

Semester VI

RENEWABLE ENERGY POWER PLANTS (OPEN ELECTIVE)

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|--------------------------------|---------|-------------|-----|
| Course Code | 21ME652 | CIE Marks | 50 |
| Teaching Hours/Week (L:T:P: S) | 3-0-0-0 | SEE Marks | 50 |
| Total Hours of Pedagogy | 40 | Total Marks | 100 |
| Credits | 03 | Exam Hours | 03 |

Course objectives:

- To introduce the concepts and principles of solar energy, its radiation, collection, storage and application.
- To understand application aspects of Wind, Biomass, Geothermal, hydroelectric and Ocean energy.
- To examine energy sources and systems, including fossil fuels and nuclear energy, and then focus on other forms of alternate energy sources.

Teaching-Learning Process (General Instructions)

These are sample Strategies, which teacher can use to accelerate the attainment of the various course outcomes.

1. Adopt different types of teaching methods to develop the outcomes through PowerPoint presentations and Video demonstrations or Simulations.
2. Chalk and Talk method for Problem Solving.
3. Adopt flipped classroom teaching method.
4. Adopt collaborative (Group Learning) learning in the class.
5. Adopt Problem Based Learning (PBL), which fosters students' analytical skills and develops thinking skills such as evaluating, generalizing, and analyzing information.

Module-1

Introduction: Energy sources (including fossil fuels and nuclear energy), India's production and reserves of commercial energy sources, need for nonconventional energy sources, energy alternatives, Indian and global energy scenario.

Solar Radiation & Measurement: Extra-Terrestrial radiation, spectral distribution of extra-terrestrial radiation, solar constant, solar radiation at the earth's surface, beam, diffuse and global radiation, solar radiation data. Pyrometer, shading ring Pyrheliometer, sunshine recorder, schematic diagrams, and principle of working, actinometer and bolometer.

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| Teaching-Learning Process | 1. Power-point Presentation, 2. Video demonstration or Simulations, 3. Chalk and Talk are used for Problem Solving. /White board |
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Module-2

Solar Radiation Geometry: Flux on a plane surface, latitude, declination angle, surface azimuth angle, hour angle, zenith angle, solar altitude angle, expressions for the angle between the incident beam and the normal to a plane surface (No derivation) local apparent time, apparent motion of sun, day length, numerical problems.

Solar Thermal Systems: Flat plate collector, Evacuated Tubular Collector, Solar air collector, Solar concentrator, Solar distillation, Solar cooker, Thermal energy storage systems, Solar Pond, Solar Chimney (Tower).

Solar Photovoltaic Systems: Introduction, Solar cell Fundamentals, Characteristics and classification, Solar cell: Module, panel and array construction.

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| Teaching-Learning | 1. Power-point Presentation, 2. Video demonstration or Simulations, |
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| Process | 3. Chalk and Talk are used for Problem Solving. /White board |
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Module-3

Wind Energy: Properties of wind, availability of wind energy in India, wind velocity and power from wind; major problems associated with wind power, wind machines; Types of wind machines and their characteristics, horizontal and vertical axis windmills, elementary design principles; coefficient of performance of a windmill rotor, design aspects, numerical examples.

Energy from Biomass: Energy plantation, biogas production from organic wastes by anaerobic fermentation, description of bio-gas plants, transportation of biogas, problems associated with bio-gas production, application of biogas, application of biogas in engines, cogeneration plant, advantages & disadvantages.

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| Teaching-Learning Process | 1. Power-point Presentation, 2. Video demonstration or Simulations, 3. Chalk and Talk are used for Problem Solving. /White board |
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Module-4

Hydroelectric plants: Advantages & disadvantages of waterpower, Hydrographs and flow duration curves-numericals, Storage and pondage, General layout of hydel power plants- components such as Penstock, surge tanks, spill way and draft tube and their applications, pumped storage plants, Detailed classification of hydroelectric plants.

