Annual Examination 2024– 25 **No. of pages 6**

Class VI

Subject: Mathematics

Set B1

Time allowed : 2.5 hours **Maximum Marks: 60**

GENERAL INSTRUCTIONS:

Read the following instructions carefully and follow them:

(i) This question paper contains **16** questions. All questions are compulsory.

(ii) Question paper is divided into **FIVE** sections–**Section A, B, C, D** and **E**.

(iii) In **section A** – question number **1** has 12 multiple choice questions (MCQs) of **1** Mark each.

(iv) In **section B** – question number **2** to **7** are Objective type questions of **2** marks each.

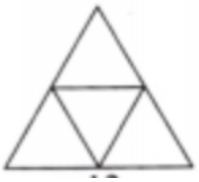
(v) In **section C** – question number **8** to **10** are Short Answer (SA) type questions carrying **3** marks each.

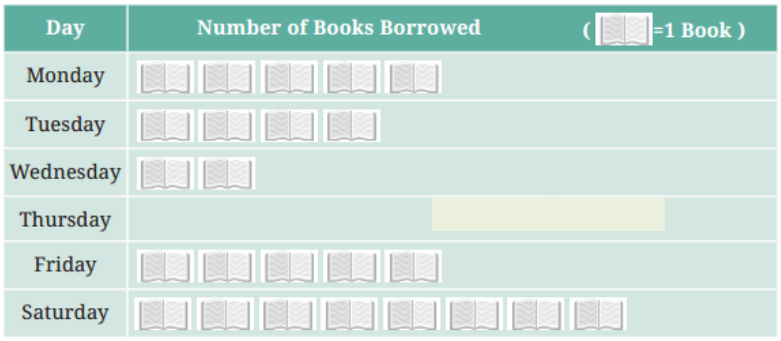
(vi) In **section D** – question number **11** to **13** are Long Answer (LA) type questions carrying **5** marks each.

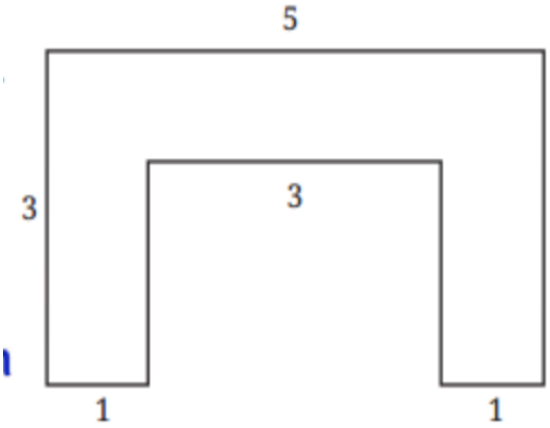
(vii) In **section E** – question number **14** to **16** are **source based/case study** questions carrying **4** marks each. Internal choice is provided in **2** marks question in each **source based/case study question**.

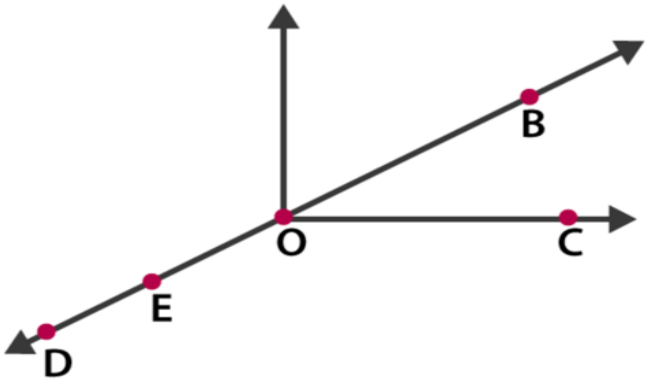
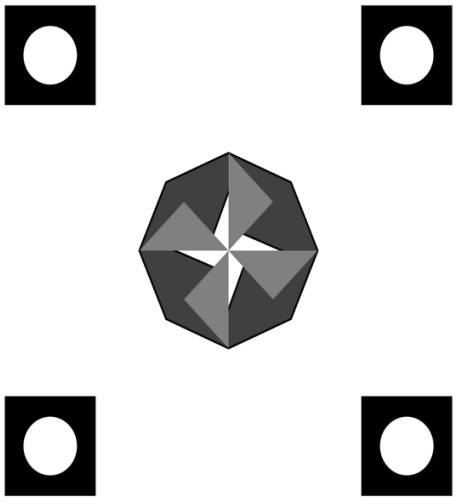
(viii) There is no overall choice. However, an internal choice has been provided in 1 question in Section **B**, 2 questions in Section **C** and 2 questions in Section **D.**

	SECTION-A **Question 1 consists of Multiple - Choice questions (i -xii) of 1 mark each.**	
Q.No.		**Marks**
1.(i)	If a number is divisible by 5, then which of the following can be its one's digit? (a) 2 (b) 3 (c) 4 (d) 0	**1**
(ii)	The area of a rectangular sheet of paper is 20 cm^2. Its length is 5 cm. Find its width. (a) 1 cm. (b) 2 cm (c) 3 cm (d) 4 cm.	**1**
(iii)	Using tally marks, which one of the following represents the number eight? (a) 𝍸 III (b) 𝍸 𝍸 (c) 𝍸 II (d) 𝍸 III	**1**
(iv)	What is the largest 5- digit number whose digit sum is 14? (a) 59000 (b) 95000 (c) 68000 (d) 86000	**1**
(v)	What is Kaprekar Constant for 4-digit numbers? (a) 6114 (b) 6147 (c) 6714 (d) 6174	**1**
(vi)	The equivalent fraction of $\frac{20}{36}$ with denominator 9 is (a) $\frac{4}{9}$ (b) $\frac{5}{9}$ (c) $\frac{7}{9}$ (d) $\frac{8}{9}$	**1**

