

**PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)**

**BA DEGREE EXAMINATION MAY 2026  
(Third Semester)**

Branch -**SOCIOLOGY**

**SOCIAL STATISTICS – I WITH COMPUTER APPLICATION**

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            | What is the purpose of preparing a questionnaire in statistical investigation?<br>a) To entertain respondents<br>b) To collect relevant data systematically<br>c) To confuse participants<br>d) To skip data collection                 | K1      | CO1 |
|            | 2            | Which of the following is a limitation of statistics?<br>a) Helps in decision making      b) Aids in data collection<br>c) Cannot provide exact answers      d) Assists in data analysis                                                | K2      | CO1 |
| 2          | 3            | What kind of frequency distribution shows the exact number of observations in each class interval?<br>a) Relative frequency distribution<br>b) Formation of frequency distribution<br>c) Cumulative frequency distribution<br>d) Ogives | K1      | CO2 |
|            | 4            | What is the first step in statistical data analysis?<br>a) Calculation      b) Interpretation<br>c) Conclusion      d) Classification                                                                                                   | K2      | CO2 |
| 3          | 5            | The measure of central tendency that divides the data into two equal parts is called:<br>a) Median      b) Mean      c) Mode      d) Range                                                                                              | K1      | CO3 |
|            | 6            | What does the standard deviation measure?<br>a) Central value      b) Median value<br>c) Spread of data around the mean      d) Mode of data                                                                                            | K2      | CO3 |
| 4          | 7            | Rank correlation is used when data is:<br>a) Ordinal or rank data      b) Quantitative only<br>c) Nominal only      d) Continuous only                                                                                                  | K1      | CO4 |
|            | 8            | Skewness measures the:<br>a) Central value of data      b) Spread of data<br>c) Asymmetry of data distribution      d) Number of data points                                                                                            | K2      | CO4 |
| 5          | 9            | In MS Excel, which function is used to find the mean of numbers?<br>a) AverageA ( )      b) Mean ( )<br>c) AVERAGE ( )      d) all the above                                                                                            | K1      | CO5 |
|            | 10           | Which Excel feature helps in creating graphical representation of data?<br>a) Formula bar      b) Data validation<br>c) Goal Seek      d) Chart tools                                                                                   | K2      | CO5 |

**SECTION - B (35 Marks)**

Answer **ALL** questions

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

| ALL questions carry EQUATE MARKS (50/100/50) |              |                                                                                                                    |         |     |
|----------------------------------------------|--------------|--------------------------------------------------------------------------------------------------------------------|---------|-----|
| Module No.                                   | Question No. | Question                                                                                                           | K Level | CO  |
| 1                                            | 11.a.        | Define Statistics and explain its nature, scope, and importance in social sciences. Illustrate with examples.      | K2      | CO1 |
|                                              | (OR)         |                                                                                                                    |         |     |
|                                              | 11.b.        | Write short notes on different types of data and their sources. How is primary data different from secondary data? |         |     |

Cont...

