

KENDRIYA VIDYALAYA, BHU, VARANASI- 1st Shift
HALF YEARLY EXAM (2024-25)

Class: VI(Set 1)

SUBJECT – MATHEMATICS

Time: 2:30 hours

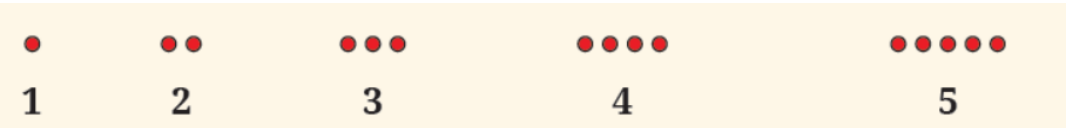
M.M:60

General Instructions:

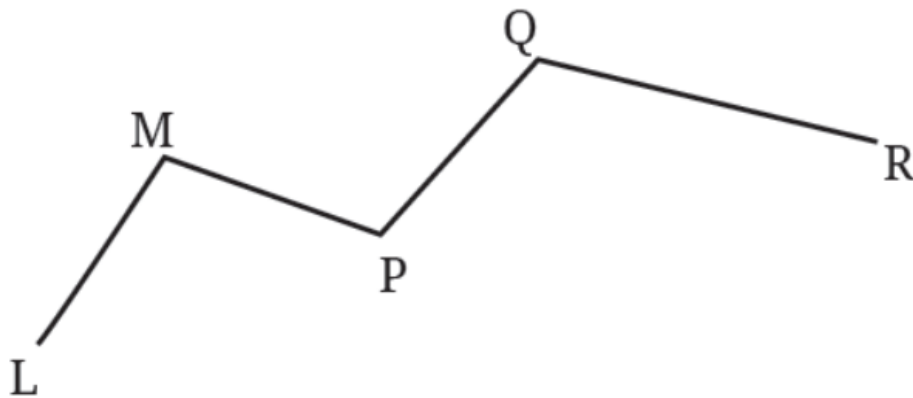
- 1. All Questions are compulsory.**
- 2. The Question paper consists of 28 Questions divided into five sections A, B, C, D and E.**
- 3. Section – A contains 14 Questions of 1 marks each, Section- B contains 4 questions of 2 marks each, Section –C contains 5 questions of 3 marks each, Section – D contains 3 questions of 5 marks each, Section E has 2 case study based questions.**

SECTION A

Q.1	Find the next number of the following sequence 1, 3 ,5,7, a) 8 b) 9 c) 10 d)11	1			
Q.2	Which number is fill in the 2nd cell, such that cell become supercell <table><tr><td>2430</td><td></td><td>7350</td></tr></table> a)2500 b) 7000 c)8000 d) none of these	2430		7350	1
2430		7350			
Q.3	Find the next number of the following sequence 1, 4,9,16, a) 15 b) 20 c) 25 d)30	1			

Q.4	Find the next number of the following sequence 2,4 ,6,8 a) 9 b) 10 c) 11 d)12	1
Q.5	What is the name of the following sequence of numbers? a)counting numbers b)odd numbers c) even numbers d) none of these 	1
Q.6	How many lines can pass through one point? a) 1 b)2 c)many d)none of these	1
Q.7	How many lines can pass through two points? a) 1 b)2 c)many d)none of these	1
Q.8	Which of the following angles is an acute angle ? a) 72 b) 92 c) 102 d) None of these	1
Q.9	Which of the following angles is an obtuse angle ? a)72 b) 89 c) 102 d) None of these	1
Q.10	Which of the following angles is a reflex angle ? a)190 b) 96 c) 72 d) None of these	1
Q.11	Among the numbers 1–100, how many times will the digit '7' occur? a)20 b) 18 c)19 d) none of these	1
Q.12	Which number is called the 'Kaprekar constant' ? a) 6174 b) 7745 c)5674 d) none of these	1
Q.13	Which of the following is palindromic numbers ?	1

	a) 848 b)849 c) 850 d) none of these	
Q.14	Find out how many numbers have two digits ? a)90 b)91 c)92 d)none of these	1
	SECTION B	
Q.15	What is the next shape of sequence ? 	2
Q.16	<i>How many little triangles are there in the first two shapes of the sequence of Stacked Triangles?</i>	2
Q.17	<i>Use a protractor to draw angles having the following degree measures:</i> <i>a. 110° b. 40°</i>	2
Q.18	The Ashoka Chakra has 24 spokes. What is the degree measure of the angle between two spokes next to each other? 	2
	SECTION C	
Q 19	Name the line segments in the following figure	3



