SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore – 641 107

An Autonomous Institution

19GE701 Professional Ethics & Human Values

Question Bank

PART A

1. Briefly describe one ethical theory and its use in resolving engineering dilemmas.
2. Define the term ‘engineering as experimentation’
3. Name one key principle typically found in engineering codes of ethics and explain its importance
4. Discuss the purpose of codes of ethics in engineering
5. What is the primary responsibility of engineers as experimenters according to ethical standards?

PART B

1. Explain the concept of ‘engineering as experimentation’ and its implications for the practice of engineering
2. Examine the role of codes of ethics in guiding engineers' professional behavior
3. Analyze how Engineering as Experimentation concept influences the responsibilities of engineers, particularly in relation to ensuring safety and minimizing risks. Provide examples to illustrate your points.
4. Compare and contrast the ethical principles outlined in at least two different engineering codes of ethics.

PART C

1. An engineering team is tasked with designing a new type of pedestrian bridge that incorporates innovative materials and structural techniques. The design process involves extensive experimentation to test the durability and safety of these materials under various conditions.Analyze the ethical considerations involved in this case study using the concept of ‘engineering as experimentation.’ Discuss the responsibilities of the engineers in ensuring that the experimental design does not pose undue risks to the public. Evaluate how adherence to codes of ethics can guide the engineers' decision- making process throughout the experimentation phase.
2. A company is developing a new biomedical device intended to improve patient outcomes. The device must undergo clinical trials to validate its safety and efficacy. The trials involve testing the device on a small group of patients before a broader release.Using the case study, evaluate the ethical challenges faced by engineers in the development and testing phases. Apply the principles of responsible experimentation and review relevant codes of ethics to discuss how engineers should address issues related to patient safety, informed consent, and the integrity of the testing process. Propose measures to ensure ethical compliance throughout the project