Note :   1.   Attempt all questions.
2.   Figures to the right indicate marks.
3.   Graph paper, log tables will be supplied on request.
4.   In each question (a) is compulsory & in (b) attempt any three subquestions out of five subquestions.

Q.1   a.   Distinguish between Primary data & Secondary data.   (3)

b.   1.   What are the uses of statistics?   (12)

2.   The following data give the weight of 40 workers of a certain factor. (in Kg)

52.3	61.3	71.4	56.4	57.1	63.4	48.9	50.7
69.0	62.8	73.5	47.8	45.6	61.2	57.4	52.0
62.5	64.3	58.7	56.6	60.9	62.8	61.7	51.2
50.5	49.2	55.4	61.8	67.6	48.1	51.8	56.8
59.5	52.9	64.8	69.9	64.7	57.2	56.6	45.1

Prepare a frequency table by grouping the data into suitable classes. Also find the relative frequencies. What is the characteristic in this case? State type of characteristic.

3.   For following frequency distribution, Find :
   a.   Width of the class - interval
   b.   Percentage frequencies
   c.   Less than cumulative frequencies.

x	0-10	10-20	20-30	30-40
f	5	9	6	5

4.   The following data gives the points scored in a Tennis Match by the two players as (x,y) at the end of twenty games.

(10,12) (12,11)   (7,9)   (15,19) (17,21) (12,18) (16,10)
(14,14) (22,18) (16,14) (15,16) (22,20) (19,15)   (7,18)
(11,11) (12,18) (10,10)   (5,13)   (11,7) (10,10)

Taking class- intervals as 5-9, 10-14, 15-19 etc.
For both x & y Construct.
   a.   Bivariate Frequency table
   b.   Marginal frequency tables for x & y
   c.   Conditional frequency distribution for y given x≥15

5.   What is classification? What are its objectives?

Q.2 a. Given below the data for the marks obtained by 50 students, draw   (3)
the frequency polygon & frequency curve.

Marks	0-10	10-20	20-30	30-40	40-50
No. of Students	5	8	21	10	6

b. 1. The following is the break up of the average expenditure of a family.   (12)
Draw a pie diagram to represent the data.

Items	Expenditure (in ₹)
Food	240
Clothing	66
Rent	125
Fuel & Lighting	57
Education	42
Miscellaneous	190

2. Write note on Multiple bar diagram & simple bar diagram

3. Draw the histogram & ogive from the following data.

Wages (in ₹)	25-30	30-35	35-40	40-45	45-50
No. of Recipients	10	13	18	21	34

Wages (in ₹)	50-55	55-60	60-65	65-70
No. of Recipients	20	18	11	8

4. The Daily profit (in ₹) of 100 shops are distributed as follows.
Prepare the frequency distribution & draw the histogram.

Profit per shop	No. of shops
up to 100	12
up to 200	30
up to 300	57
up to 400	77
up to 500	94
up to 600	100

5. What is an ogive curve? Explain the construction of less than
type ogive & grater that type ogive.

Q.3 a. Define :   i.   Decile   (3)
ii.   Percentile
iii. Quartile

2. Write the relationship bet[n] A.M, G.M & H.M for only two observations.

3. Compute the harmonic mean for the following data.

x	7	8	9	10	12	15
f	4	8	10	5	2	1

4. Find 6th decile & 37th percentile for the following data.

Wages (in ₹)	20-25	25-30	30-35	35-40	40-45
No. of Workers	50	70	100	780	150

Wages (in ₹)	45-50	50-55	55-60
No. of Workers	120	70	60

5. Mr. X invested his 20,000 ₹ in stock of these companies over which the year was as follows

    Company   A   B   C
    Investment   10,000   5,000   5,000
    Yeild (%)   8%   6%   4%

    Find the average yeild over the total investment.

Q. 4 a. What is tabulation? What are the different types of table used?   (3)

b. 1. Find weighted mean of following data.   (12)

Price Index	150	250	325	175	200
Quantity	30	20	15	5	20

2. The distribution of marks obtained in economics by students of class as follows. Find the mode.

Marks of Eco	0-20	20-40	40-60	60-80	80-100
No. of Students	7	23	32	21	10

3. Write a note on 1. CSO
                          2. NSSO

4. Draw a suitable diagram to represent the following data referring to the net worth & net profit of XYZ Ltd.

Period	Net worth (₹ in Crore)	Net Profit (₹ in Crore)
1995-96	7.5	0.6
1996-97	9.7	3.1
1997-98	14.5	6.9
1998-99	23.7	8.2
1999-2000	31.9	11.3

5. Write short note on merits & demerits of pie-diagram

******