No. of printed pages 7

# Class - VI
# Mid Term Examination (2025-26)
# Subject : Mathematics
# Set B1

**Time Allowed: 2 $\frac{1}{2}$ hours** **Maximum Marks: 60**

GENERAL INSTRUCTIONS:

(i) This question paper contains 16 questions. All questions are compulsory. Question paper is divided into FIVE sections – Section A, B, C, D and E.
(ii) In section A – question number 1 has multiple choice questions (MCQs) of 1 mark each.
(iii) In section B – question number 2 to 7 are Objective type questions of 2 marks each.
(iv) In section C – question number 8 to 10 are Short Answer (SA) type questions carrying 3 marks each.
(v) In section D – question number 11 to 13 are Long Answer (LA) type questions carrying 5 marks each.
(vi) In section E – question number 14 to 16 are source based/case study questions carrying 4 marks each. Internal choice is provided in 2 marks question in each source based/case study question.
(vii) There is no overall choice. However, an internal choice has been provided in 1 question in Section B, 2 question in Section C and 2 questions in Section D.
(viii) Draw neat figures wherever required.

| | **SECTION - A**<br>Question 1 consists of Multiple Choice questions (i-xii) of 1 mark each. | |
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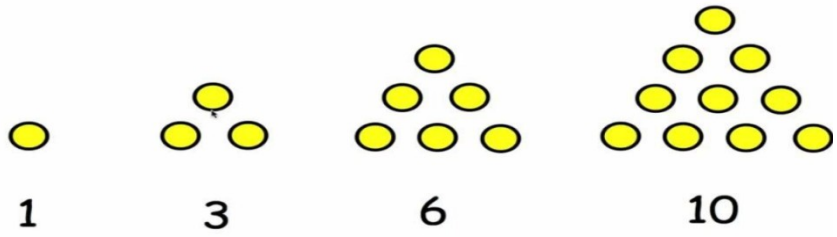
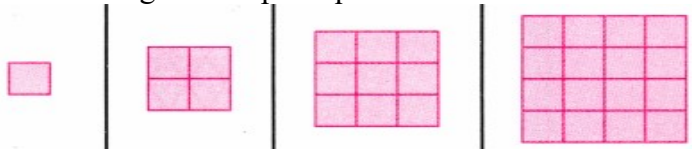
| Q No. | | Marks |
| 1 (i) | Number sequence 1,3,6,10, … are called triangular numbers as shown below:<br>  <br><br>The 8th number in the above sequence is:<br>(a) 15 (b) 21 (c) 28 (d) 36 | 1 |
| (ii) | Consider the given shape sequence:<br>  <br>How many small squares will be there in the next step of this shape sequence?<br>(a) 20 (b) 25 (c) 36 (d) 49 | 1 |

