



SUCCESS KEY TEST SERIES

X (English)

(Unit Test-3 Math-1 (Ch-5,6))

Mathematics Part - I-

DATE:

TIME: 1 hrs

MARKS: 20

SEAT NO:

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Q.1 (A) Choose the correct alternative.

(2)

- 1) The formula to find mean from a grouped frequency table is $\bar{X} = A + \frac{\sum f_i u_i}{\sum f_i} \times h$

In the formula $u_i = \dots$

- a. $\frac{x_i + A}{g}$ b. $(x_i - A)$ c. $\frac{x_i - A}{g}$ d. $\frac{A - x_i}{g}$

- 2) The expenditure Rs. 45,000 on cement was shown by a sector of central angle of 75° . What was the total expenditure of the construction?

- a. 2,16,000 b. 3,60,000 c. 4,50,000 d. 7,50,000

B) Solve the following questions. (Any one)

(2)

- 1) Write the following events using set notation and write the number of sample points $n(S)$.

- i. A die is rolled. A is the event that an odd number comes up.
- ii. Two dice are rolled. B is the event that the same number appears on both dice.
- iii. There are 2 red, 2 white and 2 green balls in a bag. One ball is drawn at random. C is the event that the ball is not green.

- 2) If two coins are tossed, find the probability of the following events.

- (1) Getting at least one head. (2) Getting no head.

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

(4)

- 1) For the frequency distribution of time (in minutes) a worker takes to complete the work, $\sum f_i = 100$, $\sum f_i d_i = 185$ and mean $(\bar{x}) = 38.85$. Find the assumed mean (A).

Here $\sum f_i = 100$, $\sum f_i d_i = 185$; mean $(\bar{x}) = 38.85$, $A = ?$

$\bar{d} = \underline{\hspace{2cm}}$... (Formula)
 $= \underline{\hspace{2cm}} = 3 \times 1.85$... (Substituting the values)

Mean $(\bar{x}) = \underline{\hspace{2cm}}$... (Formula)
 $\therefore A = 38.85 - 1.85$... (Substituting the values)

$\therefore A = \underline{\hspace{2cm}}$

Assumed mean (A) is $\underline{\hspace{2cm}}$.

- 2) Out of 200 students from a school, 135 like Kabbaddi and the remaining students do not like the game. If one student is selected at random from all the students, find the probability that the student selected doesn't like Kabbaddi.

Let S be the sample space.

Total number of students = 200

$\therefore n(S) = \underline{\hspace{2cm}}$

Number of students like Kabbaddi = 135

\therefore Number of students doesn't like Kabbaddi

= 200 - 135

= $\underline{\hspace{2cm}}$

Event A : The student selected doesn't like Kabbaddi.

$$\therefore n(A) = 65$$

$$P(A) = \frac{\quad}{\quad}$$

$$\therefore n(A) = \frac{65}{200}$$
$$= \frac{13}{40}$$

\therefore Probability of selected students doesn't like kabbaddi is _____

- 3) In a class of 42 students in Model High School, 3 students use spectacles. Fill in the following boxes to find the probability of a students selected at random wearing spectacles.
The total number of students in the class is 42.

$$\therefore n(S) = \quad$$

Let the event, a student uses spectacles, be A.

$$\therefore n(A) = \quad$$

$$\therefore P(A) = \quad$$

$$\therefore P(A) = \quad$$

B) Solve the following questions. (Any one)

(2)

- 1) What is the probability of two digit number formed from the digit 2, 3, 5, 7, 9 without repetition? Also, find the probability of the event (i) the number so formed is an odd number (ii) the two digit number so formed is multiple of 5.
- 2) The following table shows the percentages of vehicles passing a signal. Find out the measures of central angle to show the information by a pie diagram and hence draw the pie diagram

Type of Vehicle	Bicycle	Two Wheeler	Car	Bus	Rickshaw
Percentage	10	30	20	20	20

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

(3)

- 1) A die is thrown. Find the probability of getting :
- an odd number.
 - a perfect square.
 - a number greater than 3.
- 2) Draw a pie diagram to represent the world population of countries given in the following table after determining the value of

Country	India	China	Russia	USA	Other	Total
Percentage of population	15	20	a	a	25	100

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

(4)

- 1) Time allotted for the preparation of an examination by some students is shown in the table. Draw a histogram to show the information.

Time (minutes)	60 - 80	80 - 100	100 - 120	120 - 140	140 - 160
No. of students	14	20	24	22	16

- 2) The frequency distribution table shows the number of mango trees in a grove and their yield of mangoes. Find the median of data.

No. of Mangoes	50 - 100	100 - 150	150 - 200	200 - 250	250 - 300
No. of students	33	30	90	80	17

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

(3)

- 1) The following is the component wise expenditure per article:

Component	Expenditure (in Rs.)
Raw material	800
Labour	300
Transportation	100
Packing	100
Taxes	140

Draw a pie diagram.

- 2) The following table shows the number of students and the time they utilized daily for their studies. Find the mean time spent by students for their studies by direct method.

Time (hrs,)	0 - 2	2 - 4	4 - 6	6 - 8	8 - 10
No. of students	7	18	12	10	3