


Name:			
Enrolment No:			
UPES End Semester Examination, December 2023			
Course: Research Methodology and Ethics Program: BSc (H) Chemistry/ BSc (H) Physics/ BSc (H) Mathematics Course Code: ASRM4001		Semester: VII Time : 03 hrs. Max. Marks: 100	
Instructions: Scientific calculator is allowed			
SECTION A			
S. No.		Marks	CO
Q 1	Describe the following terms: a) Diagnostic research b) Research hypothesis	2 + 2	CO1
Q 2	Compute the standard deviation of the following: 10, 15, 18, 21, 25, 29	4	CO2
Q 3	Explain the significance of bibliography in research report.	4	CO3
Q 4	Describe 'Geographical Indication' with example.	4	CO4
Q 5	Define 'Coefficient of Determination' in simple Linear Regression Model.	4	CO2
SECTION B			
Q 6	Discuss various types of ethical considerations in research.	10	CO4
Q 7	Write different steps in writing a report.	10	CO3
Q 8	Elaborate probability sampling techniques. OR Compare Karl Pearson's and Rank correlation coefficients.	10	CO2
Q 9	Describe basic principles of experimental design.	10	CO1
SECTION-C			
Q 10	Explain how you will draft the main body of your research report.	20	CO3
Q 11	a) Describe the types of scientific misconducts. Justify with examples. b) List the key points of Belmont report for research ethics. OR	10 + 10	CO4

	a) Clarify how patents serve as an exclusive right to the applicant. b) Discuss the application process for patent filing.		
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