AN EDUCATIONAL INSTITUTE

X MIND CURVE Mid Term Maths Test Series 2025-26

Test 05

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S no	Syllabus Covered	Chapters(In Half Yearly)	Marking Scheme
1.	Chapter 13	Statistics	25
2	Chapter 14	Probability	15

Note: Students/Teachers can refer to this Sample Paper for practice purpose. However, students may find or experience different exam pattern as syllabus or marking scheme may vary school to school.

MM:40	GENERAL INSTRUCTIONS	Time1.5Hrs

READ CAREFULLY ALL INSTRUCTIONS

1. **This Question Paper has 5 Sections A, B, C, D and E.**
2. **Section A has 10 MCQs carrying 1 mark each**
3. **Section B has 3 questions carrying 02 marks each.**
4. **Section C has 2 questions carrying 03 marks each.**
5. **Section D has 2 case based integrated units of assessment (04 marks each) with sub parts of the values of 1, 1 and 2 marks each respectively.**
6. **Section E has 2 questions carrying 05 marks each.**
7. **All Questions are compulsory.**
8. **This paper consists of 19 questions.**
   a. **Write your answers neatly and legibly.**
   b. **Ensure you have not left any question unanswered**

SECTION – A

Questions 1 to 10 carry 1 mark each.

1. In the formula $\overline{x} = a + \frac{\sum x_i d_i}{\sum f_i}$ for finding the mean of grouped data di's are the devations from a of

(a) lower limits of the classes (b) upper limits of the classes

(c) mid-points of the classes (d) frequencies of the class marks

2. If xi 's are the mid-points of the class intervals of grouped data, *f*i 's are the corresponding frequencies and x – is the mean, then $\sum(f_i\, x_i - \overline{x})$ is equal to:

(a) 0 (b) -1 (c) 1 (d) 2

3. For the following distribution:

Class	0-5	5-10	10-15	15-20	20-25
Frequency	10	15	12	20	9

the sum of lower limits of median class and modal class is:

(a) 15 (b) 25 (c) 30 (d)35

4. If the difference of Mode and Median of a data is 24, then the difference of median and mean is

(a) 8 (b) 12 (c) 24 (d) 36

5. A dice is rolled twice. The probability that 5 will not come up either time is

(a) $\frac{11}{36}$ (b) $\frac{1}{3}$ (c) $\frac{13}{36}$ (d) $\frac{25}{36}$

6. The probability that a number selected at random from numbers 3, 4, 5 ... 25 is prime ; is:

(a) $\frac{5}{23}$ (b) $\frac{7}{23}$ (c) $\frac{8}{23}$ (d) $\frac{9}{23}$

7. An event is very unlikely to happen. Its probability is closest to:

(a) 0.0001 (b) 0.001 (c) 0.01 (d) 0.1

8. The probability of getting a chocolate flavored ice cream at random, in a lot of 60 ice cream is 0.5. The number of chocolate flavored ice cream in the lot is :

(a)33 (b)55 (c)30 (d)44

Question numbers 9 and 10 are Assertion and Reason based questions

Two statements are given, one labelled as Assertion (A) and the other is labelled as Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below.

(a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).

(b) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of Assertion (A).

(c) Assertion (A) is true, but Reason (R) is false.

(d) Assertion (A) is false, but Reason (R) is true.

9. Assertion (A): Consider the data:

Class	4-7	8-11	12-15	16-19
Frequency	5	4	9	10

The mean of the above data is 12.93

Reason (R): In the above table, modal class is 16 – 19

10. **Assertion (A):**): If P(E) = 0.20, then the probability of 'not E' is 0.80.

Reason (R): : If two dice are thrown together, then the probability of getting a doublet is $\frac{5}{6}$

SECTION – B

Questions 11 to 13 carry 2 mark each.

11. (a)The probability of selecting a blue marble at random from a jar that contains only blue, black and green marbles is $\frac{1}{5}$. The probability of selecting a black marble at random from the same jar is$\frac{1}{4}$. If the jar contains 11 green marbles, find the total number of marbles in the jar.

Or

(b) Two different dice are thrown together , Find the probability that the numbers obtained

(i) have a sum less than 7

(ii) have a product less than 16

(iii) is a doublet of odd numbers.

