

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2026
(Fourth Semester)

Branch – BOTANY

RESEARCH METHODOLOGY

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	Which of the following best defines biostatistics? a) Study of biological systems b) Application of statistics to biological data c) Classification of plants d) Study of enzymes	K1	CO1
	2	Which is a method of primary data collection? a) Census b) Tabulation c) Graph plotting d) None of these	K2	CO1
2	3	The measure of central tendency that divides the data into two equal parts is: a) Mean b) Median c) Mode d) Range	K1	CO2
	4	The standard deviation is used to measure: a) Central tendency b) Dispersion c) Skewness d) Correlation	K2	CO2
3	5	Which instrument separates substances based on mass and speed? a) Centrifuge b) Spectrophotometer c) Electrophoresis d) Chromatography	K1	CO3
	6	TLC stands for: a) Thin Layer Chromatography b) Thick Layer Chromatography c) Thin Liquid Chromatography d) Total Layer Centrifugation	K2	CO3
4	7	Which is the first step in dissertation writing? a) Data analysis b) Review of literature c) Planning of study d) Report submission	K1	CO4
	8	Poster presentation is a form of: a) Laboratory report b) Oral communication c) Visual communication d) Dissertation chapter	K2	CO4
5	9	IPR stands for: a) International Property Rules b) Intellectual Property Rights c) Indian Patent Regulations d) Inherited Property Rules	K1	CO5
	10	The authority responsible for Plant Variety Protection in India is: a) ICAR b) CSIR c) PPV & FRA d) UNESCO	K2	CO5

Cont...

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.	Define biostatistics. Discuss its role and applications in biosciences.	K2	CO1
		(OR)		
	11.b.	Explain the methods of data collection and tabulation in biostatistics.		
2	12.a.	Describe the various measures of central tendency and their merits.	K3	CO2
		(OR)		
	12.b.	Discuss the calculation and significance of standard deviation and coefficient of variation.		
3	13.a.	Explain the principles and working mechanism of a spectrophotometer.	K3	CO3
		(OR)		
	13.b.	Describe the types and applications of electrophoresis in plant biochemistry.		
4	14.a.	Analyze the process and structure of scientific writing for preparing dissertations and reports.	K4	CO4
		(OR)		
	14.b.	Compare oral and poster presentation techniques and discuss how each helps in presenting research effectively.		
5	15.a.	Define Intellectual Property Rights. Explain various types with examples.	K4	CO5
		(OR)		
	15.b.	Discuss the role of Plant Variety Protection and Farmers' Rights Authority of India.		

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	Interpret the importance of classifying and graphically representing biological data in research	K4	CO1
2	17	Differentiate the applications of correlation and regression in analyzing plant biological data.	K4	CO2
3	18	Illustrate the working principles of centrifugation and chromatography with suitable diagrams.	K4	CO3
4	19	Analyze the essential components of a research proposal for a plant-based project.	K4	CO4
5	20	Examine the role of Intellectual Property Rights (IPR) in encouraging scientific research and innovation.	K4	CO5

Z-Z-Z

END