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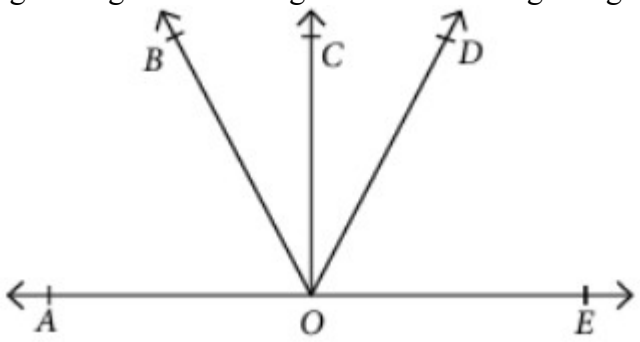
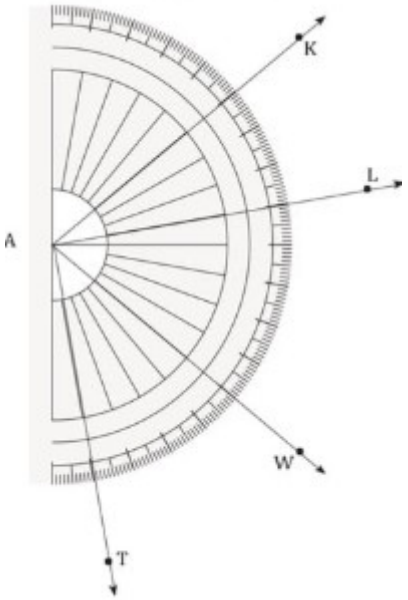
| (iii) | In the given figure which angle is less than a right angle?<br>  <br><br>(a) ∠AOD (b)∠BOD (c) ∠BOE (d) ∠AOC | 1 |
| (iv) | The measure of the angle ∠ KAL in the given figure is:<br>  <br><br>(a) 20° (b) 30° (c) 40° (d) 50° | 1 |
| (v) | How many numbers have two digits?<br>(a) 100 (b) 90 (c) 99 (d) 90 | 1 |
| (vi) | What is the smallest number whose digit sum is 10?<br>(a) 19 (b) 25 (c) 28 (d) 37 | 1 |
| (vii) | A number for which the sum of all its factors is equal to twice the number is called:<br>(a) Even number (b) odd number<br>(c) perfect number (d) prime number | 1 |
| (viii) | Which of the following is a pair of twin primes:<br>(a) 3 and 7 (b) 5 and 7 (c) 11 and 17 (d) 3 and 11 | 1 |

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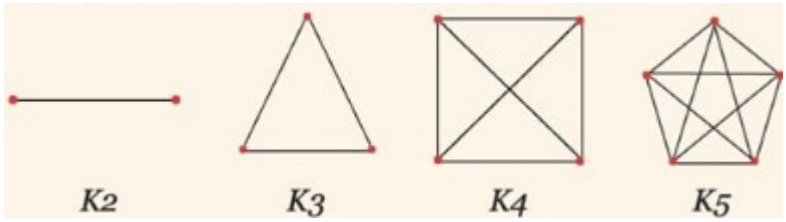
| (ix) | Which of the following is the smallest number whose prime factorization has three different prime numbers:<br>(a) 30 (b) 8 (c) 27 (d)21 | 1 |
| (x) | Figure out the number of whole units in the fraction $\frac{15}{4}$:<br>(a) 1 (b) 2 (c) 3 (d) 4 | 1 |
| (xi) | The fraction $\frac{54}{144}$ in lowest term is expressed as:<br>(a) $\frac{3}{8}$ (b) $\frac{4}{8}$ (c) $\frac{3}{18}$ (d) $\frac{3}{6}$ | 1 |
| (xii) | Three rotis are shared equally by four children.<br>  <br>Fraction of roti each child gets is:<br>(a) $\frac{4}{3}$ (b) $\frac{4}{7}$ (c) $\frac{3}{4}$ (d) $\frac{7}{4}$ | 1 |
| | **SECTION – B**<br>(Q 2 to 7 is Objective type questions of 2 marks each) | |
| 2 | Count and write the number of lines in each shape in the sequence of Complete Graphs given below.<br>  <br><br>Which number sequence do you get?<br>**OR**<br>Identify the patterns and write the next four numbers to complete the given patterns.<br>(a) 1, 3, 6, 10, 15, ….., ….,….,…<br>(b) 1, 4, 9, 16, 25, …, …., …., …. | 2 |
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| 3 | Given below is the sequence of power of 2.<br>$2^0 = 1$ $2^1 = 2$ $2^2 = 4$ $2^3 = 8$<br>  <br>Write the next two steps in the above pattern. | 2 |
| 4 | Use a protractor to draw an angle having the degree measures 110°. | 2 |
| 5 | State if the statement is 'Always true', 'Only sometimes true' or 'Never true'. Give examples to support your answer.<br>Statement: 4-digit number + 2-digit number gives a 6-digit number | 2 |
| 6 | Find the common factors of 24 and 32. | 2 |
| 7 | Find equivalent fractions for the fractions $\frac{1}{10}$ and $\frac{5}{9}$ such that the fractional units are the same. | 2 |
| | **SECTION – C**<br>(Q 8 to 10 is Short answer type questions of 3 marks each.) | |
| 8 | Which sequence you obtain when you add up pairs of consecutive triangular numbers? Show the steps by adding first 4 pairs of consecutive triangular numbers.<br><br>**OR**<br><br>Represent pictorially the number 36 both as a triangular number and a square number. | 3 |
| 9 | Complete the following pattern by writing the next three steps:<br>1 =1<br>1+2+1 = 4<br>1+2+3+2+1 = 9<br>_____<br>_____ | 3 |

