


Name:			
Enrolment No:			
UPES End Semester Examination, Dec 2024			
Course: Research Methodology Ethics Program: BSc (H) CHEMISTRY by research/ BSc (H) PHYSICS by research Course Code: ASRM4001		Semester: VII Time: 03 hrs. Max. Marks: 100	
Instructions: Read all the questions carefully. There is a choice in section B and C for question 9 and 11.			
SECTION A (5Qx4M=20Marks)			
S. No.		Marks	CO
Q 1	Mention four main purposes of conducting research.	4	CO1
Q 2	Based on the data collected from a village the ratio of literate and illiterate is concluded. Choose the correct type of the research with reason i) Descriptive ii) Conceptual research iii) Empirical research	4	CO1
Q 3	Find out the correct factor not associated with the research design with reason i) Research cost ii) Manpower iii) Weather condition	4	CO1
Q 4	If your interpretation does not follow the research basic, pick the correct immediate previous step of research process needed re-consideration. i) Research analysis ii) Research formulation iii) Review concept and theory	4	CO1
Q 5	State the process of formulating state-of-art research problem with an example.	4	CO2
SECTION B (4Qx10M= 40 Marks)			
Q 6	Describe the central tendency of a population with classification of mean.	10	CO4
Q 7	Differentiate invention and innovation with help of one typical example.	10	CO3
Q 8	Refer to the situation applicable for F-test of hypothesis. Two random samples are drawn from the two normal populations are: Sample 1: 20, 22, 35, 31, 29, 25, 19	10	CO4

	Sample 2: 16, 35, 37, 31, 18, 33, 37, 41, 40, 42 Find out the difference of variance ($\sigma^2_{\text{sample2}} - \sigma^2_{\text{sample1}}$) in the two population.		
Q 9	Mention five types of intellectual property right where creators got recognition and financial benefit from their work. Or Classify different international intellectual property conventions for their protection.	10	CO3
SECTION-C (2Qx20M=40 Marks)			
Q 10	i) Provide point by point set principle which covers research ethics. ii) Give a real-world example which can be used to illustrate ethical issue.	10 + 10	CO3
Q 11	i) Demonstrate different components of research report. ii) Outline the precautions taken while writing a research paper. Or i) Illustrate the guidelines of MLA style of research report writing. ii) Elucidate the main difference between MLA and APA style of report writing.	10 + 10	CO2