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BACHELOR OF COMPUTER APPLICATIONS (B.C.A.)
SPECIALIZATION IN CYBER SECURITY (CS)
EXAMINATION : MAY - 2024
SEMESTER - II
Sub: Statistics
(BCA – 240-18/BCA-240-20/BCA-CS-240-20/BCA-23-202/BCAC-23-202)

Date : 22/05/2024 | **Total Marks : 60** | **Time: 10.00 am To 12.30 pm**

Instructions:
1. *All questions are compulsory unless and otherwise stated.*
2. *Bold figures to the right of every question are the maximum marks for that question.*
3. *Candidates are advised to attempt questions in order.*
4. *Answers written illegibly are likely to be marked zero.*
5. *Use of scientific calculators, Log tables, Mollier Charts is allowed.*
6. *Draw neat and labeled diagrams wherever necessary.*

Q.1. Solve (Any 4) (8)

1. Define Class width. Write its formula

2. Calculate the range for the following data:

   77,89,92,64,78,95,82

3. Define Variance

4. State the formula for covariance

5. Define Median and Mode

Q.2. Solve (Any 3) (9)

1. For a moderately skewed distribution, the mean and median are respectively 26.8 and 27.9. What is the mode of the distribution?

2. The number of televisions sold in each day of a week is 13, 8, 4, 9, 7, 12, and 10. Find its standard deviation

3. The wickets taken by a bowler in 10 cricket matches are 2, 6, 4, 5, 0, 2, 1, 3, 2, and 3. Find the mode of the given data.

4. State merits and demerits of Mean

Q.3. Solve (Any 2) (8)

1. Find the median of the first 7 whole numbers

2. The mean of 20 observations is 15. On checking it was found that the two observations were wrongly copied as 3 and 6. The correct values are 8 and 4, calculate the correct mean.

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3.   Construct a subdivided bar diagram for the following data

Year	Import	Export
1990	25	23
1995	35	37
2000	31	30
2005	28	32
2010	32	30

Q.4. Solve (Any 3)   **(15)**

1.
    Draw histogram and frequency polygon for the following data distribution

Class	Frequency
5-10	8
10-15	16
15-20	20
20-25	26
25-30	10
30-35	5

2.   Calculate the mean, variance and standard deviation for the following data:

Class Interval	0-10	10-20	20-30	30-40	40-50	50-60
Frequency	27	10	7	5	4	2

3.
    An incomplete frequency distribution is given below. The total frequency is 230 and the median is 46. Find the missing frequencies

Marks	10-20	20-30	30-40	40-50	50-60	60-70	70-80
Students	12	30	F1	65	F2	25	18

4.   Calculate the correlation coefficient for the following data:

    $X = 4, 8, 12, 16$ and $Y = 5, 10, 15, 20$

Q.5. Solve. (Solve any 2)   **(20)**

1.   Obtain Line of regression equation for the following data
      $X = 2,4,6,8$ and $Y= 3,7,5,10$

2. From the following data calculate price index numbers for 1980 with 1970 as base by (i) Laspeyre's method, (ii) Paasche's method, (iii) Fisher's ideal method

Commodity	1970		1980	
	Price	Quantity	Price	Quantity
A	20	8	40	6
B	50	10	60	5
C	40	15	50	15
D	20	20	20	25

3. Draw less than and more than Ogive curves for the following frequency distribution

Marks	No. of students
0-20	2
20-40	18
40-60	42
60-80	28
80-100	5

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