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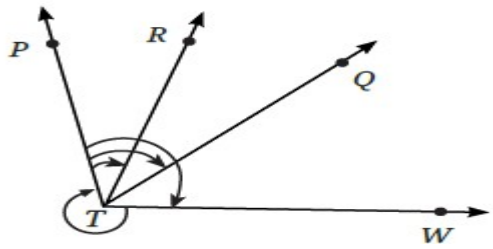
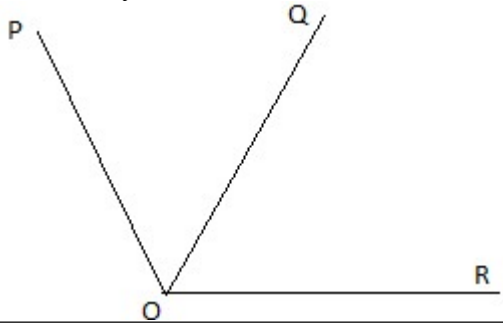
| 10 | In the given figure, name the following:<br>(a) Two rays<br>(b) Two angles with a common arm.<br>(c) An acute angle and a reflex angle.<br>  <br><br>**OR**<br>Draw the letter 'Y' such that the three angles formed are 150°, 60° and 150°. | 3 |
| | **SECTION – D**<br>(Q 11 to 13 is Long Answer type questions of 5 marks each.) | |
| 11 | Draw a rough figure and write labels appropriately to illustrate each of the following:<br>a. XY and XZ meet at X.<br>b. AB and PQ intersect at point O.<br>c. Point C lies on MN.<br>**OR**<br>Answer the following questions:<br>(a) What will be the angle at 2 o'clock in the given figure? (show working)<br>  <br>(b) Measure ∠POQ and ∠POR in the given figure.<br>Also verify that $\angle POQ + \angle QOR = \angle POR$<br>  <br> | 2<br>2<br>1<br><br>2<br><br>3 |

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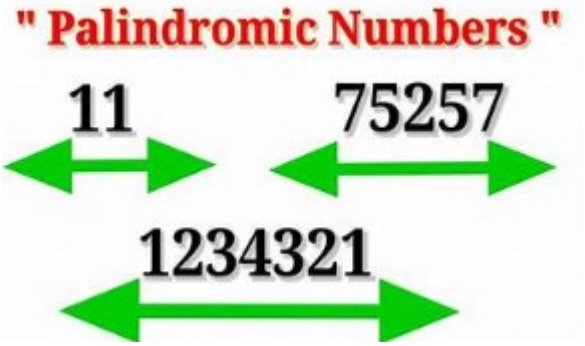
| 12 | Answer the following questions:<br>(a) Use prime factorisation to check whether 242 and 195 are coprime?<br>(b) Using divisibility test check whether 8536 is divisible by 4. | <br>3<br>2 |
| 13 | Geeta bought $\frac{2}{5}$ meter of lace and Shamim bought $\frac{3}{4}$ meter of the same lace to put a complete border on a table cloth whose perimeter is 1 meter long. Find the total length of the lace they both have bought.<br>Will the lace be sufficient to cover the whole border? If yes, how much extra length of lace they have brought? Give reasons to support your answer.<br><br>**OR**<br>Answer the following questions:<br>(a) Subtract $\frac{3}{7}$ from $\frac{2}{3}$.<br>(b) Add $\frac{8}{3}+\frac{4}{5}+\frac{6}{7}$ using Brahmagupta's method. | 5<br><br><br><br><br><br><br>2<br><br>3 |
| | **SECTION – E**<br>( Q 14 to 16 is Source based/Case study questions of 4 marks each.) | |
| 14 | The numbers that read the same from left to right and from right to left are called palindromes or palindromic numbers. For example: 4554, 1111…<br>  <br><br>Based on the above information, answer the following questions:<br>(i) Make the smallest 3-digit palindrome.<br>(ii) Make all the possible 3-digit palindromes using the digits 1 and 2.<br>(iii) (a) Find the sum of smallest and largest 3-digit palindrome?<br>**OR**<br>(b)The time now is 10:01. How many minutes until the clock shows the next palindromic time? | <br><br><br><br><br><br><br><br>1<br><br>1<br><br>2 |
| 15 | Numbers that have only two factors are called prime numbers or primes. Here are the first few primes—2, 3, 5, 7, 11, 13, 17, 19. | |

