Note : 1) Use of simple calculator is allowed.
           2) Graph paper will be provided on demand.

Q.1.A.   **A. Fill in the blanks   (Any- 8)**   08 M
1. _____ is used to calculate mode.
[Histogram, Pie]
2. For large data _____ data method is good.
[Simple, Group]
3. Find mode of 5,7,6,7,4,3. Z=_____.
[3,7]
4. Difference between largest value & smallest value is called _____.
[Range, Quartiles]
5. _____ has given formula for rank correction.
[Karl pearson, Spearsmen]
6. Range for correlation is _____.
[1 to 5, -1 to 1]
7. Seasonal Indice method is on _____ Basis.
[Monthly, quarterly]
8. If $\sum p_1 q_1 = 586$, $\sum p_0 q_1 = 445$, then I_P = _____
[113.69,   131.69]
9. If 3 coins are tossed simultaneously, then n(s)= _____.
[3, 8]
10. EMV stands for expected _____ value.
[monetary, maximum]

Q.1.B.   **True & false (Any Seven)**   07
1. Published data is also called secondary data.
2. Mean is useful in day to day life.
3. Decile means 4 parts of data.
4. C.F means correction factor in rank correction.
5. bxy & byx can be positive and Nagative.
6. Least square method is about estimating future value on the base of past records.
7. In India, Index Numbers are generally shows more than 100 values.
8. When 3 coins are there is example of probability, then n(s) =8.
9. While calculating Laplace criteria regret table is required.
10. Root of variance is stander deviation.

Q.2.   a) Find Mode using Histogram   08 M

C-I	0-20	20-40	40-60	60-80	80-100
F	6	8	10	7	4

b) Find median using formula.   07 M

C-I	0-10	10-20	20-30	30-40	40-50
&	3	8	7	6	6

OR

c) Find standard Deviation for the data given   08 M

X	2	7	5	3	8
F	4	6	12	7	3

d) Find the Range & Co-efficient of Range 40, 70, 60, 45, 55, 45.   07 M

Q.3.   a) Find the Rank Correlation from following   08 M

X	50	75	40	30	20	60	45
Y	70	80	60	40	30	20	50

b) Find two regression equations. If
$\bar{x}$= 50, $\bar{y}$ = 40, sd(x)=4, sd(y)=7, r=0.4.

07 M

OR

c) Find 3 yearly Moving Average of the data given

08 M

year	01	02	03	04	05	06	07	08	09	10
Sales	14	18	14	17	22	25	30	35	29	34

d) Find the Trend using seasonal Indices Method.

07 M

Year	I	II	III	IV
2003	42	46	49	52
2004	50	52	55	48
2005	48	50	53	50

Q.4. a) Find I_L , I_P, I_F

08 M

Com	p_0	q_0	p_1	q_1
A	35	3	42	4
B	20	4	30	3
C	25	5	32	5
D	40	2	56	3

b) Find cost of Living Index Numbers

07 M

Com	p_0	p_1	weight
A	18	20	30
B	15	20	20
C	22	30	40
D	25	30	10

OR

c) If Two. Dicc arc thrown at a time. Find the probability of getting.
i) both are same numbers
ii) sum of both will be 9.

08 M

d) Find E(x) & V (x)

07 M

X	10	20	30	40
p(x)	0.4	0.3	0.2	0.1

Q.5. a) Find the best course of Action using E.O.L

08 M

Pay- off table

State of Nature	Course of Action				Prob.
	A1	A2	A3	A4	
S1	70	80	50	60	0.4
S2	30	20	120	50	0.3
S3	60	30	80	70	0.2
S4	40	50	70	60	0.1

b) Calculate (i) Maximax   ii) Laplace criteria

07 M

State of Nature	Course of Action			
	A1	A2	A3	A4
S1	100	80	60	70
S2	60	120	40	70
S3	40	70	150	60
S4	50	30	20	40

OR

Q.5 Short Notes   (Any – 3)

15 M

1. Secondary data   2. Scattered Diagram   3. Parts of pay off table
4. Merits of Mode   5. Sample Space