|           |         |                                                                                                                                                                                                                                                                      |         |         |    |         |         |         |         |           |   |    |    |
|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------|----|---------|---------|---------|---------|-----------|---|----|----|
| 2         | 12.a.   | Explain the importance of classification in statistical data. Identify different types of classification and illustrate each with suitable examples. Demonstrate how classification helps in organizing data for effective analysis.                                 | K3      | CO2     |    |         |         |         |         |           |   |    |    |
|           | (OR)    |                                                                                                                                                                                                                                                                      |         |         |    |         |         |         |         |           |   |    |    |
|           | 12.b.   | Define ogives and explain the steps involved in constructing an ogive with suitable illustration.                                                                                                                                                                    |         |         |    |         |         |         |         |           |   |    |    |
| 3         | 13.a.   | Define mean, median, and mode. Discuss the merits and demerits of each measure of central tendency.                                                                                                                                                                  | K3      | CO3     |    |         |         |         |         |           |   |    |    |
|           | (OR)    |                                                                                                                                                                                                                                                                      |         |         |    |         |         |         |         |           |   |    |    |
|           | 13.b.   | Calculate the coefficient of quartile deviation for the following grouped data: <table><tr><td>CI</td><td>10 – 20</td><td>20 – 30</td><td>30 – 40</td><td>40 - 50</td></tr><tr><td>Frequency</td><td>5</td><td>8</td><td>12</td><td>10</td></tr></table>             |         |         | CI | 10 – 20 | 20 – 30 | 30 – 40 | 40 - 50 | Frequency | 5 | 8  | 12 |
| CI        | 10 – 20 | 20 – 30                                                                                                                                                                                                                                                              | 30 – 40 | 40 - 50 |    |         |         |         |         |           |   |    |    |
| Frequency | 5       | 8                                                                                                                                                                                                                                                                    | 12      | 10      |    |         |         |         |         |           |   |    |    |
| 4         | 14.a.   | Analyze the concept of a scatter diagram and its construction process. Evaluate how a scatter diagram helps in studying and interpreting the nature and strength of relationships between two variables. Use a hypothetical data set to illustrate your explanation. | K4      | CO4     |    |         |         |         |         |           |   |    |    |
|           | (OR)    |                                                                                                                                                                                                                                                                      |         |         |    |         |         |         |         |           |   |    |    |
|           | 14.b.   | Calculate the rank correlation coefficient for the following paired observations: <table><tr><td>X</td><td>85</td><td>86</td><td>88</td><td>75</td><td>78</td></tr><tr><td>Y</td><td>92</td><td>95</td><td>91</td><td>80</td><td>85</td></tr></table>                |         |         | X  | 85      | 86      | 88      | 75      | 78        | Y | 92 | 95 |
| X         | 85      | 86                                                                                                                                                                                                                                                                   | 88      | 75      | 78 |         |         |         |         |           |   |    |    |
| Y         | 92      | 95                                                                                                                                                                                                                                                                   | 91      | 80      | 85 |         |         |         |         |           |   |    |    |
| 5         | 15.a.   | Analyze the various statistical functions available in MS Excel and evaluate their appropriate usage in data analysis.                                                                                                                                               | K4      | CO5     |    |         |         |         |         |           |   |    |    |
|           | (OR)    |                                                                                                                                                                                                                                                                      |         |         |    |         |         |         |         |           |   |    |    |
|           | 15.b.   | Discuss the importance of the Data Analysis Toolpak in Excel. List some statistical analyses it supports and their significance.                                                                                                                                     |         |         |    |         |         |         |         |           |   |    |    |

**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           | Describe the characteristics and limitations of statistics. How do these features influence the application of statistics in research?                                                                                                                                       | K2      | CO1     |         |         |         |         |   |    |    |    |    |     |    |     |
| 2          | 17           | Draw a histogram and frequency polygon from the following data and interpret them: <table><tr><td>CI</td><td>0 – 10</td><td>10 – 20</td><td>20 – 30</td><td>30 – 40</td><td>40 - 50</td></tr><tr><td>F</td><td>5</td><td>8</td><td>15</td><td>10</td><td>7</td></tr></table> | CI      | 0 – 10  | 10 – 20 | 20 – 30 | 30 – 40 | 40 - 50 | F | 5  | 8  | 15 | 10 | 7   | K3 | CO2 |
| CI         | 0 – 10       | 10 – 20                                                                                                                                                                                                                                                                      | 20 – 30 | 30 – 40 | 40 - 50 |         |         |         |   |    |    |    |    |     |    |     |
| F          | 5            | 8                                                                                                                                                                                                                                                                            | 15      | 10      | 7       |         |         |         |   |    |    |    |    |     |    |     |
| 3          | 18           | Given the following grouped data, calculate the mean deviation about the mean and median: <table><tr><td>CI</td><td>10 – 20</td><td>20 – 30</td><td>30 – 40</td><td>40 - 50</td></tr><tr><td>F</td><td>5</td><td>10</td><td>15</td><td>20</td></tr></table>                  | CI      | 10 – 20 | 20 – 30 | 30 – 40 | 40 - 50 | F       | 5 | 10 | 15 | 20 | K3 | CO3 |    |     |
| CI         | 10 – 20      | 20 – 30                                                                                                                                                                                                                                                                      | 30 – 40 | 40 - 50 |         |         |         |         |   |    |    |    |    |     |    |     |
| F          | 5            | 10                                                                                                                                                                                                                                                                           | 15      | 20      |         |         |         |         |   |    |    |    |    |     |    |     |
| 4          | 19           | Analyze the concept of skewness in a data set. Compare and contrast Pearson's and Bowley's coefficients of skewness with examples.                                                                                                                                           | K4      | CO4     |         |         |         |         |   |    |    |    |    |     |    |     |
| 5          | 20           | Critically evaluate the use of Excel's graphical tools (charts, histograms, and pie charts) for data representation. Explain how these visualizations aid in statistical interpretation and decision-making.                                                                 | K4      | CO5     |         |         |         |         |   |    |    |    |    |     |    |     |