

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATION- 2024

Ph.D.-I Semester (BT)

COURSE CODE (CREDITS):18P1WGE101 (3)

MAX. MARKS: 25

COURSE NAME: Research Methodologies including Quantitative methods and computer application

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	<p>Answer the questions after analyzing cases given below.</p> <p><b>Case-1</b></p> <p>Hua is doing a postdoctoral fellowship in a laboratory that studies cancer treatment. In the experiment she is overseeing a cancer-prone strain of mice is allowed to develop visible tumors and then receives experimental drugs to observe the effects on the tumors.</p> <p>Hua notices that the tumors are interfering with the ability of some of the mice to eat and drink. She also notices that some of the mice are weaker and more emaciated than the others, which she suspects is a consequence of their feeding difficulties. The protocol for the experiment states that the mice will be treated only if they exhibit obvious signs of pain or discomfort. When she mentions her concerns to another postdoctoral fellow, he suggests not raising the issue with the rest of the lab. The mice will be euthanized as soon as the experiment is over, and their nutritional status probably has little or no effect on the drug treatment. Furthermore, if it proved necessary to change the experimental protocol, the previous work would be invalidated and the Institutional Animal Care and Use Committee would need to be notified.</p> <p>a) What can Hua do to get more information about the issue?                      b) If she decides to raise the issue with others, what is the best way to do so?                      c) Should the original protocol have been approved?</p> <p><b>Case-2</b></p> <p>Andre, a young assistant professor, and two graduate students have been working on a series of related experiments for the past several years. Now it is time to write up the experiments for publication, but the students and Andre must first make an important decision. They could write a single paper with one first author that would describe the experiments in a comprehensive manner, or they could write two shorter, less-complete papers so that each student could be a first author.</p>	<p>3</p> <p>5</p>

	<p>Andre favors the first option, arguing that a single publication in a more visible journal would better suit all of their purposes. This alternative also would help Andre, who faces a tenure decision in two years. Andre's students, on the other hand, strongly suggest that two papers be prepared. They argue that one paper encompassing all the results would be too long and complex. They also say that a single paper might damage their career opportunities because they would not be able to point to a paper on which they were first authors.</p> <ol style="list-style-type: none"> <li>How could Andre have anticipated this problem? And what sort of general guidelines could he have established for lab members?</li> <li>If Andre's laboratory or institution has no official policies covering multiple authorship and multiple papers from a single study, how should this issue be resolved?</li> <li>How could Andre and the students draw on practices within their discipline to resolve this dispute?</li> <li>What kind of laboratory or institutional policies could keep disputes like this from occurring?</li> <li>If a single paper is published, how can the authors make clear to review committees and funding agencies their various roles and the importance of the paper?</li> </ol>	
Q2	<p>Analyze the impact of research misconduct on the scientific community and public trust. What are the potential legal consequences of research misconduct for a researcher? Design a protocol for an institution to detect and address research misconduct.</p>	6
Q3.	<p>Answer the following questions.</p> <ol style="list-style-type: none"> <li>Is impact factor is true criterion to judge quality of research paper? Justify your answer.</li> <li>Discuss the role of preliminary data in a research grant proposal. Analyze the impact of ethical considerations on the development and presentation of a research grant proposal. Evaluate the strengths and weaknesses of a sample research grant proposal.</li> <li>What are the essential elements of a strong research question, and how does it shape the design and direction of a study?</li> <li>Analyze the role of the Discussion section in connecting your results to existing literature. Identify three common ethical considerations when writing a research. Critically evaluate the significance of peer review in the publication process of research manuscripts.</li> </ol>	<p>2</p> <p>3</p> <p>3</p> <p>3</p>