Tidal Power: Tides and waves as energy suppliers and their mechanics, fundamental characteristics of tidal power, harnessing tidal energy, limitations of tidal energy.

Energy from ocean waves: Wave energy conversion, Wave energy technologies, advantages, and disadvantages.

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| Teaching-Learning Process | 1. Power-point Presentation, 2. Video demonstration or Simulations, 3. Chalk and Talk are used for Problem Solving. /White board |
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Module-5

Ocean Thermal Energy Conversion: Principle of working, Rankine cycle, OTEC power stations in the world, problems associated with OTEC, case studies.

Geothermal energy: Introduction, Principle of working, types of geothermal stations with schematic diagram Estimates of Geothermal Power, Nature of geothermal fields, Geothermal resources, Hydrothermal, Resources Geo pressured resources, Hot dry rock resources of petro-thermal systems, Magma Resources-Interconnection of geothermal fossil systems, Advantages, and disadvantages of geothermal energy over other energy forms, Geothermal stations in the world

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| Teaching-Learning Process | 1. Power-point Presentation, 2. Video demonstration or Simulations, 3. Chalk and Talk are used for Problem Solving. /White board |
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- Course outcome (Course Skill Set)**
- At the end of the course the student will be able to :
- Describe the various forms of non-conventional energy resources.
 - Apply the fundamental knowledge of mechanical engineering to design various renewable energy systems
 - Analyze the implications of renewable energy forms for selecting an appropriate system for a specific application
 - Discuss on the environmental aspects and impact of non-conventional energy resources, in comparison with various conventional energy systems, their prospects and limitations.


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SAMPLE TEMPLATE

IV Semester

UNIVERSAL HUMAN VALUES-II: UNDERSTANDING HARMONY and ETHICAL HUMAN CONDUCT

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|--------------------------------|---------|-------------|-----|
| Course Code | 21UHV49 | CIE Marks | 50 |
| Teaching Hours/Week (L:T:P: S) | 2:0:0 | SEE Marks | 50 |
| Total Hours of Pedagogy | 20 | Total Marks | 100 |
| Credits | 01 | Exam Hours | 01 |

Course objectives:

This introductory course input is intended:

1. To help the students appreciate the essential complementarity between 'VALUES' and 'SKILLS' to ensure sustained happiness and prosperity which are the core aspirations of all human beings.
2. To facilitate the development of a Holistic perspective among students towards life and profession as well as towards happiness and prosperity based on a correct understanding of the Human reality and the rest of existence. Such a holistic perspective forms the basis of Universal Human Values and movement towards value-based living in a natural way.
3. To highlight plausible implications of such a Holistic understanding in terms of ethical human conduct, trustful and mutually fulfilling human behaviour and mutually enriching interaction with Nature.

This course is intended to provide a much-needed orientational input in value education to the young enquiring minds.

Teaching-Learning Process (General Instructions)

These are sample Strategies, which teacher can use to accelerate the attainment of the various course outcomes.

1. The methodology of this course is explorational and thus universally adaptable. It involves a systematic and rational study of the human being vis-à-vis the rest of existence.
2. The course is in the form of 20 lectures (discussions)
3. It is free from any dogma or value prescriptions.
4. It is a process of self-investigation and self-exploration, and not of giving sermons. Whatever is found as truth or reality is stated as a proposal and the students are facilitated to verify it in their own right, based on their Natural Acceptance and subsequent Experiential Validation - the whole existence is the lab and every activity is a source of reflection.
5. This process of self-exploration takes the form of a dialogue between the teacher and the students to begin with, and then to continue within the student in every activity, leading to continuous self-evolution.
6. This self-exploration also enables them to critically evaluate their pre-conditionings and present beliefs.

