

16/3/24 ATKT

FYBcom - Maths - (60) - (ATKT)

Duration :- 3:00 Hours

Marks:-100

Q.1: ATTEMPT ANY 4

(4x5M = 20)

1. Mr. Dubey, purchase 150 shares of a company having face value Rs. 100, market price at Rs. 180, brokerage paid at the rate of 2 %. Find the amount invested by him.
2. Mr. Rajesh has 80 shares of face value Rs. 100 company declare dividend of 20%. Find total dividend.
3. Miss. Bhavna invested Rs. 25000 in mutual funds at NAV Rs. 18.5 with entry load @ 2%. Find the number of units she will get.
4. Mr. Ram, started SIP investment for 4 months of Rs. 10000 p.m. the NAV's for four months was Rs. 20.35, 23.83, 25.78, 29.55. With entry load @ 2%. Find the Average cost and Arithmetic mean.
5. If total sale value is 100000, total investment is 600000, total dividend Rs. 40000. Find the rate of return on investment.

Q.2: ATTEMPT ANY 4

(4x5M = 20)

1. Find the values of (a) 5P_3 , (b) 5C_2 , (c) 9P_4 , (d) $0!$, (e) $3!$
2. Find the 3 digits number from the following numbers given are 1,2,4,7,8,9. (i) if the repetition is not allowed and (ii) if repetition of numbers is allowed.
3. From the group of 5 boys and 4 girls, a committee of 2 boys and 2 girls is to be formed. Find the number of such committees.
4. Minimize $Z = 15x + 10y$, sub to $x + y \geq 7$, $5x + 2y \geq 20$, $x \geq 0$, $y \geq 0$
5. Maximise $Z = 25x + 20y$, subject to $8x + 5y \leq 60$, $4x + 5y \leq 40$, x & $y \geq 0$.

Q.3: ATTEMPT ANY 4

(4x5M = 20)

1. From the following data calculate median.

C.i.	0-10	10-20	20-30	30-40	40-50
F	15	16	18	17	14

2. If the X_1 , X_2 and X_3 are 100, 150, 200, and n_1 , n_2 and n_3 are 50, 70, 80. Find the combined mean.
3. Find the range and co-efficient of range of 15, 12, 20, 28, 26, 35, 22.
4. Find the standard deviation of following data.

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

5. What are the merits and demerits of Mean?

Q.4: ATTEMPT ANY 4

(4x5M = 20)

1. What is Probability and steps to solve question.
2. If two dices are cast at a time. Find the probability of getting (i) sum of both is 9 (ii) both are equal numbers.
3. If three coins tossed at a time find the probability of getting (i) all heads (ii) No heads (iii) atleast two head.

4. Find $e(x)$ and $v(x)$ of the following data.

X	1	2	3	4	5	6
P(x)	1/6	1/6	1/6	1/6	1/6	1/6

5. Find $e(x)$ and $v(x)$ of the following data.

X	20	40	60	80
P(x)	0.4	0.3	0.2	0.1

(4x5M = 20)

Q.5:ATTEMPT ANY 4

1. What is payoff table? Explain parts of it.
2. Find the best course of action using EMV.

Payoff table

STATE OF NATURE	COURSE OF ACTION (IN LACS)				PROBABILITY
	A1	A2	A3	A4	
S1	80	80	70	90	0.4
S2	70	90	90	80	0.3
S3	60	60	50	40	0.2
S4	50	40	60	50	0.1

3. Find the best course of action using EOL.

Payoff table

STATE OF NATURE	COURSE OF ACTION (IN LACS)				PROBABILITY
	A1	A2	A3	A4	
S1	60	70	40	80	0.4
S2	80	90	70	50	0.3
S3	90	120	90	60	0.2
S4	100	60	80	70	0.1

4. Find the best course of action using (i) Maximax criteria and (ii) Minimin criteria

STATE OF NATURE	COURSE OF ACTION			
	A1	A2	A3	A4
S1	40	20	35	30
S2	50	30	20	15
S3	60	40	45	50
S4	25	50	20	20

5. Find the best course of action using (i) Maximin criteria and (ii) Laplace criteria

STATE OF NATURE	COURSE OF ACTION			
	A1	A2	A3	A4
S1	80	60	40	50
S2	70	100	70	60
S3	60	70	80	70
S4	100	90	90	80

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