J.J COLLEGE OF ENGINEERING AND TECHNOLOGY

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Accredited by NAAC with A Grade

SOWDAMBIKAA GROUP OF INSTITUTIONS

ESTD. 1994

DEPARTMENT OF CIVIL ENGINEERING

GE3791–HUMAN VALUES AND ETHICS

(Common to all branch)

QUESTION BANK

R2021

INSTITUTE VISION & MISSION

VISION:

To become a globally recognized "Centre of Academic Excellence" providing Quality Education to all students.

MISSION:

To provide Quality Education in the fields of Engineering, Management, Information, Technology and other Engineering areas.

DEPARTMENT VISION & MISSION

VISION:

To impart latest knowledge and skills so as to kindle innovation and creativity among students.

MISSION:	
M1	To provide quality Education by preparing a Strong willed, socially committed and Dynamic Engineers for the Future.
M2	To enrich their knowledge in the areas of academic, research and industry by moulding professionals in the field of Civil Engineering to build a sustainable world.
M3	To impart quality education and mould technically sound, ethically responsible professionals in the field of Civil Engineering.
M4	To prepare the students with a broad skill set of creativity, critical thinking and effective communication skills to meet the desired needs of the society.
M5	To develop state of the art infrastructure and research for effective teaching learning process.

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

PEO1	Gain knowledge and skills in Civil Engineering which will enable them to have a career and professional accomplishment in the public or Private sector organizations.
PEO2	Become consultants on complex real life Civil Engineering problems related to Infrastructure development specially housing, construction, Water supply ,sewerage, transport, spatial planning.
PEO3	Become entrepreneurs and develop processes and technologies to meet desired Infrastructure needs of society and formulate solutions that are technically sound, economically feasible, and socially acceptable.
PEO4	Perform investigation for solving Civil Engineering problems by conducting research using modern equipment and software tools.
PEO5	Function in multi-disciplinary teams and advocate policies, systems, processes and equipment to support civil engineering.

PROGRAM OUTCOMES (POs):

PO1	**Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.
PO2	**Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions. Using first principles of mathematics, natural sciences, and engineering sciences.
PO3	**Design/development of solutions:** Designsolutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for public health and safety, and the cultural, societal, and environmental considerations.
PO4	**Conduct investigations of complex problems:** Use research-based knowledge and research methods including the design of experiments, Analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO5	**Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex Engineering activities with an understanding of the limitations.
PO6	**The engineer and society:** Apply to reason in formed by the contextual Knowledge to assess societal, health, safety, legal and cultural issues and the Consequent responsibilities relevant to the professional engineering practice.

PO7	**Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO8	**Ethics:** Apply ethical principles and commit to professional ethics and Responsibilities and norms of the engineering practice.
PO9	**Individual and team work:** Function effectively as an individual, and as a Member or leader in Diverse teams, and in multidisciplinary settings.
PO10	**Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able To comprehend And write effective reports and design documentation, make effective presentations, and give and Receive clear instructions.
PO11	**Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply These to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO12	**Life-long learning:** Recognize the need and have the preparation and ability to Engage in in dependent and life-long learning in the broadest context of technological change.

PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO1	Knowledge of Civil Engineering discipline Demonstrate in-depth knowledge of Civil Engineering discipline with an ability to evaluate, analyze and synthesize existing and new knowledge.
PSO2	Critical analysis of Civil Engineering problems and innovation Critically analyze complex Civil Engineering problems, apply independent judgment for synthesizing information and Make innovative advances in a theoretical, Practical and policy context.
PSO3	Conceptualization and evaluation of engineering solutions to Civil Engineering Issues Conceptualize and solve Civil Engineering problems, evaluate potential solutions and arrive at technically feasible, economically viable and environmentally sound solutions with due consideration of health, safety, and socio-cultural factors.

GE3791 HUMAN VALUES AND ETHICS L T P C
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COURSE DESCRIPTION

This course aims to provide a broad understanding about the modern values and ethical principles that have evolved and are enshrined in the Constitution of India with regard to the democratic, secular and scientific aspects. The course is designed for undergraduate students so that they could study, understand and apply these values in their day to day life.

