

**INSTRUCTIONS:**

1. All the questions are compulsory.
2. Figures to the right indicate full marks.
3. Graph papers & log tables will be provided on request.

**Q.1 Attempt Any 2 from the following.**

- A. Following is the attendance record of 50 students during the First term in a certain college. Prepare a frequency distribution of number of days with class intervals 10 - 20, 20 - 30, 30 - 40, 40 - 50, 50 - 60, 60 - 70, 70 - 80. (5)

74, 45, 32, 64, 50, 20, 65, 75, 30, 21, 50, 60, 66, 58, 52,  
35, 45, 40, 37, 41, 51, 47, 38, 61, 53, 59, 49, 42, 15, 52,  
42, 64, 32, 65, 45, 62, 54, 51, 41, 48, 57, 52, 55, 42, 46,  
39, 60, 33, 26, 16.

- B. In a fitness test 1400 candidates of which 21% were females, were medically examined. From the reports of the doctors, it was found that 396 males & 104 females were unfit. Forty percent of the remaining males & 60% of the remaining females were in good health. The rest were declared as temporarily unfit. Represent the above information by a suitable table. (5)

- C. Investigate the association by computing Q, between darkness of eye colour in father & son from the following data. (5)

Fathers with dark eyes & sons with dark eyes = 50

Fathers with dark eyes & sons with not dark eyes = 80

Fathers with not dark eyes & sons with dark eyes = 90

Fathers with not dark eyes & sons with not dark eyes = 780

Also tabulate for comparison the frequencies that would have been observed had there been no association.

**Q.2 Attempt Any 2 from the following.**

- A. The following bivariate frequency table gives the distribution of 100 students according to their height & weight. (5)

Height (in inches)	Weight (in Lb)			
	91 - 110	111 - 130	131 - 150	151 - 170
56 - 60	3	12	15	7
61 - 65	1	20	14	5
66 - 70	—	13	7	3

- Construct :**
1. Marginal Frequency tables for height & weight separately.
  2. Conditional frequency table for the height class 61 - 65 inches.

- B.** Draw cumulative frequency curve less than type for the following data & hence obtain  $D_3$  &  $D_5$  from it. (5)

<b>Weight (in b)</b>	90 - 100	100 - 110	110 - 120	120 - 130	130 - 140	140 - 150	150 - 160
<b>No. of Persons</b>	4	6	10	10	9	6	5

- C.** Represent the following data by a suitable diagram. (5)

<b>Year</b>	<b>Index of Industrial Production</b>	
	<b>USA</b>	<b>West Germany</b>
1981	109	139
1982	110	147
1983	102	152
1984	116	162

**Q.3 Attempt Any 2 from the following.**

- A.** Calculate arithmetic mean & geometric mean for the following data. (5)  
7, 11, 14, 19, 22
- B.** Calculate median for the following data. (5)

<b>Age in years</b>	10 - 19	20 - 29	30 - 39	40 - 49	50 - 59	60 - 69	70 - 79
<b>No. of Persons</b>	2	5	10	8	7	5	3

- C.** The average salary of male employees in a firm was Rs. 1550 & that of female employees was Rs. 1050. If the mean salary of all 120 employees was Rs. 1275, Find the number of male & female employees in the firm. (5)

**Q.4 Attempt Any 2 from the following.**

- A.** Tabulate the following information. (5)  
In 2005, out of a total of 3000 workers in a factory, 2300 were skilled workers. The number of women employed was 300 out of which 250 were unskilled.  
In 2006, the number of skilled workers was 2750 of which 2500 were men. The number of unskilled workers was 760 of which 300 were women.

- B.** Draw histogram for the following data & hence obtain mode graphically. (5)

<b>Profit (in 1000 Rs.)</b>	20 - 40	40 - 60	60 - 80	80 - 100	100 - 120	120 - 140	140 - 160
<b>No. of Employees</b>	15	29	31	42	56	35	18

C. Find arithmetic mean for the following data. (5)

<b>Age in years</b>	0 - 20	20 - 40	40 - 60	60 - 80	80 - 100
<b>No. of Persons</b>	4	5	15	11	5



B. In a fitness test 1400 candidates of which 21% were females, were medically examined. From the reports of the doctors, it was found that 645 males & 104 females were unfit. Forty per cent of the remaining males & 50% of the remaining females were in good health. The rest were declared as temporarily unfit. Represent the above information by a suitable table. (5)

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