

# **PANIMALAR ENGINEERING COLLEGE**

**(An Autonomous Institution, Affiliated to Anna University, Chennai)**

**Bangalore Trunk Road, Varadharajapuram,**

**Poonamallee, Chennai – 600 123**



## **MANDATORY COURSES**

### **REGULATION-2023**

**(For the Students admitted during 2023-24)**

**Regulation 2023 (For the Students admitted during 2023) – Mandatory Course  
Common to all Branches**

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**List of Mandatory Courses**

**Regulation 2023 - (For the Students admitted during 2023-24)**

S. No	COURSE CODE	COURSE TITLE	Category	L/T/P	Contact Hours	Credit	Ext / Int Weightage
<b>Mandatory Courses</b>							
1.	23MC1201	Environmental Science	MC	2/0/0	2	0	0/100
2.	23MC1002	Constitution of India	MC	2/0/0	2	0	0/100
3.	23MC1003	Human Values	MC	2/0/0	2	0	0/100
4.	23MC1004	Energy Studies	MC	2/0/0	2	0	0/100
5.	23MC1005	Essence of Indian Traditional Knowledge	MC	2/0/0	2	0	0/100
6.	23MC1006	Soft Skills and Personality Development	MC	2/0/0	2	0	0/100
7.	2MC1007	Value Education, Human Rights & Legislature Procedure	MC	2/0/0	2	0	0/100

<b>23MC1201</b>	<b>ENVIRONMENTAL SCIENCE</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
		<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>

**COURSE OBJECTIVE:**

- To introduce the basic concepts of environment, ecosystems and biodiversity and emphasize on the biodiversity of India and its conservation.
- To impart knowledge on the causes, effects and control or prevention measures of environmental pollution.
- To familiarize the influence of societal use of resources on the environment and introduce the legal provisions, National and International laws and conventions for environmental protection

**UNIT - I ENVIRONMENT, ECOSYSTEMS AND BIODIVERSITY 6**

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 to biodiversity definition: genetic, species and ecosystem diversity – bio geographical 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 biodiversity: In situ and ex-situ conservation of biodiversity.

**UNIT - II ENVIRONMENTAL POLLUTION 6**

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, biomedical wastes and e-wastes – role of an individual in prevention of pollution – pollution case studies.

**UNIT - III NATURAL RESOURCES 6**

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 – Land resources: Land as a source, 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.

**UNIT - IV SOCIAL ISSUES AND THE ENVIRONMENT 6**

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 solutions – climate change, global warming, acid rain, ozone layer depletion. environment



1. <https://www.nationalgrid.com/stories/energy-explained>
2. <https://www.conservationindia.org/articles/human-elephant-conflict>
3. <https://www.sciencedirect.com/topics/earth-and-planetary-sciences/pollutant-monitoring>
4. <https://www.undp.org/sustainable-development-goals>

**ONLINE COURSES / RESOURCES:**

1. <https://nptel.ac.in/courses/105107213>
2. <https://nptel.ac.in/courses/105107181>
3. <https://nptel.ac.in/courses/103106162>
4. <https://nptel.ac.in/courses/103107212>



- CO4** Analyze the Indian political system, the powers and functions of the Union, State and Local Governments in detail.
- CO5** Compare the decentralization of power between central, state and local self government.
- CO6** Apply the knowledge in strengthening of the constitutional institutions like Election Commission and UPSC for sustaining democracy.

**TEXT BOOKS:**

1. Durga Das Basu, "Introduction to the Constitution of India ", Prentice Hall of India, New Delhi.
2. R.C.Agarwal, (1997) "Indian Political System", S.Chand and Company, New Delhi.
3. Maciver and Page, " Society: An Introduction Analysis ", Mac Milan India Ltd., New Delhi.
4. K.L.Sharma, (1997) "Social Stratification in India: Issues and Themes", Jawaharlal Nehru University, New Delhi.

**REFERENCE BOOKS:**

1. Sharma, Brij Kishore, " Introduction to the Constitution of India:, Prentice Hall of India, New Delhi.
2. U.R.Gahai, "Indian Political System ", New Academic Publishing House, Jalaendhar.
3. R.N. Sharma, "Indian Social Problems ", Media Promoters and Publishers Pvt. Ltd

**WEB REFERENCES:**

1. [www.hss.iitb.ac.in/en/lecture-details](http://www.hss.iitb.ac.in/en/lecture-details)
2. [www.iitb.ac.in/en/event/2nd-lecture-institute-lecture-series-indian-constitution](http://www.iitb.ac.in/en/event/2nd-lecture-institute-lecture-series-indian-constitution)

**ONLINE COURSES / RESOURCES:**

1. [nptel.ac.in/courses/109104074/](http://nptel.ac.in/courses/109104074/)
2. [nptel.ac.in/courses/109104045/](http://nptel.ac.in/courses/109104045/)
3. [nptel.ac.in/courses/101104065/](http://nptel.ac.in/courses/101104065/)





**TEXT BOOKS:**

1. A.N Tripathy, New Age International Publishers, 2003.
2. Bajpai. B. L , , New Royal Book Co, Lucknow, Reprinted, 2004.
3. Bertrand Russell Human Society in Ethics & Politics.

**REFERENCE BOOKS:**

1. Corliss Lamont, Philosophy of Humanism.
2. Gaur. R.R. , Sangal. R, Bagaria. G.P, A Foundation Course in Value Education, Excel Books, 2009.
3. Gaur. R.R. , Sangal. R , Bagaria. G.P, Teachers Manual Excel Books, 2009.