Q 20 Write the number of sides of following shapes

a) Hexagon

b) Octagon

c) Decagon

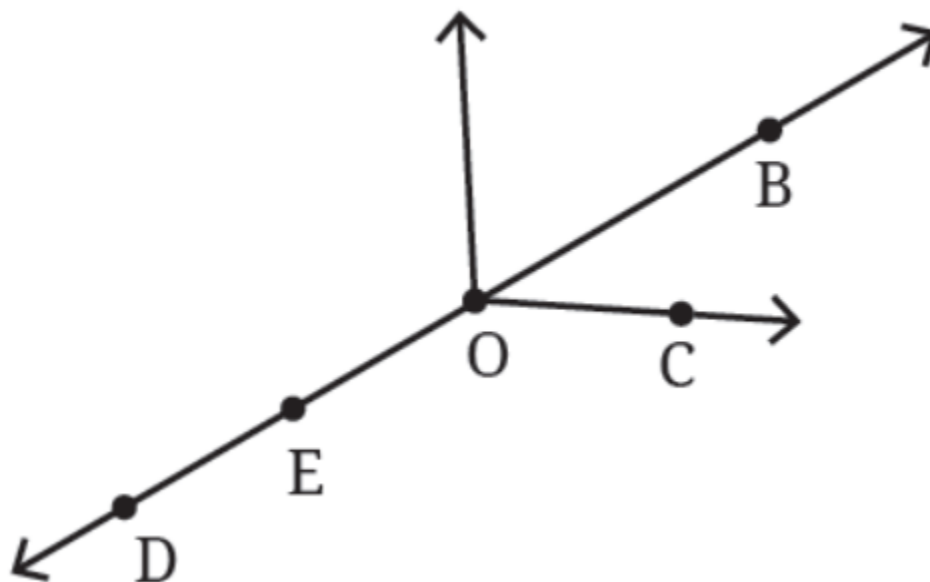
3

Q21 From the following figure name:

a. Five points

b. A line

c. Four rays



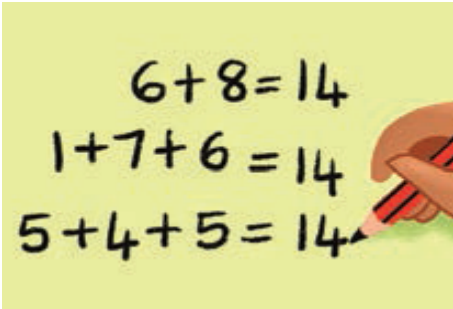
3

Q 22 Write any six possible 3-digit palindromes using 1,2,3.

3

Q 23 How many rounds does the number 7443 take to reach the Kaprekar constant?

3

	SECTION D	
Q24	<i>Draw a rough figure and write labels appropriately to illustrate each of the following:</i> <i>a. OP and OQ meet at O.</i> <i>b. XY and PQ intersect at point M.</i> <i>c. Line l contains points E and F but not point D.</i> <i>d. Point P lies on AB.</i>	5
Q25	Write any two Collatz sequences. <i>Or</i> Write an example for each of the below scenarios whenever possible. a) 5-digit + 5-digit to give a 5-digit sum more than 90,250 b) 5-digit – 5-digit to give a difference less than 56,503	5
Q26	Draw the pictorial representations of the number sequences (for three number of sequence). a) Odd numbers b) Even numbers c) Triangular numbers d) Squares numbers	5
	SECTION E	
Q27	Komal observes that when she adds up digits of certain numbers the sum is the same. For example, adding the digits of the number 68 will be same as adding the digits of 176 or 545. a. Write one other number whose digits add up to 14. b. What is the smallest number whose digit sum is 14? c. What is the largest 2-digit whose digit sum is 14? 	4
Q28	Among the most basic patterns that occur in mathematics are patterns of numbers, particularly patterns of whole numbers: 0, 1, 2, 3, 4, ... The branch of Mathematics that studies patterns in whole numbers is called	4

number theory. Number sequences are the most basic and among the most fascinating types of patterns that mathematicians study.

Fill in the blanks(next one number of sequence):

a)1, 8, 27, ,... (Cubes)

b)1, 2, 3, 5, , ... (Virahānka numbers)

c)1, 2, 4, 8, ... (Powers of 2)

d)1, 3, 9, 27, ... (Powers of 3)