

FCSDSKT II

DURATION : 2.5 HRS

MARKS: 75

Q.1. Solve any four

[20]

- 1) Given  $\bar{x} = 45$ , median = 48, Coefficient of skewness = -0.4. Find S.D  
 2) The following table gives marks obtained in statistics by students in class find the quartile deviation

Marks	50-53	53-56	56-59	59-62	62-65	65-68
No of students	2	7	24	27	13	3

- 3) For a distribution Bowleys coefficient of skewness is 0.3,  $Q_1=18$ ; median = 30, find the coefficient of Quartile deviation.  
 4) Calculate the mean deviation from 1) Mode 2) Mean :70,65,50,55,60,62,58,60,67,63.  
 5) Find the standard deviation for the following data

Weight in kg	44-46	46-48	48-50	50-52	52-54
No of children	3	24	27	21	5

- 6) The Pearson's coefficient of skewness of a distribution is 0.32 its standard deviation is 6.5 and mean is 29.6 find the Mode.  
 7) Find the first four central moments about the arbitrary origin 12 for the 5,8,12,14,16.  
 8) Find the first four central moments about the arbitrary origin 3

X	1	2	2	4	5
f	5	10	13	12	9

Q.2. Solve any two

[20]

- 1) Following data give heights and weights of 6 Children. Compute data Pearson's correlation for this data.

Height in cms. X:	120	125	127	130	134	144
Weight in kg. y:	52	57	58	56	60	59

- 2) Find rank correlation coefficient for the following data.

x:	40	43	54	49	55	60	29	50	39	34
y:	28	60	35	58	40	41	32	55	65	29

- 3) Compute Pearson's correlation coefficient for the following set of bi-variate data.

X:	45	47	47	46	49	48	50	52
Y:	47	48	45	48	52	52	49	51

- 4) Popularity of two brands of cosmetics was ranked according to their purchase by 10 different individuals. The purchase of these brands are ranked as follows: Obtain rank correlation coefficient for this data.

R <sub>1</sub> :	6	4	9	8	1	2	3	10	5	7
R <sub>2</sub> :	1	6	5	10	3	3	4	9	7	8

Q.3. Solve any two

[20]

- 1) Fit a straight line to the following data use least squares principle

X	5	4	3	8
y	10	20	25	30

2) Find laspeyre's price index number and paasche's price index numbers

commodity	$p_0$	$q_0$	$p_1$	$q_1$
A	8	50	10	56
B	4	100	2	120
C	6	60	6	60
D	12	30	12	24

3) Find Marshall-edgeworth price index number.

commodity	$p_0$	$q_0$	$p_1$	$q_1$
A	3	2	10	10
B	5	4	5	4
C	4	5	2	5

4) Find bowley's price index number and Fisher's Ideal index number.

commodity	$p_0$	$q_0$	$p_1$	$q_1$
A	5	10	10	8
B	9	9	12	10
C	7	16	20	16

Q.4. Solve any three.

[15]

1) Calculate quartile deviation & coefficient of quartile deviation -

Height in cm	10-11	11-12	12-13	13-14	14-15
No. of childrens	25	25	25	25	25

2) Compute R for the following data.

$R_1$ :	1	10	5	7	6	2	9	4	3	8
$R_2$ :	10	2	4	1	5	3	7	8	6	9

3) For moderately skewed **distribution**, arithmetic mean = 140, mode=137 and standard deviation = 40

Find 1) Pearson's coefficient of skewness 2) Median

4) Find the **covariance** of x and y

X	150	170	190	140	120
y	130	160	170	120	120

5) Find paasches price index number.

commodity	$p_0$	$q_0$	$p_1$	$q_1$
A	15	10	10	12
B	17	16	9	20
C	13	23	4	25

6) Calculate the mean deviation from Mode for the following data-

Weight in kg	5-10	10-15	15-20	20-25	25-30	30-35	35-40
No. of boys	2	10	20	5	5	4	4