**WEB REFERENCES:**

1. [https://www.researchgate.net/publication/32961939\\_Values\\_for\\_Human-toHuman\\_Reference](https://www.researchgate.net/publication/32961939_Values_for_Human-toHuman_Reference)
2. <https://www.grainesdepaix.org/en/resources/peace-dictionary/human-values>

**ONLINE COURSES / RESOURCES:**

1. <https://www.udemy.com/course/human-values-and-professional-ethics/>
2. <https://nptel.ac.in/courses/109104068>



**TEXT BOOKS:**

1. Jose Goldenberg, Thomas Johanson, and Reddy, A.K.N., Energy for Sustainable World, WileyEastern, 2005.
2. Charles E. Brown, World Energy Resources, Springer Publication, New York, 2002.
3. Culp, A.W., Principles of Energy Conversion, McGraw Hill New York, 2004.

**REFERENCE BOOKS:**

1. Bukhootsow, B., Energy Policy and Planning, Prentice Hall of India, New Delhi, 2003.
2. TEDDY Year Book, The Energy Research Institute (TERI), 2011.
3. International Energy Outlook, EIA Annual Publication, 2011.



3. Traditional Knowledge System and Technology in India by Basanta Kumar Mohanta and Vipin KumarSingh, Pratibha Prakashan 2012.

**REFERENCE BOOKS:**

1. ScienceinSanskrit”, SamskritaBhartiPublisher, ISBN13:978-8187276333, 2007.
2. NCERT, “Position paper on Arts, Music, Dance and Theatre”, ISBN 81-7450494-X,200.
3. Narain,“ExaminationsinancientIndia”,AryaBookDepot,1993.
4. M. Hiriyanna, “Essentials of Indian Philosophy”, Motilal Banarsidass Publishers, ISBN 13:978-8120810990, 2014.

**WEB REFERENCES:**

1. <https://www.aec.edu.in/knowledge/>
2. [https://www.wipo.int/wipo\\_magazine/en/2011/03/article\\_0002.html](https://www.wipo.int/wipo_magazine/en/2011/03/article_0002.html)



1. Soft Skills by Dr. K. Alex- S. Chand
2. Soft skills by MJP Publishers

**REFERENCE BOOKS:**

1. Basic Managerial Skills for All by E.H. McGrath S.J

**WEB REFERENCES:**

1. <https://www.shrm.org/hr-today/news/all-things-work/pages/hiring-for-soft-skills.aspx>
2. <https://www.investopedia.com/terms/s/soft-skills.asp>

**ONLINE COURSES / RESOURCES:**

1. <https://business.udemy.com>
2. <https://www.coursera.org/courses?query=soft%20skills>

<b>23MC1007</b>	<b>VALUE EDUCATION, HUMAN RIGHTS &amp; LEGISLATURE PROCEDURE</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
		<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>

**COURSE OBJECTIVE:**

- To enable the students to inculcate values, morals and virtues to become erudite human being.

**UNIT - I INTRODUCTION TO HUMAN VALUES 6**

Value Education, Definition, Concept and Need for Value Education. The Content and Process of Value Education. Basic Guidelines for Value Education. Self-exploration as a means of Value Education. Happiness and Prosperity as parts of Value Education.

**UNIT - II FOSTERING VALUES 6**

Meaning and Significance Values in the Classroom Value from the Pupil's Perspective Approaches to Values Education Fostering Value among Students

**UNIT - III FOSTERING VALUES 6**

Concept of Human Rights -Evolution of Human Rights Right to Life, Liberty and Dignity Right to Equality - Right against Exploitation Cultural and Educational Rights -Economic Rights Political Rights - Social Rights

**UNIT - IV HUMAN RIGHTS OF WOMEN AND CHILDREN 6**

Social Practice and Constitutional Safeguards (i) Female Feticide and Infanticide (ii) Physical assault and harassment (iii) Domestic violence (iv) Conditions of Working Women

**UNIT - V JUDICIARY: STRUCTURE, ORGANIZATION AND FUNCTIONING 6**

Judiciary –Judiciary Structure-fundamental laws-Civil courts

**TOTAL : 30 PERIODS**

**COURSE OUTCOME(S):**

Upon completion of the course, students will be able to:

- CO1** Inculcate values in education.
- CO2** Inculcate the education system on values.
- CO3** Impart human rights.
- CO4** Learn the basic knowledge on law on human rights.
- CO5** Learn and practice value based education incorporating law in the human life.

**TEXT BOOKS:**

1. The Constitution of India by Dr.B.R.Ambedkar
2. World Community Service Centre, 'Value Education', Vethathiri Publications, Erode, 2011.

**REFERENCE BOOKS:**



1. Human Values by Dr. Kshitiz Jain
2. Human Values in Indian Literature and Culture by Santigopal Das.

**WEB REFERENCES:**

1. <https://www.grainesdepaix.org/en/resources/peace-dictionary/human-values>
2. [www.ijedr.org/papers/IJEDR1804078.pdf](http://www.ijedr.org/papers/IJEDR1804078.pdf)

**ONLINE COURSES / RESOURCES:**

1. <https://www.udemy.com/course/human-values-and-professional-ethics/>
2. <https://www.aicte-india.org/press-releases/universal-human-values-unique-course-aicte>