles carbon cycle, emission and sequestration, Green Engineering: Sustainable urbanization- Socioeconomical and technological change.

TOTAL: 30 PERIODS

TEXT BOOKS:




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1. Anubha Kaushik and C. P. Kaushik's "Perspectives in Environmental Studies", 7th Edition, New Age International Publishers ,2022.

2. Benny Joseph, 'Environmental Science and Engineering', Tata McGraw-Hill, New Delhi, 2016.

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1. R.K. Trivedi, 'Handbook of Environmental Laws, Rules, Guidelines, Compliances and Standards', Vol. I and II, Enviro Media. 38 .

2. Cunningham, W.P. Cooper, T.H. Gorhani, 'Environmental Encyclopedia', Jaico Publ., House, Mumbai, 2001.

3. Dharmendra S. Sengar, 'Environmental law', Prentice hall of India PVT. LTD, New Delhi, 2007.

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