Reg. No. | | | | | | | | | | |

UNIVERSITY DEPARTMENTS : : ANNA UNIVERSITY

B.E. (FULL TIME) DEGREE – END SEMESTER EXAMINATIONS – APR./MAY 2025

VI SEMESTER – COMMON TO ALL BRANCHES OF ENGINEERING – REGULATION 2019

GE 5075 – Engineering Ethics

Max. Time: 3 hours | Answer all questions | Max. Marks: 100

PART – A (10 x 2 = 20 marks)

1. What is meant by senses of engineering ethics?
2. What are the factors behind persuasive definition of professional engineers?
3. What is meant by 'Learning from the past' in engineering experimentation?
4. List the research ethics models.
5. What is meant by perceived safety?
6. What is meant by 'Scenario Analysis'?
7. Define the term professional rights.
8. Differentiate between Trade Secret and Trade Mark.
9. What is meant by code of conduct?
10. Write the difference between 'corporate shill' and 'hired gun' in engineering ethics?

PART – B (5 x 13 = 65 marks)

11a. Explain the following types of inquiry with suitable examples: (i) Normative inquiry; (ii) Conceptual inquiry; (iii) Factual inquiry. (5+4+4)

(OR)

11b. Explain the following types of ethics with suitable examples: (i) Virtue Ethics; (ii) Utilitarianism. (7+6)

12a. Explain the following features of engineers as 'Responsible Experimenters' with suitable examples: (i) Conscientiousness; (ii) Accountability. (7+6)

(OR)

12b. Enumerate the objectives / functions of 'Industrial Standards Code of Ethics'. Explain any one of it with a suitable example. (10+3)

13a. Explain the following with suitable examples: (i) Effect of Information on Risk; (ii) Secondary Costs of Products. (2x6.5)

(OR)

13b. Explain the following 'Testing Methods' with a suitable example: (i) Fault Tree Analysis; (ii) Risk Benefit Analysis. (5+7)

14a. Explain the following with respect to 'Conflict of Interest' with suitable examples: (i) Gifts and bribes; (ii) Insider Information. (2x6.5)

(OR)

14b. Explain the following 'Occupational Crime' with suitable examples: (i) Industrial Espionage; (ii) Price Fixing. (2x6.5)

15a. Explain the following with respect to 'Business Ethics' with suitable examples: (i) Dimensions and moral discussion; (ii) Paradigms of business ethics. (2x6.5).

(OR)

15b. Discuss the role of engineers as 'Expert Witness and Advisors' in relation to professional ethics with a suitable example.

PART – C (1 x 15 = 15 marks)

16. Discuss the Chernobyl Nuclear Reactor Disaster case study with respect to engineering safety and ethics.

For Academic Audit Purpose:

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

1. Apply the core values toward the ethical behavior of an engineer.
2. Apply the ethical and moral principles in engineering experimentation.
3. Apply the ethical and moral principles in engineering for safety.
4. Apply standard codes of moral conduct toward the ethical behavior of an engineer.
5. Apply ethical and moral principles for engineers as managers, consultants, expert witness. Resolve global issues of ethics concerning weapon development and multinational companies.

Blooms Taxonomy Level (BL): 1 – Remembering; 2 – Understanding; 3 – Applying; 4 – Analyzing; 5 – Evaluating; 6 – Creating.

Program Outcome: PO1 – Engineering knowledge; PO2 – Problem analysis; PO3 – Design / development of solutions; PO4 – Conduct investigations of complex problems; PO5 – Modern tool usage; PO6 – The Engineer and society; PO7 – Environment and sustainability; PO8 – Ethics; PO9 – Individual and team work; PO10 – Communication; PO11 – Project management and finance; PO12 - Life-long learning.

Q.No.	Unit/CO	Marks	BL	PO	Q.No.	Unit/CO	Marks	BL	PO
1	1	2	1	6 & 8	9	5	2	1	6 & 8
2	1	2	1	6 & 8	10	5	2	2	6 & 8
3	2	2	1	6 & 8	11 a/b	1	13	3	6 & 8
4	2	2	1	6 & 8	12 a/b	2	13	3	6,7,8 &12
5	3	2	1	6 & 8	13 a/b	3	13	3	6,7,8 &12
6	3	2	1	6 & 8	14 a/b	4	13	3	6, 7 & 8
7	4	2	1	6 & 8	15 a/b	5	13	3	6, 7 & 8
8	4	2	2	6 & 8	16	3	15	3	6,7,8 &12