



**SUCCESS KEY TEST SERIES**  
X- Semi English  
**(Unit Test-4 Math-1 (Ch- 5,6 ) Extra Paper)**  
Mathematics Part - I-

DATE:
TIME: 1 hrs
MARKS: 20
SEAT NO: <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>

**Q.1 (A) Choose the correct alternative. (2)**

1) Consider the following frequency median is

<b>Class</b>	0 - 5	6 - 11	12 - 17	18 - 23	24 - 29
<b>Frequency</b>	13	10	15	8	11

The upper limit of the median class is

- a. 17      b. 17.5      c. 18      d. 18.5

2) A die is thrown. Calculate n(s).

- a. 5      b. 6      c. k7      d. 8

**B) Solve the following questions. (Any one) (2)**

1) For the frequency distribution of marks scored by a student,  $A = 57$ ,  $\sum f_i = 80$  and  $\sum f_i d_i = 240$ . Find the mean marks.

2) In a bag, there are fifty cards bearing numbers from 1 to 50, one card is drawn at random. Write the sample space S. write the event A and B and find the number of sample points in them, where A is the event that the number on the card is divisible by 5. B is the event that the number on the card is a prime number. Also examine whether events A and B are complementary events or mutually exclusive events or Both.

**Q.2 A) Complete the following Activities. (Any two) (4)**

1) Two-digit numbers are formed from the digits 0, 1, 2, 3 where the digits are not repeated.

i. A is the event that the number formed is an odd number.

ii. B is the event that the number formed is an even number.

As we have to form two-digit numbers, 0 cannot be at the tens place.

The sample space  $S = \{10, 12, 13, 20, 21, 23, 30, 31, 32\}$ .

$\therefore n(S) = 9$

i. A is the event that the number formed is an odd number.

$\therefore A = \{\underline{\quad}\}$ .  $\therefore n(A) = \underline{\quad}$ .

ii. B is the event that the number formed is an even number.

$\therefore B = \{\underline{\quad}\}$ .  $\therefore n(B) = \underline{\quad}$ .

2) Form a 'Road safety committee' of two, from 2 boys (B1, B2) and 2 girls(G1, G2).

Complete the following activity to write the sample space.

(a) Committee of 2 boys =  $\underline{\quad}$

(b) Committee of 2 girls =  $\underline{\quad}$

(c) Committee of one boy and one girl =  $\underline{\quad}$

$\therefore$  Sample space =  $\{\underline{\quad}\}$

- 3) A box contains 5 red, 8 blue and 3 green pens. Rutuja wants to pick a pen at random. What is the probability that the pen is blue?

Total number of pens = 5 red + 8 blue + 3 green = \_\_\_\_\_

∴ Total number of sample points =  $n(S)$  = \_\_\_\_\_

Event A : A blue pen is picked up

There are 8 blue pens.

∴  $n(A)$  = \_\_\_\_\_

$$P(A) = \frac{n(A)}{n(S)}$$

∴  $P(A)$  = \_\_\_\_\_

∴ Probability of getting a blue pen is \_\_\_\_\_

**B) Solve the following questions. (Any one)**

**(2)**

- 1) If a card is drawn from a pack of 52 cards, find the probability of the following events:  
 (i) Event A : not getting a black card.  
 (ii) Event B : getting a card bearing numbers from 2 to 5.
- 2) Two -digit numbers are formed from the digits 2, 3, 5, 7, 9 without repetition. Find the probability of the events  
 (i) A is the event that number is a multiple of 5.  
 (ii) B is the event that the number is divisible by 3.

**Q.3 Solve the following questions. (Any one)**

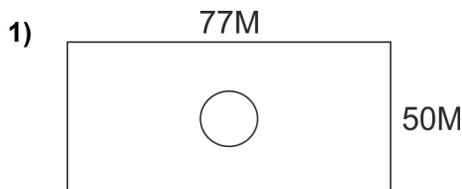
**(3)**

- 1) A two digit number is to be formed from the digits 0, 1, 2, 3, 4. Repetition of the digits is allowed. Find the probability that the number so formed is a -  
 (1) prime number      (2) multiple of 4      (3) multiple of 11.
- 2) Draw a pie diagram to represent the following information :

Item	Bread	Fruit bread	Biscuits	Cakes
Sale (in Rs.)	200	120	60	100

**Q.4 Solve the following questions. (Any one)**

**(4)**



Length and breadth of a rectangular garden are 77 m and 50 m. There is a circular lake in the garden having diameter 14 m. Due to wind, a towel from a terrace on a nearby building fell into the garden. Then find the probability of the event that it fell in the lake.

- 2) A two digit number is formed with digits 2, 3, 5, 7, 9 without repetition. What is the probability that the number formed is  
 (1) an odd number ?      (2) a multiple of 5 ?

**Q.5 Solve the following questions. (Any one)****(3)**

- 1) The loans sanctioned by a bank for construction of farm ponds are shown in the following table. Find the mean of the loans.

Loan (Thousand Rupees)	40 - 50	50 - 60	60 - 70	70 - 80	80 - 90
No. of farm ponds	13	20	24	36	7

- 2) All the three face cards of spades are removed from a well-shuffled pack of 52 cards. A card is then drawn at random from the remaining pack. Find the probability of getting
- a black face card
  - a queen
  - a black card
  - a heart
  - a spade
  - '9' of black colour