

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION DECEMBER 2023
(First Semester)

Branch - BIOTECHNOLOGY

RESEARCH, IPR AND ETHICS IN BIOTECHNOLOGY

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	Who was the author of the book named "Methods in Social Research"? a) Kerlinger b) CR Kothari c) Goode and Hatt d) Wilkinson	K1	CO1
	2	What is the name of the conceptual framework in which the research is carried out? a) Research hypothesis b) Synopsis of Research c) Research paradigm d) Research design	K2	CO1
2	3	How is random sampling helpful? a) Reasonably accurate b) An economical method of data collection c) Free from personal biases d) All of the above	K1	CO2
	4	What are characteristics of? a) Research design b) Literature review c) story writing d) Journalism	K2	CO2
3	5	Linear Regression is the supervised machine learning model in which the model finds the best fit ___ between the independent and dependent variable. a) Linear line b) Nonlinear line c) Curved line d) All of the mentioned above	K1	CO3
	6	Amongst which of the following is / are the types of Linear Regression? a) Simple Linear Regression b) Multiple Linear Regression c) Both A and B d) None of the mentioned above	K2	CO3
4	7	What protects the intellectual property created by artists? a) Copyright b) Patents c) Registered designs d) Trademarks	K1	CO4
	8	What protects the intellectual property created by designers? a) Copyright b) Geographical indications c) Patents d) Registered designs	K2	CO4

Cont...

5	9	When working with infectious biological material, the best place to perform the work would be: a) In a Biological Safety Cabinet b) On the laboratory bench c) On a clean bench, wearing a dust mask d) In a Fume Hood	K1	CO5
	10	Who is responsible for providing training that is specific to the bioresearch being performed? a) The lab manager or Principal Investigator b) The lab personnel who is performing the work c) The Department where you work d) EH&S	K2	CO5

SECTION - B (35 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks (5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Analyze and comment on criteria of a good research.	K4	CO1
		(OR)		
	11.b.	Write the motive on Types of Research and significance of Research.		
2	12.a.	Dissect the important components of types of research design.	K4	CO2
		(OR)		
	12.b.	Analyze the practical considerations in importance of using appropriate control.		
3	13.a.	Construct a note on Bivariate analysis.	K5	CO3
		(OR)		
	13.b.	Describe on statistical population.		
4	14.a.	Compile key points in IPR types.	K6	CO4
		(OR)		
	14.b.	Discuss about trademarks.		
5	15.a.	Justify the need for primary containment for biohazards.	K5	CO5
		(OR)		
	15.b.	Criticize on various consideration for biosafety levels for specific microorganisms.		

SECTION -C (30 Marks)

Answer ANY THREE questions

ALL questions carry EQUAL Marks (3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Explain in detail about different methods of method of data collection.	K5	CO1
2	17	Illustrate about experimental design using animals for testing and its importance.	K5	CO2
3	18	Categorize the various probability distribution Multivariate analysis.	K4	CO3
4	19	Elaborate on International patenting Introduction to GATT, WIPO, TRIPS and WTO.	K6	CO4
5	20	List out various ethical practices in handling and disposal of hazardous bio-waste.	K4	CO5