

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2024  
(Sixth Semester)

Branch – COMPUTER SCIENCE WITH DATA ANALYTICS

EXPLORATORY DATA ANALYTICS

Time: Three Hours

Maximum: 50 Marks

**SECTION-A (5 Marks)**

Answer ALL questions

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

1. \_\_\_\_\_ add new variables/columns or transform existing variables.  
(i) mutate (ii) add  
(iii) append (iv) arrange
2. A \_\_\_\_\_ is a two-dimensional rectangular data set.  
(i) Vector (ii) Lists  
(iii) Matrix (iv) Functions
3. Which of the following is lattice command for producing boxplots?  
(i) plot() (ii) bwplot()  
(iii) xyplot() (iv) barlm()
4. \_\_\_\_\_ function returns fixed number of colors that interpolate the palette.  
(i) colorRamp (ii) colorRampPalette()  
(iii) pal() (iv) color()
5. \_\_\_\_\_ grammar makes a clear distinction between data that gets displayed on the screen or page.  
(i) ggplot1 (ii) ggplot2  
(iii) d3.js (iv) ggplot3

**SECTION - B (15 Marks)**

Answer ALL Questions

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

- 6 a Explain the data frames in dplyr package.  
OR  
b Illustrate the need for Exploratory data analysis.
- 7 a Explain the principles of Analytic Graphics.  
OR  
b Illustrate histogram with suitable example.
- 8 a Explain the use of base plotting system.  
OR  
b Elucidate the process of making a plot.

Cont...

- 9 a Explain the purpose of RcolorBrewer package.  
OR  
b Illustrate gplot() function with example.
- 10 a Explain smooth and facets used in layers.  
OR  
b Illustrate the steps to modify geom properties.

**SECTION -C (30 Marks)**

Answer ALL questions

ALL questions carry EQUAL Marks

(5 x 6 = 30)

- 11 a Explain the various functions used in dplyr package.  
OR  
b Elucidate the process of reading data in data analysis.
- 12 a Discuss the basic concept of bar plots with example.  
OR  
b Compare and construct multiple box plots and scatter plots.
- 13 a Elucidate the Lattice system and its function.  
OR  
b Explain the base plotting functions with example.
- 14 a Determine the color utilities in R.  
OR  
b Elucidate smooth Scatter function with example.
- 15 a Illustrate the ggplot2 with suitable example.  
OR  
b Explain the steps involved in loading and processing data.

Z-Z-Z      END