

- Instructions :** 1) All questions are compulsory.  
2) Figures to the right indicate full marks.  
3) Graph papers, log tables will be provided on request.

- Q.1 A)** Explain the following terms with the example. (6)
- i) Attributes
  - ii) Discrete variable
  - iii) Continuous variable
  - iv) Class Marks

- B)** Draw multiple bar diagram for the following data. (6)

Period	Net worth (Rs. in Crores)	Net profit (Rs. in Crores)
2001-2002	7.5	0.6
2002-2003	9.7	3.1
2003-2004	14.5	6.9
2004-2005	23.7	8.2
2005-2006	31.9	11.3

**OR**

- A)** Write down the steps in construction of subdivided bar diagram and pie diagram (6)
- B) Tabulate the following information.** (6)

Out of the total 930 books issued from Valia College library in the month of August 2008 to three classes, F.Y.B. Com., S.Y.B.Com and T.Y.B.Com, 492 were of the subject Accountancy 83 were of Computer and the remaining belonged to other subject. 105 books of Accountancy were issued to F.Y.B. Com students, 187 to S.Y.B.Com to S.Y.B.Com Students, No. books were issued to F.Y.B.Com classes, but S.Y.B.Com students demanded 33 books on computer. 75 books of other subject were issued to F.Y.B.Com students and 130 to S.Y.B.Com students.

- Q.2 A)** Draw less than ogives for the following data and hence estimate median. (6)

Class Interval	0-10	10-20	20-30	30-40	40-50	50-60
Frequency	10	16	24	28	25	20
Class Interval	60-70	70-80	80-90	90-100		
Frequency	18	12	10	5		

OR

- A) Explain construction of histogram and how to estimate mode from histogram. (6)
- B) Find whether attributes A and B are independents, positively associated or negatively associated in each of the following cases. (6)
- a)  $N = 1000$ ,  $(A) = 600$ ,  $(B) = 500$ ,  $(AB) = 300$
- b)  $(A) = 500$ ,  $(AB) = 300$ ,  $(\alpha) = 600$ ,  $(\alpha B) = 250$
- c)  $(AB) = 240$ ,  $(A\beta) = 310$ ,  $(\alpha B) = 250$ ,  $(\alpha\beta) = 200$

- Q.3 A) Define the following terms.** (6)
- i) Arithmetic Mean
- ii) Harmonic Mean
- iii) Geometric Mean

- B) The following is the distribution of annual rainfall (in inches) recorded at a certain place in India 1921-1970. (6)
- |              |       |       |       |       |       |       |       |
|--------------|-------|-------|-------|-------|-------|-------|-------|
| Rain fall    | 20-25 | 25-30 | 30-35 | 35-40 | 40-45 | 45-50 | 50-55 |
| No. of Years | 2     | 5     | 8     | 12    | 10    | 7     | 6     |
- Find seventh decile and Forty third percerntile.

OR

- A) Calculate mean and mode for the following data. (6)
- 55, 56, 45, 46, 61, 58, 57, 55, 47, 55, 56, 55
- B) Write down the relationship between Arithmetic mean, Geometric mean and Harmonic mean. (6)

- Q.4 A) Explain primary and secondary data. Explain any one method of collection of primary data what are the sources of secondary data?** (7)

- B) Calculate median and quartiles for the following data : (7)
- |                |     |     |      |       |       |
|----------------|-----|-----|------|-------|-------|
| Class Interval | 0-4 | 4-8 | 8-12 | 12-16 | 16-20 |
| Frequency      | 21  | 8   | 7    | 3     | 1     |

OR

- Q.4 A) The mean weight of 150 students in a certain class is 60 kg. The mean weight of boys in the class is 70 kg and that of girls is 55 kg. Find number of boys and girls in the class. Also find percentage of boys to girls.** (7)

**Q.4 B)** The following bivariate frequency table gives the distribution of 100 students according to their height and weight. (7)

Height	Weight			
	91-100	101-110	111-120	121-130
56-60	3	12	15	7
61-65	1	20	14	5
66-70	-	13	7	3

Construct i) Marginal frequency tables for height and weight separately

ii) Conditional frequency table for the height greater class  
61-65 inches

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