

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)

MSc DEGREE EXAMINATION DECEMBER 2022  
(First Semester)

Branch – COMPUTER SCIENCE

**PYTHON AND R PROGRAMMING FOR DATA SCIENCE**

Time: Three Hours

Maximum: 50 Marks

**SECTION-A (5 Marks)**

Answer ALL questions

ALL questions carry EQUAL marks (5 x 1 = 5)

1. \_\_\_\_\_ used for selection bias.  
(i) Sampling bias (ii) Time Interval  
(iii) Data & Attrition (iv) All the Above
2. The python and R are \_\_\_\_\_ programming language.  
(i) Data (ii) Science  
(iii) High Level & Open Source (iv) Scripting language.
3. To construct a histogram, the first step is to \_\_\_\_\_.  
(i) Count (ii) bin (iii) Fall (iv) Divide
4. A probability distribution is a \_\_\_\_\_.  
(i) Library function (ii) Statistical function  
(iii) Physical property (iv) Uncertainty distributions
5. \_\_\_\_\_ are a set of predefined methods you can use to enrich your classes.  
(i) Special methods (ii) Class methods  
(iii) Histogram (iv) Predefined methods

**SECTION - B (15 Marks)**

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 3 = 15)

6. a) Write short notes on Data Science.  
OR  
b) What is Working Directory used for?
7. a) What is Data Pre – processing with example?  
OR  
b) Write Short notes on Treatment of outliers in EDA.
8. a) State the benefits of Data Visualization Techniques.  
OR  
b) What is Ggplot used for in R? What is the difference between Ggplot and plot in R?

Cont...

9. a) Write about factors analysis in detail.  
OR  
b) What is a word cloud and how does it work?
10. a) What is Neural Network and Classification?  
OR  
b) What are the applications of analytics in government?

**SECTION -C (30 Marks)**

Answer ALL questions

ALL questions carry EQUAL Marks (5 x 6 = 30)

11. a) Explain: a) Vector b) List c) Data Frames.  
OR  
b) Elaborate on the R and R studio Environment in detail.
12. a) Elucidate about the Steps involved in EDA using python programming.  
OR  
b) Write about visualization of Data, its types, importance in detail.
13. a) Types of data visualization in R. Explain.  
OR  
b) Write about Plot and its classification in detail.
14. a) List out the Applications of factor Analysis in python Programming.  
OR  
b) Elaborate about the Sentiment analysis used in Text production.
15. a) Discuss about the convolutional Neural Network in detail.  
OR  
b) Explain about Applications of Analytical in sports.

Z-Z-Z

END