विद्या सर्वार्थ साधिका

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PERIODIC TEST – 2

Class: VI

Subject: Mathematics M.M: 50

Date : 22 -09-2025 Time: 2 Hours

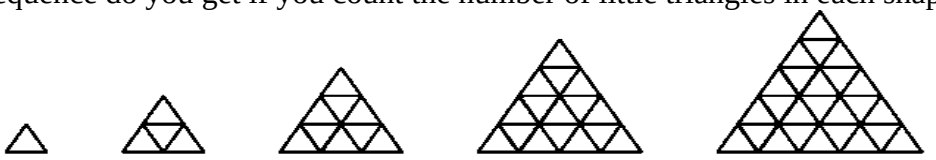
General Instructions:

(1) This question paper contains 24 questions.
(2) This question paper is divided into 4 sections – A, B, C and D.
(3) Section-A contains 9 multiple choice questions (MCQ's) each of 1 mark.
(4) Section-B contains 7 very short- answer type questions each of 2 marks.
(5) Section-C contains 5 short- answer type questions each of 3 marks.
(6) Section-D contains 3 long answer type questions each of 4 marks.
(7) There is no overall choice. However, an internal choice has been provided in 3 questions in Section-B, 2 questions in Section-B, 1 question in Section-C and 1 question in Section- D.
(8) Use of calculator is not allowed.

SECTION-A

1. Which number sequence denotes hexagonal numbers? (1)
   (A) 1, 8, 27, 64 (B) 1, 4, 9, 16 (C) 1, 7, 19, 37 (D) 1, 3, 6, 10

2. Which sequence do you get if you count the number of little triangles in each shape? (1)



   (A) Sequence of square numbers (B) Sequence of hexagonal numbers
   (C) Sequence of triangular numbers (D) Sequence of odd numbers

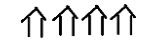
3. Which of the following number sequence do we get in Koch snowflake sequence? (1)
   (A) 1, 12, 27, 45 (B) 3, 12, 45, 190 (C) 3, 12, 45, 192 (D) 3, 12, 48, 192

4. Which of these represents a line segment? (1)
   (A) A cap of a bottle (B) A bead
   (C) Tip of a compass (D) A needle

5. A reflex angle is _____. (1)
   (A) greater than $180°$ (B) less than $180°$
   (C) equal to $90°$ (D) exactly $180°$

6. Which of the following has two end points? (1)
   (A) A plane (B) A ray (C) A line (D) A line segment

7. The smallest 3-digit number formed by using the digits of Kaprekar's constant only once. (1)
   (A) 146 (B) 476 (C) 416 (D) 176

8. What is the number of huts represented by  if each symbol represents 25 huts? (1)
   (A) 120 (B) 100 (C) 150 (D) 75

9. Which of the following pairs is co-primes? (1)
   (A) 14, 35 (B) 25, 30 (C) 17, 29 (D) 12, 18

SECTION-B

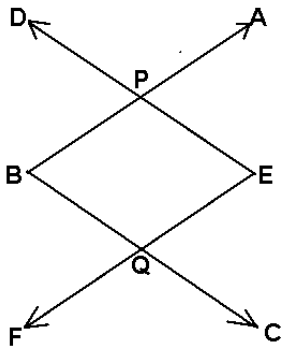
10. (A) Complete the following number sequence: (2)
    (i) 1+ 3+ 5+ _____ + 9+ 11 = _____
    (ii) 1 + ___ + 3 + 4 + 3+2+ 1 = _____

OR

(B) Identify the pattern and write next 2 numbers to complete the given pattern :
    (i) 1,3,6,10, 15, _____, _____
    (ii) 1, 8, 27, 64, 125, _____, _____

11. (i) Find the value of 1+2+3+4+5+…….+22 (2)
    (ii) Find the sum of 1+3+5+7+…….+ 21

12. Refer the adjoining figure and answer the following questions: (2)
    (i) Write the angles which have P and Q as common points.
    (ii) Name any two rays.



