



- Note :-**
- 1) Attempt all questions.
 - 2) Figures to the right indicate marks.
 - 3) Graph paper, log tables will be supplied on request.
 - 4) Use of calculator is allowed.
 - 5) In each questions (a) is compulsory and in (b) attempt any three sub questions out of five the sub questions.

Q.1 a) What is a frequency distribution ? What are the main steps involved in preparing frequency table from raw data. [3]

Q.1. b) i) What is classification ? What are it's objective. [12]

ii) The number of workers in a large factory in 1966 was 540 of which 30% were females and rest males. In 1971 the strength of workers increased by 100 female and 200 males. In 1976 the total number of workers had increased by 25% over it's value in 1971 while the increase in the number of male workers was 16 more than the increase in the number of female workers.

iii) What are the uses of statistics ?

iv) Prepare the frequency table from the following table

less than 1000	8	8
less than 1200	22	30
less than 1400	43	32
less than 1600	60	38
less than 1800	72	72
less than 2000	80	80

Assume that no. of shop has registered aprofit of less than 800 rupees. Also find i) the percentage frequencies ii) the relative frequencies

- v) Explain the concept of
 - p) Bivariate frequency distribution
 - q) Marginal frequency distribution.

Q.2. a) The age of employees in a department are classified as follwos. [12]

Age	17-20	21-25	26-30	31-40	41-50	51-60
No. of employees	14	25	30	25	15	14

Illustrate these figures by constructing a histogram and find value of mode.

b) i) What are bar diagrams ? Explain their use. [12]

ii) The following daily expenditure of a family.

Items	Expenditure (in Rs.)
food	240
clothing	66
Rent	125
Fuel and lighting	57

Education	42
Miscellaneous	190

iii) Draw less than type of ogive Curve and find value of Q2 (Median) for the following data.

Daily Wages	50-55	55-60	60-65	65-70	70-75
No. of workers	1	10	15	17	1
Daily Wages	75-80	80-85			
No. of workers	5	20			

iv) Write steps of construction of

- p) Simple Bar diagram
- q) Multiple Bar Diagram

v) The daily profits (in Rs.) of 100 shops are distributed as follows.

Profit per Shop	Number of Shops
Upto 100	12
Upto 200	30
Upto 300	57
Upto 400	77
Upto 500	94
Upto 600	100

Prepare the frequency distribution and draw the histogram.

Q.3. a) Define.

[3]

- i) Decile ii) Percentile iii) Quartile

b) i) Find mean for the following data.

Class Interval	20-25	25-30	30-35	35-40	40-45	45-50
frequency	50	70	100	780	150	120.

Class Interval	50-55	55-60
frequency	70	60

ii) Find 6th decile and 37th percentile for the following data.

Wages	200-250	250-300	300-350	350-400
No. of workers	11	13	27	25
Wages	400-450	450-500		
No. of workers	18	6		

iii) Give merits and demerits of mode and Quartile.

iv) Relation ship between A.M., G.M. and H.M. for only two observations.

v) Find harmonic mean for the following data.

x	25.3	28.7	30.0	32.9	34
f	2	5	8	7	3

Q.4. a) Discuss the importance of tabulation in a scheme of inrestigation. Mention different types of tables used.

b) i) Explain central Statistical Organisation (CSO) and National sample Survey Organisation (NSSO) [12]

ii) Represent the above data by segmented bar diagram using percentage.

Item	Family A	Family B	Family C
food	35	30	37
clothing	15	18	17
Rent	20	20	15
Fuel	10	12	13
Miscellaneous	20	20	18

iii) If for the following frequency distribution mode is 136 cms. find the missing frequency.

Class Intervals	120-125	125-130	130-135	135-140
Frequency	7	10	18	----
Class Intervals	140-145	145-150		
Frequency	12	7		

iv) Uses of mean, median and mode.

v) Find the weighted mean.

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