Module-1

Introduction to Value Education (4 hours)

Right Understanding, Relationship and Physical Facility (Holistic Development and the Role of Education)

Understanding Value Education, Self-exploration as the Process for Value Education, Continuous Happiness and Prosperity - the Basic Human Aspirations, Happiness and Prosperity - Current Scenario, Method to Fulfil the Basic Human Aspirations

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| Teaching-Learning Process | Introduction to Value Education- Chalk and talk method, Discussion, Sharing of experiences, Live Examples and videos |
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| Module-2 | |
|--|---|
| <p>Harmony in the Human Being (4 hours)</p> <p>Understanding Human being as the Co-existence of the Self and the Body, Distinguishing between the Needs of the Self and the Body, The Body as an Instrument of the Self, Understanding Harmony in the Self, Harmony of the Self with the Body, Programme to ensure self-regulation and Health</p> | |
| Teaching-Learning Process | Introduction to the concepts- Chalk and talk method, Discussion, Sharing of experiences, Live Examples and videos |
| Module-3 | |
| <p>Harmony in the Family and Society (4 hours)</p> <p>Harmony in the Family - the Basic Unit of Human Interaction, 'Trust' - the Foundational Value in Relationship, 'Respect' - as the Right Evaluation, Other Feelings, Justice in Human-to-Human Relationship, Understanding Harmony in the Society, Vision for the Universal Human Order</p> | |
| Teaching-Learning Process | Introduction to the concepts- Chalk and talk method, Discussion, Sharing of experiences, Live Examples and videos |
| Module-4 | |
| <p>Harmony in the Nature/Existence (4 hours)</p> <p>Understanding Harmony in the Nature, Interconnectedness, self-regulation and Mutual Fulfilment among the Four Orders of Nature, Realizing Existence as Co-existence at All Levels, The Holistic Perception of Harmony in Existence</p> | |
| Teaching-Learning Process | Introduction to the concepts- Chalk and talk method, Discussion, Sharing of experiences, Live Examples and videos |
| Module-5 | |
| <p>Implications of the Holistic Understanding - a Look at Professional Ethics (4 hours)</p> <p>Natural Acceptance of Human Values, Definitiveness of (Ethical) Human Conduct, A Basis for Humanistic Education, Humanistic Constitution and Universal Human Order, Competence in Professional Ethics Holistic Technologies, Production Systems and Management Models-Typical Case Studies, Strategies for Transition towards Value-based Life and Profession</p> | |
| Teaching-Learning Process | Introduction to the concepts- Chalk and talk method, Discussion, Sharing of experiences, Live Examples and videos |
| <p>Course outcome (Course Skill Set)</p> <p>By the end of the course, students are expected to become more aware of themselves, and their surroundings (family, society, nature); they would become more responsible in life, and in handling problems with sustainable solutions, while keeping human relationships and human nature in mind.</p> <p>They would have better critical ability. They would also become sensitive to their commitment towards what they have understood (human values, human relationship and human society). It is hoped that they would be able to apply what they have learnt to their own self in different day-to-day settings in real life, at least a beginning would be made in this direction.</p> | |

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SAMPLE TEMPLATE

Therefore, the course and further follow up is expected to positively impact common graduate attributes like:

1. Holistic vision of life
2. Socially responsible behaviour
3. Environmentally responsible work
4. Ethical human conduct
5. Having Competence and Capabilities for Maintaining Health and Hygiene
6. Appreciation and aspiration for excellence (merit) and gratitude for all

Assessment Details (both CIE and SEE)

The weightage of Continuous Internal Evaluation (CIE) is 50% and for Semester End Exam (SEE) is 50%. The minimum passing mark for the CIE is 40% of the maximum marks (20 marks). A student shall be deemed to have satisfied the academic requirements and earned the credits allotted to each subject/ course if the student secures not less than 35% (18 Marks out of 50) in the semester-end examination(SEE), and a minimum of 40% (40 marks out of 100) in the sum total of the CIE (Continuous Internal Evaluation) and SEE (Semester End Examination) taken together

Continuous Internal Evaluation:

Three Unit Tests each of 20 Marks (duration 01 hour)

1. First test at the end of 5th week of the semester
2. Second test at the end of the 10th week of the semester
3. Third test at the end of the 15th week of the semester

