

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATION- 2024

M.Tech-I Semester (BT)

COURSE CODE (CREDITS):18M11BT113 (3)

MAX. MARKS: 35

COURSE NAME: Research Methodology and Ethics

COURSE INSTRUCTORS: Prof. Gopal Singh Bisht

MAX. TIME: 2 Hours

Note: (a) All questions are compulsory.

(b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems

Q.No	Question	Marks
Q1	Analyze the potential consequences of scientific misconduct on the credibility of research institutions and the scientific community.	5
Q2	<p>Answer the questions after analyzing cases given below.</p> <p>Case-1</p> <p>Dr. Jitendra, a researcher studying the effects of a new drug for hypertension, has received significant funding from a pharmaceutical company that manufactures the drug. In addition to this, Dr. Jitendra owns stock in the company. During the study, Dr. Jitendra publishes results indicating that the drug has significant positive effects on reducing blood pressure, with minimal side effects. Some colleagues raise concerns about whether Dr. Smith's financial interests have influenced the study outcomes.</p> <p>a) What is the potential conflict of interest in Dr. Jitendra's research? How could Dr. Jitendra mitigate the conflict of interest in this situation?</p> <p>b) How could the financial relationship between Dr. Jitendra and the pharmaceutical company affect the study's results?</p> <p>c) Evaluate the potential consequences of not addressing the conflict of interest in Dr. Jitendra's research.</p> <p>Case-2</p> <p>Dr. Pasha is conducting a research study that involves testing a new pain relief drug on animals. The research is aimed at understanding the drug's effects on pain management for humans. However, the animal testing involves administering high doses of the drug, which may cause some distress to the animals. Dr. Pasha's research proposal is submitted to an Institutional Animal Care and Use Committee (IACUC) for ethical review before proceeding.</p> <p>a) What is the purpose of the Institutional Animal Care and Use Committee (IACUC)? Why is ethical approval necessary before starting animal research?</p> <p>b) What factors should the IACUC consider when reviewing Dr. Pasha's research proposal?</p> <p>c) Propose an alternative approach to animal testing that could help reduce animal use in research.</p>	12

Q3	How would you apply the SMART criteria (Specific, Measurable, Achievable, Relevant, and Time-bound) to formulate your research objectives? Analyze the potential risks involved in your proposed research and how you plan to mitigate them. Design a conceptual framework for a research study on any topic of your interest.	8
Q4.	<p>Answer the following questions.</p> <ul style="list-style-type: none"> a) Evaluate the role of open access journals in enhancing the dissemination of scientific knowledge. b) What are the key characteristics of a well formulated hypothesis? How does a hypothesis guide research and experimentation? c) Critically evaluate the discussion section of a research manuscript. 	<p>2</p> <p>4</p> <p>4</p>

JUIT TEST-3 EXAMINATION- Dec 2024