COURSE OBJECTIVES:

- To create awareness about values and ethics enshrined in the Constitution of India.
- To sensitize students about the democratic values to be upheld in the modern society.
- To inculcate respect for all people irrespective of their religion or other affiliations.
- To instill the scientific temper in the students' minds and develop their critical thinking.
- To promote sense of responsibility and understanding of the duties of citizen.

UNIT I DEMOCRATIC VALUES 6

Understanding Democratic values: Equality, Liberty, Fraternity, Freedom, Justice, Pluralism, Tolerance, Respect for All, Freedom of Expression, Citizen Participation in Governance – World Democracies: French Revolution, American Independence, Indian Freedom Movement.

Reading Text: Excerpts from John Stuart Mills' On Liberty.

UNIT II SECULAR VALUES 6

Understanding Secular values – Interpretation of secularism in Indian context - Disassociation of state from religion – Acceptance of all faiths – Encouraging non-discriminatory practices.

Reading Text: Excerpt from Secularism in India: Concept and Practice by Ram Puniyani.

UNIT III SCIENTIFIC VALUES 6

Scientific thinking and method: Inductive and Deductive thinking, Proposing and testing Hypothesis, Validating facts using evidence based approach – Skepticism and Empiricism – Rationalism and Scientific Temper.

Reading Text: Excerpt from The Scientific Temper by Antony Michaelis R.

UNIT IV SOCIAL ETHICS 6

Application of ethical reasoning to social problems – Gender bias and issues – Gender violence – Social discrimination – Constitutional protection and policies – Inclusive practices.

Reading Text: Excerpt from 21 Lessons for the 21st Century by Yuval Noah Harari.

UNIT V SCIENTIFIC ETHICS 6

Transparency and Fairness in scientific pursuits – Scientific inventions for the betterment of society - Unfair application of scientific inventions – Role and Responsibility of Scientist in the modern society.

Reading Text: Excerpt from American Prometheus: The Triumph and Tragedy of J.Robert Oppenheimer by Kai Bird and Martin J. Sherwi.

TOTAL: 30 PERIODS

COURSE OUTCOMES

On completion of the course, the student will be able to:	
CO1	Identify the importance of democratic, secular and scientific values in harmonious functioning of social life.
CO2	Practice democratic and scientific values in both their personal and professional life.
CO3	Find rational solutions to social problems.
CO4	Behave in an ethical manner in society.
CO5	Practice critical thinking and the pursuit of truth.

CO's – PO's & PSO's MAPPING

Correlation of COs with POs / PSOs															
Cos	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
CO1	-	-	-	-	-	2	3	3	3	2	-	2	-	-	2
CO2	-	-	-	-	-	2	3	3	3	2	-	2	-	-	2
CO3	-	-	-	-	-	3	2	3	3	2	-	2	-	-	1
CO4	-	-	-	-	-	3	1	3	3	2	-	3	-	-	1
CO5	-	-	-	-	-	3	1	3	3	2	-	3	-	-	3
AVG	-	-	-	-	-	**3**	**2**	**3**	**3**	**2**	-	**2**	-	-	**2**
3 – High; 2 – Medium; 1 – Low; '-' –No Correlation.															

Reference Books:

1. The Nonreligious: Understanding Secular People and Societies, Luke W. Galen Oxford University Press, 2016.
2. Secularism: A Dictionary of Atheism, Bullivant, Stephen; Lee, Lois, Oxford University Press, 2016.
3. The Oxford Handbook of Secularism, John R. Shook, Oxford University Press, 2017.
4. The Civic Culture: Political Attitudes and Democracy in Five Nations by Gabriel A. Almond and Sidney Verba, Princeton University Press.
5. Research Methodology for Natural Sciences by Soumitro Banerjee, IISc Press, January 2022.