12. A bag contains 9 black and 12 white balls. One ball is drawn at random. What is the probability that the ball drawn is black.

13. (a) Find the mean of the following frequency distribution.

Class Interval	0-6	6-12	12-18	18-24	24-30
Frequency	7	5	10	12	6

Or

(b)Find mode of the following data

Age (in years)	**No. Of Persons**
Less than 10	3
Less than 20	10
Less than 30	22
Less than 40	40
Less than 50	54
Less than 60	71

SECTION – C
Questions 14 to 15 carry 3 mark each

14 (a) The mode of the following data is 67. Find the missing frequency x.

Class	40-50	50-60	60-70	70-80	80-90
Frequency	5	x	15	12	7

Or

(b) The mean of the following frequency distribution is 25. Find the value of f

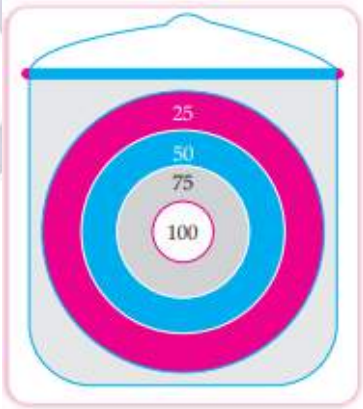
Class	0-10	10-20	20-30	30-40	40-50
Frequency	5	18	15	*f*	6

15. A box contains 12 balls out of which x are white. (i) If one ball is drawn at random, what is the probability that it will be a white ball? (ii) If 6 more white balls are put in the bag, the probability of drawing a white ball will be double than that in (i). Find x.

SECTION – D
Questions 16 & 17 carry 4 mark each.

16. Nishant and Kapil are playing a game of darts. They use this dart board.Here are the rules of the game:

When your dart is placed in any circular region, you get the points mentioned in that region. If your dart strikes outside the circles you get zero points. During the game all the darts of both Nishant and Kapil fall in the circular region. The radius of the innermost circle is 7 cm and the width of all other circular regions is 7 cm.



(i)(a)Nishant throws the first dart. What is the probability of Nishant getting a score of 100 in the first throw?

OR

(b)Kapil threw a dart which hits the board. What is the probability of the dart hitting the outermost circular region on the board?

(ii)In the first three throws Nishant gets 75 points in two throws and 100 points in the third throw. What is the probability of Nishant getting a 75 in the next throw?

(iii)What is a probability of Kapil getting a score 25 point in first throw?

17. Yoga is an ancient practice which is a form of meditation and exercise. By practising yoga, we not even make our body healthy but also achieve inner peace and calmness. The International Yoga Day is celebrated on 21st of June every year since 2015. To promote Yoga, Green Park Society in Pune organised a 7-day Yoga camp in their society. The number of people of different age groups who enrolled for this camp is given as follows:

Age-Group	**15-25**	**25-35**	**35-45**	**45-55**	**55-65**	**65-75**	**75-85**
Number of People	**8**	**10**	**15**	**25**	**40**	**24**	**18**

Based on the above, find the following:

(i)Find the median age of people enrolled for the camp.

(ii)If x more people of age group 65 – 75 had enrolled for the camp, the mean age would have been 58. Find the value of x.

SECTION – E

Questions 18 & 19 carry 5 mark each

18. (a) If the median of the following frequency distribution is 32.5. Find the values of f_1 and f_2.

Class	0-10	10-20	20-30	30-40	40-50	50-60	60-70	Total
Frequency	f_1	5	9	12	f_2	3	2	40

OR

(b) Find the missing frequencies f_1 and f_2 in the table given below , it is being that the mean of the given frequency distribution is 145.

Class	100-120	120-140	140-160	160-180	180-200	Total
Frequency	10	f_1	f_2	15	5	180

19. A life insurance agent found the following data for distribution of ages of 100 policy holders. Calculate the median age, if policies are given only to persons having age 18 years onwards but less than 60 years

Age (in yours)	Numbers of Policy Holders
Below 20	2
Below 25	6
Below30	24
Below 35	45
Below 40	78
Below 45	89
Below 40	92
Below 55	98
Below60	100

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