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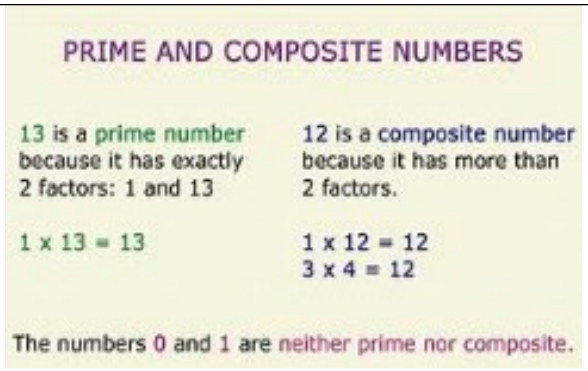
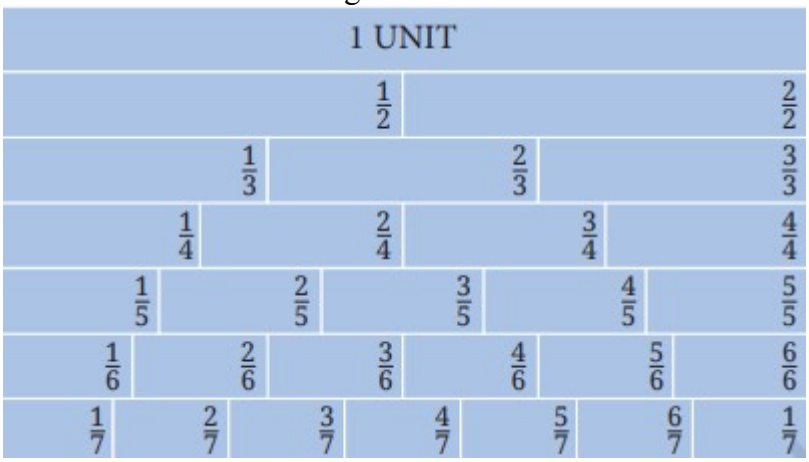
| |  <br>Notice that the factors of a prime number are 1 and the number itself.<br>The numbers that have more than two factors are called composite numbers.<br>The first few composite numbers are—4, 9, 10, 12.<br>Based on the above information, answer the following questions:<br>(i) Out of 23 and 51, which is a prime number? Give reason to support your answer.<br>(ii) State an even number which is also prime.<br>(iii) (a) List 4 pairs of primes up to 100 with same digits.<br>**OR**<br>(b)List all the primes between 1 to 20. | 1<br><br>1<br>2 |
| 16 | Consider the fraction wall given below:<br>  <br>Based on the above figure, answer the following questions:<br>(i) Which is greater $\frac{2}{5}$ or $\frac{2}{4}$?<br>(ii) Are the lengths $\frac{2}{4}$ and $\frac{3}{6}$ are equal? Justify your answer.<br>(iii) (a) How many pieces of $\frac{1}{6}$ will make a length of $\frac{2}{3}$?<br>**OR**<br>(b)Represent $\frac{2}{5}$ on the number line. | 1<br>1<br><br>2 |