Note : 1) Use of Simple calculator is Allowed.
         2) Graph paper will be provided on Demand.

**"SEC – I"**

(20)

**Q.1.**   **Attempt any 4 from the following**

a)   I Mr. Haresh, Purchased, 120 shares of a company. Market price per share was Rs. 250 with brokerage 2% find the total Investment?

b)   After purchasing 80 shares by Mr. Tushar at Market Price Rs. 150 with Brokerage 1% he sold it after 2 month at market price Rs. 180@1% Brokerage he also received dividend @ 10% on face value Rs. 100. Find R.O.R.O.I ?

c)   Miss Varsha Invested Rs. 2,50,000 in a mutual fund when the N.A.V. was Rs. 24.5 with entry load @ 2%. Find the number of units she got also find dividend @ 25%.

d)   A person Invested in mutual funds, by purchasing 500 units @ Rs. 20 per Unit. After few days sold all units @ Rs. 28. Find rate of returns on investment. [No entry load & No exit load]

e)   Anand, started an Investment in S.I.P with Rs. 5000 per month for 4 months @ NAV's 25,30,28,35. with entry load 2%. Find average cost ?

(20)

**Q-2.**   **Attempt any 4 from the following**

a)   How many numbers of 3 digit can be formed using the digit 1,2,3,4 and 5, such that
     i) No digit is repeated      ii) Repetition is allowed

b)   A class has 6 girls & 5 boys. If 4 persons are selected. Find the number of choice if.
     i) There is no restriction on gender
     ii) 3 boys and 1 girl is to be selected.

c)   Solve the following.
     i) $8C_5$      ii) $6P_4$      iii) $0!$

d)   Maximize $Z=6x+4y$ subject to $5x+8y \leq 40$, $3x + y \leq 12, x \geq 0, y \geq 0$.

e)   Minimize $z= 30x +20y$, subject to $6x + 4y \leq 12, x+2y \geq 4, x \geq 0, y \geq 0$.

**"SEC – II"**

(20)

**Q.3.**   **Attempt any 4 from the following**

a)   Find the mode using histogram.

| C-I | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 |
|-----|------|-------|-------|-------|-------|
| F | 5 | 6 | 8 | 7 | 4 |

b)   Find Median from the following data.

| C-I | 0-40 | 40-80 | 80-120 | 120-160 | 160-200 |
|-----|------|-------|--------|---------|---------|
| & | 12 | 16 | 20 | 18 | 14 |

c)   If the mean of marks of 25 boys of a class is 42% and the mean of marks of 15 girls of the same class is 54% then the combined mean of the class will be?

d)   Find standard deviation from following data.

| C-I | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 |
|-----|------|-------|-------|-------|--------|
| F | 10 | 12 | 15 | 18 | 10 |

e)   Find smallest value (S), if largest value (L) is given 60 & co-efficient of range is 0.2.

**Q.-4.** **Attempt any 4 from the following**

a) A Box contains 2 white, 3 Red and 4 Green balls of identical size. One ball is drawn at random from the box. Find the probability that, it is
(i) White    (ii) Red or Green    (iii) not Red.

b) Write Short Note on "Events"

c) The Probability that A can solve an example is 1/5 and the probability that b can solve it is ½ what is the probability that both will solve a given example while trying independently.

d) Find E(x) and V(x) of the following data.

| X | 10 | 20 | 30 | 40 | 50 |
|---|---|---|---|---|---|
| P(X) | 0.2 | 0.1 | 0.2 | 0.3 | 0.2 |

e) If two dice a thrown at a time. Find the E(x) and V(x) on the base of total of Face value.

**Q-5.** **Attempt any 4 from the following**

a) Write Note on pay off table.

b) Find (i) Maximin criteria    ii)Minimin criteria

| State of Nature | Course of Action | | | |
|---|---|---|---|---|
| | A1 | A2 | A3 | A4 |
| S1 | 40 | 50 | 100 | 80 |
| S2 | 80 | 90 | 30 | 70 |
| S3 | 70 | 60 | 70 | 50 |
| S4 | 60 | 40 | 50 | 20 |

c) Find EMV for the following

| State of Nature | Course of Action | | | | Prob. |
|---|---|---|---|---|---|
| | A1 | A2 | A3 | A4 | |
| S1 | 50 | 60 | 70 | 50 | 0.4 |
| S2 | 80 | 40 | 60 | 50 | 0.3 |
| S3 | -20 | 70 | 50 | 60 | 0.2 |
| S4 | 40 | 50 | -10 | 30 | 0.1 |

d) Find EOL, for the following date.

| State of Nature | Course of Action | | | Prob. |
|---|---|---|---|---|
| | A1 | A2 | A3 | |
| S1 | 120 | 110 | 100 | 0.4 |
| S2 | 70 | 90 | 100 | 0.3 |
| S3 | 60 | 70 | 80 | 0.2 |
| S4 | 50 | 50 | 30 | 0.1 |

e) Find the Best course of Action using TREE diagram.

| State of Nature | Course of Action | | | Prob. |
|---|---|---|---|---|
| | A1 | A2 | A3 | |
| S1 | 90 | 80 | 60 | 0.5 |
| S2 | 60 | 40 | 80 | 0.3 |
| S3 | 30 | 70 | 50 | 0.2 |

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