UNIT –I

DEMOCRATIC VALUES

PART –A				
Q.No	**Questions**	**CO Mapping**	**BT Level**	**Complexity**
1	What is equality in a democratic context?	CO1	Understand	Medium
2	Define liberty in a democracy.	CO1	Remember	Low
3	What is fraternity, and why is it important in democracy?	CO1	Understand	Medium
4	Write the concept of justice in a democracy.	CO1	Understand	Medium
5	What is pluralism in a democratic society?	CO1	Understand	Medium
6	How is tolerance a democratic value?	CO1	Understand	Medium
7	What is the significance of "Respect for All" in a democracy?	CO1	Understand	Medium
8	What is the importance of freedom of expression in democracy?	CO1	Understand	Medium
9	What is the difference between equality and liberty?	CO1	Understand	Medium
10	How does pluralism strengthen democratic values?	CO1	Understand	Medium
11	What is citizen participation in governance?	CO1	Understand	Medium
12	Why is citizen participation important in a democracy?	CO1	Understand	Medium
13	What is direct participation in governance?	CO1	Understand	Medium
14	What is indirect participation in governance?	CO1	Understand	Medium
15	How does voting contribute to citizen participation in governance?	CO1	Understand	Medium

PART –B				
Q.No	**Questions**	**CO Mapping**	**BT Level**	**Complexity**
1	Explain the importance of equality and liberty in a democratic society. How do they complement and conflict with each other?	CO1	Understand	Medium
2	Explain the concept of justice in democracy. How does the idea of distributive and social justice shape democratic institutions?	CO1	Understand	Medium

3	Discuss the various forms of citizen participation in governance and analyze their significance in strengthening democratic governance.	CO1	Understand	Medium
4	Explain the causes, major events, and impacts of the French Revolution on the development of modern democratic principles.	CO1	Understand	Medium
5	Discuss the causes, key events, and impact of the American War of Independence on the development of modern democracies.	CO1	Understand	Medium
6	Explain the major causes, events, and impacts of the Indian Freedom Movement on the development of modern democracy in India.	CO1	Understand	Medium
7	Explain the principles & importance of respect.	CO1	Understand	Medium
8	Describe Religious Pluralism.	CO1	Understand	Medium
9	What are the problems and challenges of democracy?	CO1	Understand	Medium
10	What are freedom? Explain the freedom fighter to participated in Indian freedom movement.	CO1	Understand	Medium

UNIT –II
SECULAR VALUES

PART –A				
Q.No	**Questions**	**CO Mapping**	**BT Level**	**Complexity**
1	Define secular values in the context of governance.	CO2	Remember	Low
2	What is the significance of secular values in a democratic society?	CO2	Understand	Medium
3	How does Indian secularism differ from the concept of secularism in Western countries?	CO2	Understand	Medium
4	What is the role of the Indian Constitution in upholding secularism?	CO2	Understand	Medium
5	What does the disassociation of the state from religion imply in the Indian context?	CO2	Understand	Medium
6	How does the Indian legal system support the separation of religion and state?	CO2	Understand	Medium
7	What is meant by the acceptance of all faiths in a secular state?	CO2	Understand	Medium
8	How is the acceptance of all faiths promoted through public policies?	CO2	Understand	Medium

9	Mention two key constitutional provisions that promote non- discriminatory practices in India.	CO2	Remember	Low
10	How can educational institutions contribute to encouraging non- discriminatory practices?	CO2	Understand	Medium

PART –B				
Q. No	**Questions**	**CO Mapping**	**BT Level**	**Complexity**
1	Discuss the concept of secular values and their significance in maintaining a democratic society. Explain how secular values contribute to social harmony and the protection of individual rights.	CO2	Understand	Medium
2	Explain the interpretation of secularism in India. How does it differ from the Western concept of secularism?	CO2	Understand	Medium
3	Discuss the importance of the disassociation of the state from religion in ensuring a secular governance framework. How is this disassociation maintained in practice in India?	CO2	Understand	Medium
4	Explain the principle of acceptance of all faiths in a secular state. How is this principle operationalized in India, and what are its implications for social cohesion?	CO2	Understand	Medium
5	What are the role of encouraging non-discriminatory practices in promoting secular values. How can such practices be implemented in various sectors, and what are their benefits for a diverse society?	CO2	Understand	Medium
6	Discuss the concept of secularism in India with reference to constitutional provisions.	CO2	Understand	Medium
7	How does Indian secularism ensure equal treatment to all religions? Provide examples.	CO2	Understand	Medium
8	Explain the importance of accepting all faiths in a multi-religious society like India.	CO2	Understand	Medium
9	What role does secularism play in promoting non-discriminatory practices in India?	CO2	Understand	Medium
10	What are the challenges to secularism in India today and suggest ways to strengthen it?	CO2	Understand	Medium

