

Date: _____

Assignment

Day: _____

Ansa Imran
1st year
Statistics

Test no 5.

Subjective Type

Q no 1

MCQ's:

- i) A
- ii) A
- iii) C

Q no 2

Short Questions

(1)

Set

A set is a collection of well-defined distinct objects.

Examples

Set A consist of vowels

{a, e, i, o, u}.

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(ii)

12!

10!

$$12! = 12 \times 11 \times 10!$$

$$10! = 10!$$

$$= 12 \times 11$$

$$= 132$$

(iii)

Two coins.Two coins are tossed,The sample space of two coins tossed is, $S(A) = \{HH, HT, TH, TT\}$ The event that of one head appear is, $S(B) = \{HH, HT, TH\} = 3$ Probability is $= P(D) = \frac{S(B)}{S(A)}$

$$P(D) = \frac{3}{4}$$

Ans.

(iv)

Fair Dice

A fair dice is rolled.

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The sample space of fair dice is,

$$S(F) = \{1, 2, 3, 4, 5, 6\} = 6$$

The event that an even number should appear is $S(E) = \{2, 4, 6\}$
 $= 3$

$$\text{Probability} = P(L) = \frac{S(E)}{S(F)}$$

$$P(L) = \frac{3}{6}$$

$$P(L) = \frac{1}{2} \quad \text{Ans.}$$

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Q no 3

Long Questions

Sample space of pair of dice is

(1, 1)	(1, 2)	(1, 3)	(1, 4)	(1, 5)	(1, 6)
(2, 1)	(2, 2)	(2, 3)	(2, 4)	(2, 5)	(2, 6)
(3, 1)	(3, 2)	(3, 3)	(3, 4)	(3, 5)	(3, 6)
(4, 1)	(4, 2)	(4, 3)	(4, 4)	(4, 5)	(4, 6)
(5, 1)	(5, 2)	(5, 3)	(5, 4)	(5, 5)	(5, 6)
(6, 1)	(6, 2)	(6, 3)	(6, 4)	(6, 5)	(6, 6)

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i) Sum is 6 = P(C)

Sample space = S(A) = 36

Event that sum is 6 = $\{(1,5), (2,4), (3,3), (4,2), (5,1)\} = 5$

$$S(B) = 5$$

$$P(C) = \frac{S(B)}{S(A)}$$

$$S(A)$$

$$P(C) = \frac{5}{36} \quad \text{Ans.}$$

$$36$$

ii) Sum is 4 or less = P(E)

Event that sum is 4 or less = S(D)

$$= \{(1,1), (1,2), (1,3), (2,1), (2,2), (3,1)\}$$

$$S(D) = 6$$

$$P(E) = \frac{S(D)}{S(A)}$$

$$S(A)$$

$$P(E) = \frac{6}{36}$$

$$36$$

$$P(E) = \frac{1}{6} \quad \text{Ans.}$$

$$6$$

iii) Sum is even = P(L)

event of sum is even = S(F)

$$S(F) = \{(1,1), (1,3), (1,5), (2,2), (2,4), (2,6), (3,1), (3,3), (3,5), (4,2), (4,4), (4,6), (5,1)\}$$

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$$(5,3), (6,2), (6,4), (6,6) \}$$

$$S(F) = 18$$

$$P(L) = \frac{S(F)}{S(A)}$$

$$P(L) = \frac{18}{36}$$

$$P(L) = \frac{1}{2} \quad \text{Ans.}$$