

- Note: - 1) All questions are compulsory and carry equal marks.
2) Figures to right indicate full marks to corresponding sub question.
3) Use of simple calculator is allowed.

Q. 1. A) Attempt any eight (8) of the following fill in the blanks by choosing correct options. (8)

1. The sub triplicate ratio of 1:64 is _____
a) 64:1 b) 3:192 c) 2:16 d) 1:4
2. Cash discount is usually calculated as a percentage on the _____
a) cost price b) net selling price c) invoice price d) list price
3. The compound interest on Rs. 2000/- for three years at the rate of 5%p.a. compounded yearly is _____
a) 205 b) 306.25 c) 315.25 d) 345
4. The difference between compound and simple interest on Rs. 3000/- at 10%p.a. for 2 years is Rs. _____
a) 3 b) 30 c) 300 d) none of these
5. An annuity in which each payment is made at the end of time period is called _____
a) Annuity due b) Annuity certain c) Immediate annuity d) Uniform annuity
6. If a share available at a discount, then face value is _____
a) Lower than market value b) Equal to its market value
c) Higher than market value d) none of these
7. A Rs. 10/- share at 10% premium has a market price of Rs. _____
a) 11 b) 9 c) 20 d) 0
8. EMI stands for _____
a) Equated monthly installment b) Equal monthly installment
c) Equal monthly investment d) Equated monthly investment
9. The full form of SEBI is _____
a) Stock exchange board of India b) Securities and exchange board of India
c) System exit benchmark of investment d) Stock exchange board of investment
10. A load is expressed as percentage of _____
a) SIP b) NFO c) NAV d) AMC

B) Attempt any seven (7) True or False (7)

1. Percentage is ratio with 100 as its denominator
2. List price is also called as printed price or catalogue price or marked price
3. The present value is always greater than the future value.
4. Annuity calculations usually use simple interest.
5. The price at which a share is sold on the stock exchange is called the market value.
6. Reduction in face value of a share is achieved by giving bonus share.
7. A mutual fund can never make a loss.
8. Profit percentage is always calculated as a percentage of N.S.P.
9. If the interest is charged only on the principal, then it is called simple interest
10. The fourth proportional to 1, 3 and 9 is 27

Q. 2 A) A loan of Rs. 55,000/- to be returned in 3 equal monthly installments at the end of each month. The rate of interest is at 12% p.a. compounded monthly. Find the EMI using reducing balance method. Find the break of EMI as interest and principal repayment for each month. (15)

OR

- Q.2 P) A person is supposed to pay a bank Rs. 5000/-, Rs. 6000/- and Rs. 7000/- of 1, 2, 3 years respectively. He offers to settle the payments now itself. how much will he have to pay now with rate of compounding 12 % p.a.
- Q) Ms. Joshi invested Rs. 42,000/- in temple on India on 8th February 2007, when the NAV was Rs. 1133.5761. She redeemed on all the units on 22nd June 2007 when the NAV was 1165.0014. There was no entry load or exit load. Find her gain and rate of return. The number of units are to be calculated up to 3 decimal places.
- Q.3 A) A, B and C invested Rs. 70,000/-, Rs. 50,000/- and Rs. 80,000/- respectively in a business. At the end of the year C received Rs. 16,000/- as her share in the profit. Find A and B's share in the profit.
- B) $(X+12)$, $(X+4)$, $(X+5)$ and $(X-1)$ are in proportion, find X.
- C) Aniruddha spends 60% of his income. If in a month, he saved Rs. 20,928/- then Find his earning for the month.

OR

Q.3

- P) A person earns 12% profit by selling an article at Rs. 4144/-. What would have been the selling price if he had sold it at 16% profit.
- Q) A trader gives 10% discount on the list price and further 1% cash discount on invoice price. If the list price was Rs. 2430/-, then find the net selling price.
- R) A sales girl receives 3.5% of commission on sales up to 5000 and 4.5 % on sales above Rs. 5000/-. If she sold goods worth Rs. 8,000/-. Find the commission earned by her.
- Q.4 A) A sum of money at 5% p.a. compound interest after 4 years amounts to Rs. 7,90,07,906.25. Find the sum.

B) If $A = \begin{bmatrix} 4 & -3 \\ 0 & 2 \end{bmatrix}$, $B = \begin{bmatrix} -1 & -2 & -3 \\ 3 & 2 & 1 \end{bmatrix}$, $C = \begin{bmatrix} 4 & 6 & 5 \\ 2 & 1 & 0 \end{bmatrix}$

Verify that $A \times (B+C) = (A \times B) + (A \times C)$

C) Find the inverse of following matrix using adjoint method.

$$\begin{bmatrix} 7 & -3 & -3 \\ -1 & 1 & 0 \\ -1 & 0 & 1 \end{bmatrix}$$

OR

Q.4

P) What is market price of a 5 % Rs. 10 /- share that gives 4% yield.

q) Find x, y, z if $\begin{bmatrix} 5x-2 & 8 \\ 4 & 2 \\ 9 & z \end{bmatrix} + \begin{bmatrix} 5 & 2 \\ 3 & 2y+4 \\ -1 & 0 \end{bmatrix} = \begin{bmatrix} -13 & 10 \\ -8 & -2 \\ 8 & -2 \end{bmatrix}$

r) Solve the following equations simultaneously using matrix inversion method.

$$3x + 2y + 4z = 2, \quad x - 2y - z = 6, \quad x + 2y - 6z = -2$$

- Q.5 A) Explain briefly the types of shares.
- B) Explain briefly future value and present value

OR

Q.5

P) Write short note on any three

- SIP
- Arithmetic properties of matrices
- Net present value (NPV)
- Mutual fund
- Types of Matrices