13. (i) If the hour hand of a clock starts from 12 and stops at 9, how many right angles has it moved? (2)
    (ii) Where will the hour hand of a clock stop if it starts at 5 and make $90°$?

14. (A) Construct the collatz sequence starting with 20. (2)

OR

(B) Start with 8632 and reach the Kaprekar constant.

15. (A) The following are the weights (in kg) of 20 students of a class. (2)

25	16	17	15	25	16	16	15	16	17
15	16	25	25	16	15	25	16	25	16

Prepare a table using tally marks for the given data.

OR

(B) (i) If ㋈ ㋈ ㋈ ㋈ ㋈ stands for 40, how much does ㋈ stand for?
    (ii) If ☐ represents 7 erasers, then find the number of ☐ to be drawn to represent 91 erasers.

16. (i) Express 36 as sum of twin primes. (2)
    (ii) Find prime factorization for 56×25 without finding the product.

SECTION-C

17. (A) What happens when you multiply the triangular numbers by 6 and add 1? Which sequence do you get? Explain it using a diagram. (3)

OR

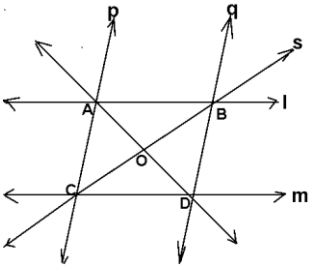
(B) Answer the following questions:
    (i) Find 10^{th} and 12^{th} square numbers.
    (ii) Find 6^{th} and 8^{th} triangular numbers.
    (iii) In the Fibonacci sequence 1, 1, 2, 3, 5, 8, 13…. find the eighth and ninth term.

18. (i) Observe the time shown in the clock. How many minutes later the clock will show next palindromic time? (3)

(ii) Draw the given table and mark the supercells in the table.

430	500	350	870
115	795	124	230
580	632	280	446
785	944	805	304

19. Refer the adjoining figure and answer the following questions: (3)



(i) A pair of parallel lines.
(ii) The lines whose point of intersection is A.
(iii) Three collinear points.
(iv) Point of intersection of lines s and p.
(v) Where do $\overleftrightarrow{BC}$ and $\overleftrightarrow{AD}$ intersect?
(vi) Write another name for line q.

20. The sale of electric bulbs on different days of a week is shown below. (3)

DAY	Number of bulbs
Monday	
Tuesday	
Wednesday	
Thursday	
Friday	
Saturday	
Sunday	

Clue: = 2 bulbs

Observe the pictograph and answer the following questions:
(i) Write the number of bulbs sold on Monday.
(ii) If one bulb is sold for ₹10, what was the total earning on Sunday?
(iii) If one big carton can hold 9 bulbs, how many cartons were needed on Sunday?

21. (A) What is the GCD of 28 and 70? (3)

OR

(B) Find the LCM of 48 and 36.

SECTION-D

22. In a game, children must say 'idli' for multiples of 6 and 'vada' for multiples of 7. For numbers divisible by both numbers they must say 'idli-vada'. Write the numbers in the game where they say only 'idli' and only 'vada'. Also, write first four positions where children say 'idli-vada' both. (4)

23. The following data gives the number of students of Delhi who went abroad for studies. (4)

Scale: 1cm = 200 students

Year	1995	1996	1997
No. of students	1400	1600	1200

Represent the above data with the help of a bar graph.

24. (A) Answer the following questions: (4)

(i) Write TRUE or FALSE:

A 5-digit number subtracted from another 5-digit number may give a 4-digit number.

(ii) Write an example for the following:

5- digit number – 5-digit number to give difference less than 56503.

(iii) Write the greatest 5-digit number whose sum is 15.

(iv) Build 15000 using the numbers given and performing basic operations of addition, subtraction, multiplication. (You may repeat the numbers.)

25000	13000	1500

OR

(B) Use graph paper to perform the following activity.

Join A to other grid points in the figure by a straight line to get a right angle.