Two assignments each of 10 Marks

4. First assignment at the end of 4th week of the semester
5. Second assignment at the end of 9th week of the semester

Group discussion/Seminar/quiz any one of three suitably planned to attain the COs and POs for 20 Marks (duration 01 hours)

6. At the end of the 13th week of the semester

The sum of three tests, two assignments, and quiz/seminar/group discussion will be out of 100 marks and will be **scaled down to 50 marks**

(to have less stressed CIE, the portion of the syllabus should not be common /repeated for any of the methods of the CIE. Each method of CIE should have a different syllabus portion of the course).

CIE methods /question paper is designed to attain the different levels of Bloom's taxonomy as per the outcome defined for the course.

Semester End Examination:

Theory SEE will be conducted by University as per the scheduled timetable, with common question papers for the subject (**duration 01 hours**)

1. The question paper will have 50 questions. Each question is set for 01 marks.
2. The students have to answer all the questions, selecting one full question from each module

Suggested Learning Resources:

Books

-READINGS:

Text Book and Teachers Manual

- a. The Textbook

A Foundation Course in Human Values and Professional Ethics, R R Gaur, R Asthana, G P Bagaria, 2nd Revised Edition, Excel Books, New Delhi, 2019. ISBN 978-93-87034-47-1

- b. The Teacher's Manual

SAMPLE TEMPLATE

Teachers" Manual for *A Foundation Course in Human Values and Professional Ethics*, R R Gaur, R Asthana, G

Reference Books

1. JeevanVidya: EkParichaya, A Nagaraj, JeevanVidyaPrakashan, Amarkantak, 1999.
2. Human Values, A.N. Tripathi, New Age Intl. Publishers, New Delhi, 2004.
3. The Story of Stuff (Book).
4. The Story of My Experiments with Truth - by Mohandas Karamchand Gandhi
5. Small is Beautiful - E. F Schumacher.
6. Slow is Beautiful - Cecile Andrews
7. Economy of Permanence - J C Kumarappa
8. Bharat Mein Angreji Raj - Pandit Sunderlal
9. Rediscovering India - by Dharampal
10. Hind Swaraj or Indian Home Rule - by Mohandas K. Gandhi
11. India Wins Freedom - Maulana Abdul Kalam Azad
12. Vivekananda - Romain Rolland (English)
13. Gandhi - Romain Rolland (English)
14. Sussan George, 1976, How the Other Half Dies, Penguin Press. Reprinted 1986, 1991
15. Donella H. Meadows, Dennis L. Meadows, Jorgen Randers, William W. Behrens III, 1972, Limits to Growth - Club of Rome's report, Universe Books.
16. A Nagraj, 1998, Jeevan Vidya Ek Parichay, Divya Path Sansthan, Amarkantak.
17. P L Dhar, RR Gaur, 1990, Science and Humanism, Commonwealth Publishers.
18. A N Tripathy, 2003, Human Values, New Age International Publishers.
19. SubhasPalekar, 2000, How to practice Natural Farming, Pracheen (Vaidik) KrishiTantraShodh, Amravati.
20. E G Seebauer & Robert L. Berry, 2000, Fundamentals of Ethics for Scientists & Engineers , Oxford University Press
21. M Govindrajran, S Natrajan & V.S. Senthil Kumar, Engineering Ethics (including Human Values), Eastern Economy Edition, Prentice Hall of India Ltd.
22. B P Banerjee, 2005, Foundations of Ethics and Management, Excel Books.
23. B L Bajpai, 2004, Indian Ethos and Modern Management, New Royal Book Co., Lucknow. Reprinted 2008.