(vii)	A protractor is used to draw and measure (a) angles (b) line segments (c) triangle (d) squares	**1**
(viii)	A rectangle ABCD can also be written as: (a) ACDB (b) DABC (c) CABD (d) BDCA	**1**
(ix)	The number of acute angles in the given figure  (a) 12 (b)9 (c)10 (d)20	**1**
(x)	How many lines of symmetry does a equilateral triangle have? (a) 3 (b) 5 (c)4 (d) 2	**1**
(xi)	Complete the sequence: 3,4,2,5,1,6,0,7 ,--- (a)1 (b) -1 (c)20 (d) 21	**1**
(xii)	What kind of numbers are 1,3,6,10,15 ? (a) triangular (b) square (c) odd (d) cubes	**1**
	SECTION–B **Q2 to Q7 is Objective type questions of 2 marks each.**	
2.	Suppose you start with 0 rupees in your bank account, and then you have credits of ₹ 30, ₹ 40, and ₹ 50, and debits of ₹ 40, ₹ 50, and ₹ 60. What is your bank account balance now?	**2**
3.	Construct a "Square with a Hole" where a square is of side 5 cm and circular hole of radius 1.5 cm.	**2**
4.	Compare the following fractions and justify your answers: $\frac{8}{3}, \frac{5}{2}$ OR Write following fractions ascending order. $\frac{7}{10}, \frac{11}{15}, \frac{2}{5}$	**2**
5.	Find all multiples of 40 that lie between 310 and 410.	**2**
6.	What is the sum of the smallest and largest 5-digit palindrome? What is their difference?	**2**

7.	What happens when we multiply the triangular numbers by 6 and add 1 ? Which sequence do we get ?	**2**
	SECTION–C Q8 to Q10 is short answer type questions of 3 marks each.	
8.	The following pictograph shows the number of books borrowed by students, in a week, from the library of Middle School, Ginnori-  (a) On which day was the minimum number of books borrowed? (b) What was the total number of books borrowed during the week? (c) On which day were the maximum number of books borrowed? What may be the possible reason? OR The length in centimeters of 20 carrots are given as follows : 15, 22, 21, 20, 22, 15, 20, 20, 15, 20, 18, 20, 22, 21, 20, 21, 18, 21,18, 20. Arrange the above data in a table using tally marks and Answer the following question : What is the number of carrots which have length more than 20 cm ?	**3**
9.	Rahim mixes $\frac{2}{3}$ litres of yellow paint with $\frac{3}{4}$ litres of blue paint to make green paint. What is the total of green paint he has made?	**3**
10	Construct a rectangle in which one of the diagonals divides the opposite angles into 50° and 40°. OR Construct a rectangle one of whose sides is 4 cm and the diagonal is of length 8 cm.	**3**
	SECTION–D **Q11 to Q13 is Long Answer type questions of 5 marks each.**	

11.	A farmer has a rectangular field with having length of 230 m and a breadth of 160 m. He wants to fence it with 3 rounds of rope . What is the total length of rope needed? OR By splitting the following figures into rectangles, find their areas (all measures are given in meters):  	**5**
12.	Find the prime factors of largest 4- digit number and smallest 4- digit number . Find their common factor . OR In the treasure hunting game, Grumpy has kept treasures on 28 and 70. What jump sizes will land on both the numbers?	**5**
13.	Consumers were polled about their favourite ice cream flavours in a survey. Draw a bar graph for the following data: Flavour of Icecream | Frequency Vanilla | 27 Strawberry | 15 Chocolate | 12 Mint Chocolate | 3 Others | 6	**5**
	SECTION– E **Q14 to Q16 is Case study-based questions of 4 marks each.**	

14.	Five friends are standing on the 5 points as shown in the figure.  Answer the following questions, using the above figure. (i) Name a line in the given figure. (ii) Name all the points in the above figure. (iii)(a) Name any 4-line segments OR (iii)(b) Name any 2 rays in the given figure	 **1** **1** **2**
15.	 **The Magical Rangoli Competition** In a school's annual Rangoli competition, students discovered an interesting pattern. The mathematics teacher explained that this year's theme is based on an ancient Rangoli design with a central octagon (representing unity), four corner squares (showing balance), and connecting triangles (depicting flow). Answer the following: (i)How many lines of symmetry does the octagon in the centre have? (ii)How many lines of symmetry does the square have? (iii)(a)How many lines of symmetry does the circle have? Justify by answer by drawing the figure. OR (iii)(b)What is the angle of symmetry of a square? Justify by answer by drawing the figure.	 **1** **1** **2**

16.	A child was given 4 quiz tests and the his scores were recorded as follows: $-3, +7, -2, 6$ (i) What is the lowest score the child got? (ii) What is the difference between the highest and the lowest score? (iii)(a) What is the sum of $-3, +7, -2, 6$? OR (iii)(b) Find the sum of predecessor of 6 and successor of -3.	**1** **1** **2**