VCD 18/02/17 FYBFM SEM I – ATKT BM-I MARKS 75 2HRS30MIN

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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. State True of False. (8)

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 compound 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 will always make profit.
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 forth proportional to 1,4 and 16 is 64

B) Attempt any seven of the following fill in the blanks by choosing correct options. (7)

1. The sub triplicate ratio of 27:8 is _____
   a) 3:2 b) 9:4 c) 2:3 d) 9:2
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 intrest 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 monitory installment
   c) Equal monitory 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

Q. 2 **A)** A loan of Rs. 50,000/- to be returned in 3 equal monthly installments at the end of each month. The rate of interest is at 24% p.a. compounded monthly. Find the EMI using reducing balance method. Find the break of EMI as interest and principal (15)

repayment for each month.

OR

Q.2 **P)** A person is supposed to pay a bank Rs. 5000/-, Rs. 6000/- and Rs. 7000/- at the of 1,2,3 years respectively. He offers to settle the payments now itself, how muc will he have to pay now with rate of compounding 12 % p.a.

Q) Ms Joshi invested Rs. 42,000/- in template on India on 8th February 2007, when NAV was Rs. 1133.5761. She redeemed on all the units on 22nd June 2007 whe

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)** Reena, Meena and Tina invested Rs. 35,000/-, Rs. 25,000/- and Rs. 40,000/- res in a business. At the end of the year Tina received Rs. 24,000/- as her share in the Find Reena and Meena's share in the profit.

B) (X+12), (X+8), (X+4) and (X+2) are in proportion, find X.

C) Rakesh saves 23% of his monthly income. If in a month, he saved Rs. 10,488/- Find his earning for the month.

OR

Q.3 **P)** An insurance company pays its agent at 20% on first year's premium amount. T of commission reduces to 8% for the second up to fifth year. Then further reduc 6% for the subsequent years. A customer has purchased policy through an agent an annual premium of Rs. 15,000/- for seven years. Find the total commission ear the agent.

Q) A trader gives 10% trade discount and further 1% discount for cash payment and a bathroom fitting for Rs. 2,16,513. Find the list price.

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) Find x,y,z if $\begin{bmatrix} 5x+2 & 8 \\ 4 & 2 \\ 9 & z \end{bmatrix} + \begin{bmatrix} 5 & 2 \\ 3 & 2y+4 \\ -1 & 0 \end{bmatrix} = \begin{bmatrix} -13 & 10 \\ 7 & -8 \\ 8 & -2 \end{bmatrix}$

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

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

OR

Q.4 **P)** Solve the following equations simultaneously using matrix inversion method.

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

Q) 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 X (B+C) = (A X B) + (A X C)

Q. 5 **A)** Explain briefly the types of Matrices.

B) Explain briefly Net present value (NPV)

OR

Q.5 **P)** Write short note on any three

i. Arithmetic properties of matrices
ii. Mutual fund
iii. Types of Shares
iv. Future value
v. SIP