

Duration:- 3hrs

217011223

Marks:-100

Note:- A) All the questions are compulsory.

B) Each question carries equal marks.

C) Graph paper will be provided on demand.

**Q:1 SOLVE THE FOLLOWING (ANY 4)**

(CO1-A) (5+5+5+5= 20)

- A) Mr. Shahrukh, Invested in shares of BMW & Co. by purchasing 500 shares of Rs. 350 each with brokerage 2%. He sold all the shares at 420 each after 6 months and got dividend also at the rate of 25% of face value Rs. 100. Find the Rate of return on investment.
- B) Mr. Shah is having 140 shares of M/s. Adani Ltd. of face value Rs 100. Company is giving dividend of 20% of face value. Find the total dividend he will get.
- C) Miss Kashish, invested Rs. 30000 in Reliance mutual funds at NAV Rs. 150, entry load @ 2%. Find the number of units she will get.
- D) Mr. Khandekar started SIP with Rs. 20000 for 4 months at NAV's Rs. 33.54, 35.65, 34.55, 36.25 with entry load 2%. Find Average Cost and Arithmetic Mean.
- E) Distinguish between Mutual funds and Shares (stocks)

**Q:2 SOLVE THE FOLLOWING (ANY 4)**

(CO2-A) (5+5+5+5= 20)

- A) Out of 6 boys and 4 Girls, a committee of 4 persons is to be formed find the number of such committees. If  
(i) two boys and 2 girls (ii) no restriction on selection
- B) Out of 10 students of a class 3 are selected for award, find the number of ways it is possible.
- C) Maximize  $Z = 15X + 10Y$ , SUBJECT TO  $2X + 3Y \leq 18$ ,  $2X + Y \leq 10$ ,  $X \geq 0$ ,  $Y \geq 0$ .
- D) Minimize  $Z = 5X + 3Y$ , SUBJECT TO  $2X + Y \leq 10$ ,  $2X + 3Y \leq 18$ ,  $X \geq 0$ ,  $Y \geq 0$ .
- E) Find the value of (i)  ${}^9C_4$  (ii)  ${}^8P_3$  (iii)  $5!$  (iv)  $0!$  (v)  $5!/3!$

**Q:3 SOLVE THE FOLLOWING (ANY 4)**

(CO3-A) (5+5+5+5= 20)

A) Find the Median from the following data.

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

B) Find the Mode for the following data.

C.I.	0-50	50-100	100-150	150-200	200-250
F	6	7	8	5	4

C) Find the Combined mean if  $X_1 = 70$ ,  $X_2 = 80$ ,  $X_3 = 50$ ,  $N_1 = 50$ ,  $N_2 = 30$ ,  $N_3 = 20$ .

D) Find the Standard Deviation from the following data.

C.I	0-20	20-40	40-60	60-80	80-100
F	2	3	6	5	4

E) If  $Q_1 = 45$ ,  $Q_2 = 52$ ,  $Q_3 = 58$  then Find Inter Quartile Range, Quartile Deviation and Coefficient of Quartile Deviation.

**Q:4 SOLVE THE FOLLOWING (ANY 4)**

(CO4-A)(5+5+5+5= 20)

- A) If two dice are thrown at a time, find the probability of getting. (i) The sum of both is 9 (ii) both are equal
- B) A Card is drawn from the pack of cards. Find the probability of getting. (i) A Face card (iii) A Spade.

- C) Three coins tossed, find the probability of getting (i) All heads (ii) One Head (iii) atleast two heads  
 D) Find  $E(x)$  and  $V(x)$  from the following.

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

- E) Find  $E(x)$  and  $V(x)$  from the following.

X	1	2	3	4	5
P(x)	1/5	1/5	1/5	1/5	1/5

**Q:5 SOLVE THE FOLLOWING (ANY 4)**

**(CO1,2,3-A) (5+5+5+5= 20)**

- A) Find the Best Course of Action using E.M.V. Criteria.

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

- B) Find the Best Course of Action using E.O.L. Criteria.

State of Nature	Course of Action				Probability
	A1	A2	A3	A4	
S1	80	60	50	70	0.3
S2	70	70	90	60	0.2
S3	90	80	90	80	0.3
S4	100	90	60	70	0.2

- C) Find the Best Course of Action Using (i) Maximax criteria (ii) Minimin Criteria

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

- D) Find the Best Course of Action using "DECISION TREE".

State of Nature	Course of Action				Probability
	A1	A2	A3	A4	
S1	80	60	50	70	0.4
S2	70	70	90	60	0.3
S3	90	80	90	80	0.2
S4	100	90	60	70	0.1

- E) What is Pay-off table? Explain its parts.

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