**A.D.M.COLLEGE FOR WOMEN, NAGAPATTINAM**

(AUTONOMOUS)

**B. Com Degree Examination**

I Semester – **November** – 2022

**CC II – STATISTICAL METHODS FOR BUSINESS**

**Time: 3 hours**                                    **Maximum Marks: 75**

**Section –A**                    **10X2=20**

Answer **ALL** the Questions

1. Define - Statistics.

2. What is meant by Primary data?

3. List out the various Measures of Dispersion.

4. Find Mean for the following data:

   X: 30, 41, 47, 54, 23, 34, 37, 51, 53, 47

5. Calculate the value of Range and its Coefficient from the following data:

    Marks: 40, 56, 80, 36, 60, 30, 76

6. Write a short note on Skewness.

7. What do you mean by Regression?

8. List out the types of Correlation.

9. What is meant by index number?

10. Write a formula for calculating Fisher's Ideal Index Number.

Answer **ALL** the Questions

11. a) Classify the methods of Classification of data.

**(or)**

   b) Following are the marks (out of 100) obtained by 50 students in statistics:

| 70 | 55 | 51 | 57 | 45 | 60 | 47 | 63 | 53 | 42 |
|----|----|----|----|----|----|----|----|----|----|
| 33 | 65 | 39 | 55 | 64 | 58 | 61 | 63 | 42 | 82 |
| 50 | 52 | 53 | 45 | 25 | 36 | 59 | 63 | 39 | 45 |
| 65 | 54 | 49 | 64 | 75 | 42 | 41 | 52 | 35 | 54 |
| 30 | 35 | 15 | 26 | 20 | 40 | 55 | 46 | 18 | 48 |

   Make a frequency distribution taking a class-interval of 10 marks (Take the first class interval as 0-10)

12. a) Compute Harmonic Mean from the following data:

| Marks (x) | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 |
|-----------|------|-------|-------|-------|-------|
| No. of Students | 2 | 7 | 13 | 5 | 3 |

**(or)**

   b) Compute Median for the following data:

| X | 10 | 20 | 30 | 40 | 50 | 60 | 70 |
|---|----|----|----|----|----|----|----|
| f | 4 | 7 | 21 | 34 | 25 | 12 | 3 |

13. a) Find the value of Quartile Deviation and its Coefficient from the following data:

Marks : 20,     28,     40,     12,     30,     15,     50

**(Or)**

  b) Compute Standard deviation and its Co-efficient from the following data:

| X | 10 | 12 | 14 | 16 | 18 | 20 | 22 |
|---|----|----|----|----|----|----|----|
| f | 3  | 5  | 9  | 16 | 8  | 7  | 2  |

14. a) Find the rank correlation coefficient for the following data:

| Marks in A/c | 25 | 30 | 38 | 22 | 50 | 70 | 30 | 90 |
|---|----|----|----|----|----|----|----|----|
| Marks in Statistics | 50 | 40 | 60 | 40 | 30 | 20 | 40 | 70 |

**(Or)**

  b) Find the Coefficient of Correlation between x and y from the following data:

$N = 12$,   $\sum dx = (-14)$, $\sum dx^2 = 4304$, $\sum dy = 18$, $\sum dy^2 = 6308$, $\sum dxdy = 1510$

15. a) Calculate by the Arithmetic mean method of index number for the year 2015 from the following data:

| Commodity | Rice | Wheat | Pulses | Oil | Milk |
|---|------|-------|--------|-----|------|
| 2014 (Price in Rs.) | 70 | 60 | 50 | 30 | 80 |
| 2015 (Price in Rs.) | 80 | 80 | 70 | 50 | 100 |

**(Or)**

3

b) Calculate the Weighted AM price relative index number for the following data:

| Commodity | A | B | C | D |
|---|---|---|---|---|
| Base Year Price | 20 | 12 | 8 | 4 |
| Current Year Price | 32 | 18 | 10 | 8 |
| Weight | 10 | 20 | 30 | 40 |

**Section –C**                    **3 X 10 = 30**

Answer any **THREE** Questions

16. Describe the various sources of collection of data.

17. Compute the Mean, Median and Mode for the following data:

| Class Limits | 15 -20 | 20-25 | 25-30 | 30-35 | 35-40 | 40-45 | 45-50 |
|---|---|---|---|---|---|---|---|
| Frequency | 6 | 14 | 12 | 10 | 10 | 9 | 9 |

| Class Limits | 50-55 | 55-60 | 60-65 | 65-70 |
|---|---|---|---|---|
| Frequency | 10 | 5 | 4 | 1 |

18. Compute Bowley's Coefficient of Skewness from the following data:

| Wages (in Rs.) | 55-58 | 58-61 | 61-64 | 64-67 | 67-70 |
|---|---|---|---|---|---|
| No. of workers | 12 | 17 | 23 | 18 | 10 |

19. Compute the two regression equation for the following data:

| X | 25 | 28 | 35 | 32 | 36 | 36 | 29 | 38 | 34 | 32 |
|---|----|----|----|----|----|----|----|----|----|----|
| Y | 43 | 46 | 49 | 41 | 36 | 32 | 31 | 30 | 33 | 39 |

20. Calculate the Index Number for the year 2015 using the following methods:

   a) Laspeyre's Method   b) Paasche's Method
   c) Bowley's Method      d) Fisher's Ideal Index method

| Year | 2014 | | 2015 | |
|------|------|-----|------|-----|
| Commodity | Price | Qty. | Price | Qty. |
| A | 8 | 10 | 10 | 9 |
| B | 10 | 12 | 15 | 12 |
| C | 12 | 8 | 18 | 7 |
| D | 15 | 6 | 16 | 8 |

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5