

**Q.1 Attempt any three of the following 12**

- a) Explain the various types of Preference Shares.
- b) Find the simple interest on ₹ 38,000 at 10% p.a. for 2 years.
- c) State true or false of the following
  - i)  $N = (1, 2, 3, 4, \dots)$  is called as the set of natural numbers.
  - ii)  $(2 \times 3)^4 = 6^4$
  - iii) The L.C.M. of 20 & 25 is 100.
  - iv)  $\frac{1}{3} + \frac{1}{5} = \frac{2}{15}$
- d) Find the amount, if ₹ 40,000 invested for 4 years at the rate 12% p.a. compound interest.
- e) A share was purchased for ₹ 350. The company declared a dividend of 50%. What was the return on investment, if the face value was ₹ 100.

**Q.2 Attempt any three of the following 12**

- a) Which is better investment, 24% at ₹ 160 or 15% at ₹ 250  
(Given the face value = ₹ 100)
- b) i) Find Highest Common factor (H.C.F) & Lowest Common Multiple (L.C.M.) of the following numbers 32 & 96.  
ii) The salary of A & B is in the ratio of 3:4. If the total salary is ₹ 14,000. What is the salary of B.
- c) What sum will amounts to ₹ 20,000 in 2 years at 8% p.a. compound interest?
- d) Find EMI on a loan of ₹ 1,00,000 to be repaid in 4 year at 12% p.a. on outstanding amount at the beginning of each month. [Given  $(1.01)^{48} = 1.6122$ ]
- e) At what rate of simple interest will the amount of ₹ 10,000 become ₹ 15,000 in 4 years?

**Q.3 Attempt any three of the following 12**

- a) Explain the difference between Simple interest & Compound interest.

- b) Mr. X holds 30 equity shares of ₹ 10 each & 20 preference shares of ₹ 10 each. Company declares 20% dividend on equity shares & 10% dividend on preference shares. Find the dividend received by him.
- c) A Television set worth ₹ 20,000 is purchased on installment basis under equal 20 monthly installments including interest at 8% p.a. Find EMI by following Flat Rate Interest System.
- d) i) One person gets 5% commission on sale made by him if his sale is ₹ 17,400. How much commission he will get.  
ii) The partners are carrying business by contributing capital of ₹ 2000, 3000 & 5000 respectively. If they earn profit of ₹ 7600. What is the share of each partner.
- e) Find the compound interest on ₹ 40,000 for 3 years at 15% p.a.

**Q.4 Attempt any three of the following**

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- a) Explain the stratified sampling method.
- b) Explain the importance of Mathematics & Statistics in the field of Economics & Industry.
- c) Draw a histogram and find the value of mode graphically

Weekly salary	1000-1500	1500-2000	2000-1500	1500-2000	2000-2500
No of employee	12	15	28	20	5

- d) Calculate Mean for the following data

Rent per room	100	110	120	130	140
No of Students	5	8	12	10	5

- e) Calculate Median for the following data

Marks	0-5	5-10	10-15	15-20	20-25
No. of Students	4	8	16	12	5

**Q.5 Attempt any three of the following**

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- a) Define  
i) Statistics ii) Population iii) Sample iv) Data
- b) From the following data complete arithmetic Mean for the following.

Weight in kg	30-40	40-50	50-60	60-70	70-80
No. of students	8	12	20	15	5

- c) From the following frequency distribution answer the questions.

Weight in kg	10-19	20-29	30-39	40-49	50-59
No. of students	2	7	13	18	10

- Find :- i) Class boundaries of 2nd class ii) Class width of 2nd class  
iii) Mid value of 3rd class iv) Frequency of 4th class  
v) Type of classification.

- d) For the following information prepare less than cumulative frequency distribution and greater than cumulative frequency distribution

C. I.	20-40	40-60	60-80	80-100	100-120
f	15	20	35	15	10

- e) Draw less than Ogive curve for the following data

Marks obtained	0-9	10-19	20-29	30-39	40-49
No. of Students	6	14	20	18	2

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