UNIT –III

SCIENTIFIC VALUES

PART –A				
Q.No	**Questions**	**CO Mapping**	**BT Level**	**Complexity**
1	What are scientific values?	CO3	Understand	Medium
2	Define inductive thinking in science.	CO3	Remember	Low
3	What is deductive thinking in science?	CO3	Understand	Medium
4	What is a hypothesis in the scientific method?	CO3	Understand	Medium
5	What are the steps in proposing and testing a hypothesis?	CO3	Understand	Medium
6	Define the evidence-based approach in science.	CO3	Remember	Low
7	What is skepticism in science?	CO3	Understand	Medium
8	What is empiricism in science?	CO3	Understand	Medium
9	What is scientific temper?	CO3	Understand	Medium
10	Differentiate between inductive and deductive reasoning.	CO3	Understand	Medium
11	Why is skepticism important in the scientific method?	CO3	Understand	Medium
12	How does empiricism differ from rationalism?	CO3	Understand	Medium
13	How does evidence-based validation work in science?	CO3	Understand	Medium
14	What is the role of logical reasoning in rationalism?	CO3	Understand	Medium
15	What is the significance of proposing a hypothesis in the scientific method?	CO3	Understand	Medium

PART –B				
Q.No	**Questions**	**CO Mapping**	**BT Level**	**Complexity**
1	Discuss the role of inductive and deductive reasoning in scientific thinking.	CO3	Understand	Medium
2	Explain the process of proposing and testing a hypothesis in scientific research. Provide a detailed example.	CO3	Understand	Medium

3	Discuss the importance of validating facts using an evidence-based approach in scientific research. Include examples to support your discussion.	CO3	Understand	Medium
4	Explain the concepts of skepticism and empiricism in scientific research. How do they differ each other in the scientific method?	CO3	Understand	Medium
5	Explain the concepts of rationalism and scientific temper. How do they influence scientific research and thinking?	CO3	Understand	Medium
6	Explain the significance and importance of scientific temper.	CO3	Understand	Medium
7	Differentiate between skepticism and empiricism.	CO3	Understand	Medium
8	Discuss the process of hypothesis formulation and testing in scientific research. Why is hypothesis testing important?	CO3	Understand	Medium
9	What is scientific temper? Discuss its importance in modern society with real-world examples	CO3	Understand	Medium
10	Discuss the importance of logical reasoning in scientific thinking. How does it help in discoveries and advancements?	CO3	Understand	Medium

UNIT –IV

SOCIAL ETHICS

PART –A				
Q.No	**Questions**	**CO Mapping**	**BT Level**	**Complexity**
1	Define social ethics.	CO4	Remember	Low
2	What are the importance of social ethics in contemporary society?	CO4	Understand	Medium
3	What is the principle of utilitarianism in ethical reasoning?	CO4	Understand	Medium
4	How does deontological ethics differ from utilitarianism?	CO4	Understand	Medium
5	What is gender bias?	CO4	Understand	Medium
6	How can gender bias be identified in the workplace?	CO4	Understand	Medium
7	Define gender violence.	CO4	Remember	Low
8	What are the potential effects of gender violence on survivors?	CO4	Understand	Medium

9	What is social discrimination?	CO4	Understand	Medium
10	How can social discrimination be observed in educational settings?	CO4	Understand	Medium
11	What role does the constitution play in protecting individual rights?	CO4	Understand	Medium
12	Write an example of a constitutional protection that promotes social equality.	CO4	Understand	Medium
13	What are inclusive practices in the context of workplace diversity?	CO4	Understand	Medium
14	Why are inclusive practices important for organizational success?	CO4	Understand	Medium
15	How can ethical reasoning be applied to address gender bias in hiring practices?	CO4	Understand	Medium

