

(FOR THE CANDIDATES ADMITTED  
DURING THE ACADEMIC YEAR 2024 ONLY)

24PYB413

REG.NO. :

N.G.M.COLLEGE (AUTONOMOUS) : POLLACHI  
END-OF-SEMESTER EXAMINATIONS : APRIL-2026

B.Sc.-BOTANY  
SEMESTER: IV

MAXIMUM MARKS: 75  
TIME : 3 HOURS

### RESEARCH METHODOLOGY

#### SECTION – A

(10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS.

MULTIPLE CHOICE QUESTIONS.

(K1)

1. Research conducted to find solution for an immediate problem is \_\_\_\_\_.  
a) Fundamental Research    b) Analytical Research    c) Survey    d) Action Research
2. In plagiarism term, the change of few words in the original text of another is known as  
a) Direct copying    b) Word switch    c) Paraphrasing    d) None of these
3. When the data is arranged in an ascending order, the middle value of a data set of observations is called as \_\_\_\_\_.  
a) Median    b) Mean    c) Mode    d) Variance
4. Present expansion of SPSS is \_\_\_\_\_.  
a) Statistical Package for the Social Sciences    b) Software Package for the Social Sciences  
c) Software Package for the Social Statistics    d) Statistical Product and Service Solutions
5. pH in pH scale stands for \_\_\_\_\_.  
a) Protonic Hydration    b) Potential Hydrogen    c) Power of Hydrogen    d) Pure Hydrogen

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES.

(K2)

6. What is hypothesis testing?
7. Tell about Biblioscape
8. Recall the applications of Chi-square test
9. How the use of ANOVA differ from Student's 'T' test
10. Illustrate the principle of lyophilization.

#### SECTION – B

(5 X 5 = 25 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. (K3)

11. a) Outline the objectives and characteristics of a research design.  
(OR)  
b) Analyze the basic principles of a research design
12. a) Examine the applications of Bibliometrics  
(OR)  
b) Point out the importance of NABI accreditation for laboratories

(CONTD .... 2)

13.a) Compare the primary data with secondary data.

(OR)

b) Analyze the application of regression analysis.

14.a) Write short notes on cluster analysis.

(OR)

b) Comment on multivariate analysis.

15.a) Describe the principles and applications of UV-visible spectrophotometer.

(OR)

b) What are the different types of mobile and stationary phases in chromatographic techniques?

**SECTION – C (5 X 8 = 40 MARKS)**

**ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. (K4 Or K5)**

16. a) Define research. Write in detail about different types of research and their significance.

(OR)

b) Discuss the method of selection of a research problem.

17.a) List the different parts of research thesis. Add notes on the different parts highlighting its importance .

(OR)

b) Write in detail about collection of literature and their citation. Discuss the importance of literature citation.

18. a) What is correlation? Elaborate the types and method of studying correlation analysis.

(OR)

b) What are the different types of measures of central tendency? List its merits and demerit.

19. a) How do you effectively use Excel and SPSS for analysis of data?

(OR)

b) Write about binomial and poisson distribution.

20. a) Describe the different parts of electron microscope.

(OR)

b) What do you meant by electrophoresis? Describe in detail the basic principle and procedure of SDS-PAGE.

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