Web links and Video Lectures (e-Resources):

1. Value Education websites, <https://www.uhv.org.in/uhv-ii>, <http://uhv.ac.in>, <http://www.uptu.ac.in>
2. **Story of Stuff**, <http://www.storyofstuff.com>
3. **Al Gore, An Inconvenient Truth**, Paramount Classics, USA
4. **Charlie Chaplin, Modern Times**, United Artists, USA
5. **IIT Delhi, Modern Technology - the Untold Story**
6. Gandhi A., Right Here Right Now, Cyclewala Productions
7. https://www.youtube.com/channel/UCQxWr5QB_eZUnwxSwxXEKQw
8. https://fdp-si.aicte-india.org/8dayUHV_download.php
9. <https://www.youtube.com/watch?v=8ovkLRyXlJE>
10. <https://www.youtube.com/watch?v=OgdNx0X923I>
11. <https://www.youtube.com/watch?v=nGRcbRpvGoU>
12. <https://www.youtube.com/watch?v=sDxGXOGYEKM>

Activity Based Learning (Suggested Activities in Class)/ Practical Based learning

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III/IV Semester

| Constitution of India and Professional Ethics (CIP) | | | |
|--|---|-------------|----------|
| Course Code | 21CIP37/47 | CIE Marks | 50 |
| Teaching Hours/Week (L:T:P: S) | L:0,T:2,P:0 = 02 Hours | SEE Marks | 50 |
| Total Hours of Pedagogy | 02 Hours/Week | Total Marks | 100 |
| Credits | 01 | Exam Hours | 01 Hours |
| <p>Course objectives: This course will enable the students</p> <ol style="list-style-type: none"> To know about the basic structure of Indian Constitution. To know the Fundamental Rights (FR's), DPSP's and Fundamental Duties (FD's) of our constitution. To know about our Union Government, political structure & codes, procedures. To know the State Executive & Elections system of India. To learn the Amendments and Emergency Provisions, other important provisions given by the constitution. | | | |
| <p>Teaching-Learning Process These are sample Strategies, which teacher can use to accelerate the attainment of the various course outcomes and make Teaching - Learning more effective: Teachers shall adopt suitable pedagogy for effective teaching - learning process. The pedagogy shall involve the combination of different methodologies which suit modern technological tools.</p> <p>(i) Direct instructional method (Low/Old Technology), (ii) Flipped classrooms (High/advanced Technological tools), (iii) Blended learning (Combination of both), (iv) Enquiry and evaluation based learning, (v) Personalized learning, (vi) Problems based learning through discussion.</p> <p>Apart from conventional lecture methods, various types of innovative teaching techniques through videos, animation films may be adapted so that the delivered lesson can progress the students In theoretical applied and practical skills.</p> | | | |
| Module - 1 | | | |
| Introduction to Indian Constitution: The Necessity of the Constitution, The Societies before and after the Constitution adoption. Introduction to the Indian constitution, The Making of the Constitution, The Role of the Constituent Assembly. The Preamble of Indian Constitution & Key concepts of the Preamble. Salient features of India Constitution. | | | |
| Module - 2 | | | |
| FR's, FD's and DPSP's: Fundamental Rights and its Restriction and limitations in different Complex Situations. Directive Principles of State Policy (DPSP) and its present relevance in our society with examples. Fundamental Duties and its Scope and significance in Nation building. | | | |
| Module - 3 | | | |
| Union Executive : Parliamentary System, Union Executive – President, Prime Minister, Union Cabinet, Parliament - LS and RS, Parliamentary Committees, Important Parliamentary Terminologies. Supreme Court of India, Judicial Reviews and Judicial Activism. | | | |
| Module - 4 | | | |
| State Executive & Elections, Amendments and Emergency Provisions: State Executive, Election Commission, Elections & Electoral Process. Amendment to Constitution (How and Why) and Important Constitutional Amendments till today. Emergency Provisions. | | | |
| Module-5 | | | |
| Professional Ethics: Ethics & Values. Types of Ethics. Scope & Aims of Professional & Engineering Ethics. Positive and Negative Faces of Engineering Ethics. Clash of Ethics, Conflicts of Interest. The impediments to Responsibility. Trust & Reliability in Engineering, IPRs (Intellectual Property Rights), Risks, Safety and liability in Engineering. | | | |
| Course outcome (Course Skill Set) : | | | |
| At the end of the course the student will be able to : | | | |
| CO1 | Analyse the basic structure of Indian Constitution. | | |
| CO2 | Remember their Fundamental Rights, DPSP's and Fundamental Duties (FD's) of our constitution. | | |
| CO3 | know about our Union Government, political structure & codes, procedures. | | |
| CO4 | Understand our State Executive & Elections system of India. | | |
| CO5 | Remember the Amendments and Emergency Provisions, other important provisions given by the constitution. | | |