PART –B				
Q.No	**Questions**	**CO Mapping**	**BT Level**	**Complexity**
1	Discuss the role of social ethics in addressing contemporary social issues. Include examples to illustrate how social ethics can guide policies and practices to promote justice and equality.	CO4	Understand	Medium
2	Explain how different ethical theories (utilitarianism, deontology, virtue ethics) can be applied to address the issue of poverty.	CO4	Understand	Medium
3	What are the impact of gender bias on career advancement opportunities for women in corporate settings?	CO4	Understand	Medium
4	Discuss the various forms of gender violence and their impact on individuals and society. Provide examples of policies or interventions that can effectively address gender violence.	CO4	Understand	Medium
5	Explain the effectiveness of constitutional protections in promoting social equality.	CO4	Understand	Medium
6	Explain the importance of ethical reasoning in addressing social problems. Provide examples.	CO4	Understand	Medium
7	Discuss gender bias in different sectors such as education, employment, and media. Suggest solutions to reduce it.	CO4	Understand	Medium
8	What is gender violence? Explain its types, causes, and impact on individuals and society.	CO4	Understand	Medium

9	Discuss the role of education, media, and government in combating gender violence and discrimination.	CO4	Understand	Medium
10	How does ethical reasoning contribute to formulating laws and policies for an inclusive society?	CO4	Understand	Medium

UNIT –V

SCIENTIFIC ETHICS

PART –A

Q.No	Questions	CO Mapping	BT Level	Complexity
1	What is scientific transparency?	CO5	Understand	Medium
2	Why is fairness important in peer review?	CO5	Understand	Medium
3	Define "dual-use technology" in scientific research.	CO5	Remember	Low
4	Give an example of a scientific invention that has both positive and negative impacts.	CO5	Remember	Low
5	What is meant by "unfair application" of scientific inventions?	CO5	Understand	Medium
6	How does transparency contribute to the credibility of scientific research?	CO5	Understand	Medium
7	What is the role of ethics committees in scientific research?	CO5	Understand	Medium
8	Write one challenge associated with ensuring fairness in scientific research.	CO5	Understand	Medium
9	Why is it important for scientists to disclose conflicts of interest?	CO5	Understand	Medium
10	What is the significance of ethical guidelines in scientific research?	CO5	Understand	Medium
11	How can scientific inventions improve public health?	CO5	Understand	Medium
12	What is an example of a technology with dual-use concerns?	CO5	Understand	Medium
13	Define "scientific responsibility."	CO5	Remember	Low
14	How can scientists ensure that their work is used ethically?	CO5	Understand	Medium
15	What is the role of transparency in preventing scientific misconduct?	CO5	Understand	Medium

PART –B				
Q.No	**Questions**	**CO Mapping**	**BT Level**	**Complexity**
1	Discuss the importance of transparency and fairness in scientific research. How do they contribute to the credibility and integrity of scientific work?	CO5	Understand	Medium
2	Discuss the role of scientific inventions in the betterment of society.	CO5	Understand	Medium
3	Explain the ethical implications of the unfair application of scientific inventions.	CO5	Understand	Medium
4	Discuss the role and responsibility of scientists in modern society. How should scientists address the ethical challenges associated with their work?	CO5	Understand	Medium
5	Explain the ethical challenges associated with dual-use technologies. How can scientists mitigate the risks associated with these technologies?	CO5	Understand	Medium
6	Explain the concepts of transparency and fairness in scientific research. Why are they crucial in maintaining public trust?	CO5	Understand	Medium
7	Discuss the impact of scientific inventions on society with relevant examples.	CO5	Understand	Medium
8	How can scientific research be used for both positive and negative applications? Give examples.	CO5	Understand	Medium
9	Explain the unfair application of scientific inventions with historical case studies.	CO5	Understand	Medium
10	What are the ethical responsibilities of scientists in modern society? Provide real-world examples.	CO5	Understand	Medium

THANK YOU

ALL THE BEST