

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)

BVoc DEGREE EXAMINATION MAY 2024  
(First Semester)

Branch – BANKING, STOCK AND INSURANCE

BUSINESS STATISTICS

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(10 × 1 = 10)

- 1 Graphs and charts facilitate:  
a) Comparison of values      b) To know the trend  
c) To know the relationship    d) All the above
- 2 Which of the statement is correct?  
a) Histograms and histograms are similar in looks  
b) Cube and square diagrams are similar in look  
c) Pie-chart and ogives  
d) None of the above
- 3 In any discrete series (when all the values are not same)  
the relationship between M.D. about      mean    and  
S.D. is:  
a) M.D. = S.D.                      b) M.D. ≥ S.D.  
c) M.D. < S.D.                      d) M.D. ≤ S.D.
- 4 The most stable measure of central tendency is  
a) The mean                          b) the median  
c) the mode                          d) None of these
- 5 The sample coefficient of determination is developed  
from the variation of the observed Y values around:  
a) The mean of the observed independent variables  
b) The mean of the observed dependent variables  
c) The fitted regression line  
d) (b) and (c) but not (a)
- 6 If  $e_1 = y_1 - Y$  is the error in the rth estimate for a linear  
regression of Y on X for n pairs of  $(x_1 y_1)$ s, then the  
standard error of estimate of Y is:  
a)  $\sigma_y \sqrt{1 - r^2}$       b)  $\sigma_{y2}$       c)  $\sigma_y \sqrt{1 - 2r^2}$       d) None of these.
- 7 In a time series one of the two variables is  
a) Sales    b) Income    c) Time    d) None of these
- 8 Index numbers are known as  
a) Mathematical parameters      b) Physical parameters  
c) Economic parameters          d) None of these
- 9 You can activate a cell by  
a) Pressing the Tab key              b) Clicking the cell  
c) Pressing an arrow key          d) All of above
- 10 Which of the following methods will not enter data in a  
cell?  
a) Pressing the Esc key              b) Pressing an arrow key  
c) Pressing the tab key  
d) Clicking the enter button to the formula bar

Cont...

**SECTION - B (35 Marks)**

Answer ALL questions

ALL questions carry EQUAL Marks

(5 × 7 = 35)

- 11.a. Explain – Collection of primary data.  
(OR)  
Draw a frequency polygon and frequency curve from the given data.
- 11.b.
- |      |        |         |         |         |         |
|------|--------|---------|---------|---------|---------|
| C.I. | 0 – 10 | 10 – 20 | 20 – 30 | 30 – 40 | 40 – 50 |
| F    | 3      | 7       | 5       | 3       | 6       |
- Find mean for the below data.
- 12.a.
- |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|
| X: | 10 | 12 | 15 | 17 | 18 | 20 |
| F: | 5  | 8  | 10 | 6  | 4  | 2  |
- (OR)
- 12.b. Find Standard deviation from the given data.  
18 12 20 15 8 10 6 9 7
- 13.a. Explain Scatter diagram.  
(OR)
- 13.b. Construct Regression equation of Y on X for below data.  
 $\Sigma x = 20$ ,  $\Sigma y = 40$ ,  $\Sigma xy = 200$ ,  $\Sigma x^2 = 240$ ,  $\Sigma y^2 = 410$  and  $n = 10$
- 14.a. Explain the method of construction of index numbers.  
(OR)  
Draw a trend line by the method of semi-averages.
- 14.b.
- |              |        |      |      |      |      |      |      |
|--------------|--------|------|------|------|------|------|------|
| Year         | : 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 |
| Sales('000): | 110    | 105  | 115  | 112  | 120  | 118  | 130  |
- 15.a. How is the MS Excel useful in statistical application?  
(OR)
- 15.b. Which tool is important for processing statistical data Excel sheet?

**SECTION - C (30 Marks)**

Answer ANY THREE questions

ALL questions carry EQUAL Marks

(3 × 10 = 30)

- 16 Explain the Types of Diagrams.
- 17 Find Mean, Median and Mode for the following data.
- |       |         |         |         |         |         |         |
|-------|---------|---------|---------|---------|---------|---------|
| C. I. | 10 – 20 | 20 – 30 | 30 – 40 | 40 – 50 | 50 – 60 | 60 – 70 |
| F     | 16      | 24      | 42      | 28      | 12      | 8       |
- Calculate Karl Pearson's Co-efficient of correlation from the below data.
- 18
- |               |    |    |    |    |    |    |    |    |
|---------------|----|----|----|----|----|----|----|----|
| Sales (X):    | 61 | 72 | 73 | 63 | 84 | 80 | 66 | 76 |
| Expenses (Y): | 40 | 52 | 49 | 43 | 61 | 58 | 42 | 58 |
- Calculate 5years moving average from following data.
- 19
- |             |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|
| Year:       | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
| Sales(ton): | 8    | 12   | 10   | 15   | 20   | 13   | 10   | 18   | 20   | 22   |
- 20 What are the various statistical methods used in Excel?