Assessment Details (both CIE and SEE)

The weightage of Continuous Internal Evaluation (CIE) is 50% and for Semester End Exam (SEE) is 50%. The minimum passing mark for the CIE is 40% of the maximum marks (20 marks). A student shall be deemed to have satisfied the academic requirements and earned the credits allotted to each subject/ course if the student secures not less than 35% (18 Marks out of 50) in the semester-end examination(SEE), and a minimum of 40% (40 marks out of 100) in the sum total of the CIE (Continuous Internal Evaluation) and SEE (Semester End Examination) taken together

Continuous Internal Evaluation:

Three Unit Tests each of 20 Marks (duration 01 hour)

1. First test at the end of 5th week of the semester
2. Second test at the end of the 10th week of the semester
3. Third test at the end of the 15th week of the semester

Two assignments each of 10 Marks

4. First assignment at the end of 4th week of the semester
5. Second assignment at the end of 9th week of the semester

Group discussion/Seminar/quiz any one of three suitably planned to attain the COs and POs for 20 Marks (duration 01 hours)

6. At the end of the 13th week of the semester

The sum of three tests, two assignments, and quiz/seminar/group discussion will be out of 100 marks and will be scaled down to 50 marks

Total CIE : IA $20 \times 3 = 60$, Assignment $10 + 10 = 20$, Quiz $20 = 100 / 2 = 50$

(to have less stressed CIE, the portion of the syllabus should not be common /repeated for any of the methods of the CIE. Each method of CIE should have a different syllabus portion of the course).

CIE methods /question paper is designed to attain the different levels of Bloom's taxonomy as per the outcome defined for the course.

Semester End Examination:

SEE will be conducted by University as per the scheduled timetable, with common question papers for the subject (duration 02 hours)

1. The question paper will have 50 questions. Each question is set for 01 mark.
2. Semester End Exam (SEE) Pattern will be in MCQ Model (Multiple Choice Questions) for 50 marks (60 minutes duration).

Suggested Learning Resources:**Textbook:**

1. "Constitution of India" (for Competitive Exams) - Published by Naidhruva Edutech Learning Solutions, Bengaluru. - 2022.
2. "Engineering Ethics", M.Govindarajan, S.Natarajan, V.S.Senthilkumar, Prentice -Hall, 2004.

Reference Books:

1. "Samvidhana Odu" - for Students & Youths by Justice HN Nagamohan Dhas, Sahayana, kerekon.
2. "Constitution of India, Professional Ethics and Human Rights" by Shubham Singles, Charles E. Haries, and et al: published by Cengage Learning India, Latest Edition - 2019.
3. "Introduction to the Constitution of India", (Students Edition.) by Durga Das Basu (DD Basu): Prentice -Hall, 2008.
4. "The Constitution of India" by Merunandan K B: published by Merugu Publication, Second Edition, Bengaluru.


