**14COU07**

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

**BCom DEGREE EXAMINATION MAY 2019**
(Second Semester)

Branch – **COMMERCE**

**STATISTICS**

Time : Three Hours Maximum : 75 Marks

**SECTION-A (20 Marks)**
Answer **ALL** questions
**ALL** questions carry **EQUAL** marks (10 x 2 = 20)

1 Define Statistics.
2 State any two limitations of Statistics.
3 Write the methods of Sampling.
4 Define Tabulation.
5 State any two functions of an average.
6 What is meant by Range?
7 Define Skewness.
8 Stat any two properties of correlation.
9 Define Index numbers.
10 Write the formula for FBI and CBI.

**SECTION - B (25 Marks)**
Answer **ALL** Questions
**ALL** Questions Carry **EQUAL** Marks (5 x 5 = 25)

11 a Explain the characteristics of a Statistics.

OR

b What are the characteristics of a good questionnaire?

12 a Describe random sampling and state its merits and demerits.

OR

b Explain the parts of a table.

13 a Compute Quartile Deviation from the following data.
391, 384, 591, 407, 672, 522, 777, 733, 1490, 2488.

OR

b The weekly salaries of a group of employees are given in the following table. Find the standard deviation of the salaries.

| Salary (in Rs.) | 75 | 80 | 85 | 90 | 95 | 100 |
|---|---|---|---|---|---|---|
| No. of Persons | 3 | 7 | 18 | 12 | 6 | 4 |

14 a Calculate Karl Pearson's coefficient of skewness for the following data:

| Wage per item (Rs.) | 12 | 15 | 20 | 25 | 30 | 40 | 50 |
|---|---|---|---|---|---|---|---|
| Number of items | 10 | 25 | 40 | 70 | 32 | 13 | 10 |

OR

b Find the rank correlation co-efficient for the percentage of marks secured by a group of 8 students in Economics and Statistics.

| Marks in Economics | 50 | 60 | 65 | 70 | 75 | 40 | 70 | 80 |
|---|---|---|---|---|---|---|---|---|
| Marks in Statistics | 80 | 71 | 60 | 75 | 90 | 82 | 70 | 50 |

**Cont...**

15 a Calculate the cost of living index number from the following data.

| Item | Base Year Price | Current Year Price | Weight |
|---|---|---|---|
| Food | 39 | 47 | 4 |
| Fuel | 8 | 12 | 1 |
| Clothing | 14 | 18 | 3 |
| House Rent | 12 | 15 | 2 |
| Miscellaneous | 25 | 30 | 1 |

OR

b Construct (a) fixed base and (b) chain base index numbers from the following data.

| Year | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|
| Value | 25 | 28 | 35 | 40 | 50 | 60 |

## SECTION - C (30 Marks)

Answer any **THREE** Questions

**ALL** Questions Carry **EQUAL** Marks (3 x 10 = 30)

16 Explain the methods of collecting primary data.

17 Draw a histogram and hence find the modal wage.

| Weekly Wage (in Rs.) | 300-320 | 320-340 | 340-360 | 360-380 | 380-400 |
|---|---|---|---|---|---|
| No. of labourers | 25 | 50 | 75 | 60 | 15 |

18 Calculate the arithmetic mean, median and mode from the following data:

| Daily Wage (in Rs.) | 0-50 | 50-100 | 100-150 | 150-200 | 200-250 | 250-300 |
|---|---|---|---|---|---|---|
| No. of employees | 8 | 15 | 30 | 17 | 9 | 4 |

19 Compute the co-efficient of correlation between X-advertisement expenditure and Y-sales.

| X | 10 | 12 | 18 | 8 | 13 | 20 | 22 | 15 | 5 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|
| Y | 88 | 90 | 94 | 86 | 87 | 92 | 96 | 94 | 88 | 85 |

20 Construct index numers of price from the following data by applying (i) Laspeyre's method (ii) Paasche's method (iii) Fisher's method

| Commodities | 2018 | | 2017 | |
|---|---|---|---|---|
| | Price | Quantity | Price | Quantity |
| A | 4 | 6 | 2 | 8 |
| B | 6 | 5 | 5 | 10 |
| C | 5 | 10 | 4 | 14 |
| D | 2 | 13 | 2 | 19 |

Z-Z-Z END