DURATION:- 2½ HOURS   **TOTAL MARKS:- 75**

Note:
   (1) All questions are compulsory
   (2) Graph papers will be provided on request.
   (3) Figures to the right indicate marks.

Q1.   Attempt any two from the following.

A.   What is data? Explain the types of data with example.   (10)

B.   The following data give the no of people living in 50 building from   (10)
        a certain locality
        21, 50, 35, 39, 48, 46, 36, 54, 42, 30, 29, 42, 32, 40, 34, 37, 35, 37,
        52, 44, 39, 42, 32, 40, 34, 31, 35, 37, 52, 47, 41, 26, 52, 48, 25, 34,
        33, 36, 27, 54, 36, 41, 33, 23, 39, 28, 44, 45, 38.
        Prepare frequency distribution of the above data. Obtain relative
        frequency, percentage frequencies and cumulative frequencies.

C.   Find the remaining class frequencies $(ABC)=21$ $(AB\gamma)=18$ (10)
        $(A\beta C)=25$ $(A\beta\gamma)=36$ $(\alpha BC)=28$ $(\alpha B \gamma)=24$ $(\alpha\beta C)=16$ $(\alpha\beta\gamma)=32$

D.   Tabulate the information: (10)
        Of the students surveyed 75% were from well to do families 55%
        were boys and 60% were irregular in their studies out of regular
        ones 50% were boys and 2/3 rd were from well to do families. The
        percentage of irregular boys from well to do families was 24 while
        of regular girls from not well to do families was 2.

Q2.   Attempt any two from the following.

A.   Explain percentage Bar diagram.   (10)
        Draw the percentage Bar diagram for the following: The production
        (in tonnes) of the different varieties of Rice in two states A and B in
        2006.

Variety	State A	State B
Basmati	350	270
Parimal	675	535
Ambemohar	500	400
Others	925	825
Total	2450	2030

B. Explain frequency curve, frequency polygon , histogram. and cumulative frequency curves Also write Advantages of graphs. **(10)**

C. Define cumulative frequency curves or ogives. **(10)**
Draw a cumulative frequency curve "less than" and "greater than" for the following data hence estimate median.

Monthly Income in Rs.	No. of Families
15000-17000	70
17000-19000	100
19000-21000	120
21000-23000	150
23000-25000	100
25000-27000	60

D. Explain the pie diagram. **(10)**
Draw a pie diagram to represent the following data
Prime cost   30%
Factory cost   18%
Administration cost   28%
Selling and distribution cost 14%
Profit   10%

Q3. **Attempt any two from the following.**

A. A time and motion study of a certain operation shows the following distribution of 100 workers. Calculate median and mode of the distribution. **(10)**

Time(min):	10-15	15-20	20-25	25-30	30-35
No. of workers :	8	14	18	25	15

	35-40	40-45
	14	6

B. Define Arithmetic mean. Also write merits and demerits of Arithmetic mean **(10)**

C. Draw less than and greater than type ogive for following data about time to assemble certain apparatus and find median. **(10)**

Time (min) :	15-20	20-25	25-30	30-35	35-40
No. of workers :	14	25	30	25	16

D. Find the Harmonic Mean ,geometric mean and arithmetic mean for the following data : (10)

X : 25.3   28.7   30.0   32.9

Q4. **Attempt any three from the following.**

A. Explain primary data. (5)

B. Write importance of tabulation. (5)

C. Find the first and third quartiles for the following data: (5)

Daily wages	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55
No. of workers	12	28	36	50	25	18	16	10	5

D. Draw histogram for the following data (5)

Class	20-30	30-40	40-50	50-60	60-70	70-80
Frequency	4	20	38	24	10	4

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