Signature of HOD

APPR-20.09.2022

(Common for B.E. (21SCR36), B. Plan.(21UH36/21SCR36), B.Arch.(21UH39/21SCR36) and B.Sc (21B539/21SCR36)

| SOCIAL CONNECT & RESPONSIBILITIES | | | |
|---|---|------------------|-----------|
| Course Code | 21SCR36 | CIE Marks | 50 |
| Teaching Hours week (L:T:P:S) | 1: 0: 0 | SEE Marks | 50 |
| Total Hours of Pedagogy | 15 | Total Marks | 100 |
| Credits | 01 | Exam Hours | 03 |
| Department | Management Studies / Engineering Department | | |
| Offered for | 3 rd Semester | | |
| Prerequisite | Nil | | |
| Objectives: The Course will | | | |
| <ul style="list-style-type: none">• Enable the student to do a deep dive into societal challenges being addressed by NGO(s), social enterprises & The government and build solutions to alleviate these complex social problems through immersion, design & technology.• Provide a formal platform for students to communicate and connect with their surroundings.• Enable to create of a responsible connection with society. | | | |
| Learning Outcomes: The students are expected to have the ability to : | | | |
| <ol style="list-style-type: none">1. Understand social responsibility2. Practice sustainability and creativity3. Showcase planning and organizational skills | | | |
| Contents: The course is mainly activity-based that will offer a set of activities for the student that enables them to connect with fellow human beings, nature, society, and the world at large. The course will engage students in interactive sessions, open mic, reading groups, storytelling sessions, and semester-long activities conducted by faculty mentors. In the following a set of activities planned for the course have been listed : | | | |
| Module-I | | | |
| Plantation and adoption of a tree: Plantation of a tree that will be adopted for four years by a group of B.Tech. students. They will also make an excerpt either as a documentary or a photoblog describing the plant's origin, its usage in daily life, and its appearance in folklore and literature. | | | |
| Module-II | | | |
| Heritage walk and crafts corner: Heritage tour, knowing the history and culture of the city, connecting to people around through their history, knowing the city and its craftsman, photoblog and documentary on evolution and practice of various craft forms. | | | |
| Module-III | | | |
| Organic farming and waste management: usefulness of organic farming, wet waste management in neighboring villages, and implementation in the campus. | | | |
| Module-IV | | | |
| Water Conservation: knowing the present practices in the surrounding villages and | | | |


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implementation in the campus, documentary or photo blog presenting the current practices.

Module-V

Food Walk City's culinary practices, food lore, and indigenous materials of the region used in cooking.

Activities

Jamming session, open mic, and poetry: Platform to connect to others. Share the stories with others. **Share the experience of Social Connect.** Exhibit the talent like playing instruments, singing, one-act play, art-painting, and fine art.

PEDAGOGY

The pedagogy will include interactive lectures, inspiring guest talks, field visits, social immersion, and a course project. Applying and synthesizing information from these sources to define the social problem to address and take up the solution as the course project, with your group. Social immersion with NGOs/social sections will be a key part of the course. Will all lead to the course project that will address the needs of the social sector?

COURSE TOPICS:

The course will introduce social context and various players in the social space, and present approaches to discovering and understanding social needs. Social immersion and inspiring conversational will culminate in developing an actual, idea for problem-based intervention, based on an in-depth understanding of a key social problem.

A total of 14-20 hrs engagement per semester is required for the 3rd semester of the B.E. /B.Tech. program. The students will be divided into 10 groups of 35 each. Each group will be handled by two **faculty mentors**. Faculty mentors will design the activities (particularly Jamming sessions open mic ,and poetry)

Faculty mentors has to design the evaluation system.

Guideline for Assessment Process:

Continuous Internal Evaluation (CIE)

After completion of, the social connect, the student shall prepare, with daily **diary** as reference, a comprehensive report in consultation with the mentor/s to indicate what he has observed and learned in the social connect period. The report should be signed by the mentor. The report shall be evaluated on the basis of the following criteria and/or other relevant criteria pertaining to the activity completed.

Marks allotted for the diary are out of 50.

Planning and scheduling the social connect

Information/Data collected during the social connect

Analysis of the information/data and report writing

Considering all above points allotting the marks as mentioned below-

| | |
|-------------------------|-----------|
| Excellent | 80 to 100 |
| Good | 60 to 79 |
| Satisfactory | 40 to 59 |
| Unsatisfactory and fail | <39 |


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(Common for B.E. (21SCR36), B. Plan.(21UH36/21SCR36), B.Arch.(21UH39/21SCR36) and B.Sc (21BS39/21SCR36)

Semester End Examination (SEE)

This Jamming session will be conducted at the end of the course for **50 marks**

Jamming session includes -Platform to connect to others. Share the stories with others. **Share the experience of Social Connect.** Exhibit the talent like playing instruments, singing, one-act play, art painting, and fine art.

Faculty mentor has to design the evaluation system for the Jamming session.


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Pedagogy (Guidelines) may differ depending on local resources available for the study

| Module | Topic | Content | Group Size | Location | Magnitude | Activity | Reporting | Evaluation |
|--------|-----------------------------------|---|---|---|--|---|---|---|
| I | Plantation and adoption of a tree | Plantation of a tree that will be adopted for four years by a group of B.Tech. students. They will also make an excerpt either as a documentary or a photoblog describing the plant's origin, its usage in daily life, and its appearance in folklore and literature. | 03 - 05 | Farmers Land or Road side or Community area or institution's campus, any one location to be selected. | One Students must monitor it for three years | Site selection Select suitable species in consultation with horticulture, forest or agriculture department. Interact with NGO/Industry and community to plant Tag the plant for continuous monitoring | Report shall be handwritten or blog with paintings, sketches, poster, video and/or photograph with Geo tag. | Each module is evaluated for 50 Marks and average of all the five modules will be the final marks. CIE Rubrics for 50 M Planning and scheduling the social connect - 15 M Information/Data collected during the social connect - 15 M Analysis of the information/data and report writing - 20 M |
| II | Heritage walk and crafts corner | Heritage tour, knowing the history and culture of the city, connecting to people around through their history, knowing the city and its craftsman, photoblog and documentary on evolution and practice of various craft forms. | 03 - 05 | Preferably Within the city where institution is located or home town of the student group | One or two One can be a structure or a heritage building the other can be heritage custom or practise | Survey in the form of questioner by connecting to the people and asking. No standard questioner to be given by faculty and has to be evolved involving students. Questions during survey can be asked in local language but report language is English. | | |
| III | Waste management | Wet waste management in neighbouring villages, and implementation in the campus. | 03 - 05 More than one group can be | Preferably in the nearby villages and within the campus. | One | Report on importance and benefits of Waste management. Report on segregation, collection, transportation and disposal. | | SEE 50 M: Presentation, Jamming session, Open mic, Group |


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| | | | assigned one task based on magnitude of task. | | | Suggestion for composting. Visit nearby village/location to sensitize farmers and public about waste management and also document current practises. | discussion and debate. |
|-----|--------------------|---|---|---|-----|---|------------------------|
| III | Organic farming | Usefulness of organic farming in neighbouring villages, and implementation in the campus. | 03 - 05 | Visit to farming lands where organic farming is going on Campus Garden Roof top Garden or Vertical Garden or hydroponics if land is scarce. | One | Collect data on organic farming in the vicinity. Like types of crop, methodology etc., Suggestion for implementation at selected locations | |
| IV | Water Conservation | Knowing the present practices in the surrounding villages and implementation in the campus, documentary or photo blog presenting the current practices. | 03 - 05 | Rain water harvesting demonstration available in the campus or surroundings | One | Visit lakes/pond/river/dry well to involve on rejuvenation activity. Or Assessment of Water budget in the campus/village | |


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| | | | | | | Report on traditional water conservation practices (to minimize wastage) | | |
| V | Food Walk | City's culinary practices, food lore, and indigenous materials of the region used in cooking. | 03 - 05 | Within the city where institution is located Food culture of student's resident region | One | Survey local food centres and identify the speciality Identify and study the food ingredients Report on the regional foods Report on Medicinal values of the local food grains, and plants. | | |

**Important recommendations requested: Special Appreciation from institution and university for students who take care of plants for three years.


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