

Half-Yearly Examination - (2026-27)
SUBJECT – MATHEMATICS (SET - 2)

TIME – 2½ Hours

Class- VI

M.M – 60

General Instructions: All questions are compulsory. This question paper contains 27 questions divided into Sections A, B, C, D, and E.

SECTION – A (1 x 12 = 12M)

- Q1. What is the next shape in the sequence? (Circle, Triangle, Square, Pentagon, ...)
(A) Hexagon (B) Octagon (C) Rectangle (D) Semi-Circle
- Q2. The sum of two consecutive triangular numbers always results in:
(A) Square numbers (B) Triangular numbers (C) Cube numbers (D) Prime numbers
- Q3. Which of the following has a fixed length with two distinct endpoints?
(A) Line (B) Ray (C) Line Segment (D) Parallel lines
- Q4. What is the minimum number of line segments required to enclose a polygon?
(A) 2 (B) 3 (C) 4 (D) 5
- Q5. Which number is known as Kaprekar constant for 4-digit numbers?
(A) 4176 (B) 6174 (C) 7614 (D) 1476
- Q6. The largest two-digit palindromic number is:
(A) 11 (B) 22 (C) 99 (D) 90
- Q7. In which graphical representation are numerical data represented using proportional rectangular bars?
(A) Pictograph (B) Bar Graph (C) Pie Chart (D) Line Graph
- Q8. A pictograph uses symbol  = 4 fruits. If a category displays 7 apples, how many total fruits does it represent?
(A) 21 (B) 28 (C) 32 (D) 24
- Q9. Facts or figures collected in numerical form to get meaningful information are called:
(A) Data (B) Tally marks (C) Frequency (D) Variable
- Q10. Which of the following is an even prime number?
(A) 1 (B) 2 (C) 4 (D) 6
- Q11. Assertion (A): 121 is a palindromic number.
Reason (R): Numbers that read the same forwards and backwards are called palindromes.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.

- (C) Assertion A is true but Reason R is false.
(D) Assertion A is false but Reason R is true.

Q12. Assertion (A): An angle measuring 120° is an obtuse angle.

Reason (R): Angles greater than 90° and less than 180° are called obtuse angles.

- (A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) Assertion A is true but Reason R is false.
(D) Assertion A is false but Reason R is true.

SECTION – B (2 x 7 = 14M)

Q13. Write the next four numbers in the sequence: 5, 10, 15, 20, 25, 30, ____, ____, ____, ____

Q14. Fill in the blanks:

- (a) An angle whose measure is 90° is called a _____ angle.
(b) A _____ has only one endpoint and extends infinitely in one direction.

Q15. Write the smallest and greatest 5-digit numbers using different digits.

Q16. Find the sum of the digits of the numbers 456 and 321.

Q17. [Pictograph Case / Figure representation] A pictograph shows fruit preferences where symbol  = 3 students. If Mango has 5 banana symbols, Apple has 4, and Orange has 6:

- (a) Which fruit is liked by the maximum number of students?
(b) How many total students chose Mango and Apple combined?

Q18. Check what digit can replace the blank box in 4_72 to make it divisible by 3.

Q19. Find all the factors of 24.

SECTION – C (3 x 6 = 18M)

Q20. Find the LCM of 18 and 24 using prime factorization.

Q21. Explain what happens when you add consecutive triangular numbers (e.g., $1+3$, $3+6$, $6+10$). Which sequence is formed and why?

Q22. [Figure / Clock Question] (i) Draw lines AB and AC intersecting at point A. (ii) What will be the angle between clock hands at 4 o'clock and at 6 o'clock?

Q23. The time on a digital clock is 12:21. How many minutes until the clock shows the next palindromic time?

Q24. [Bar Graph Question] Analyze a bar graph representing weekly book sales (Mon: 10, Tue: 25, Wed: 15, Thu: 30, Fri: 20) and answer: (i) On which day were maximum books sold? (ii) How many books were sold on Wednesday? (iii) What is the difference between Friday and Monday sales?

Q25. Given a frequency table of runs scored by a batsman in 20 matches, answer questions regarding maximum frequency, title, and matches with specific runs.

SECTION – D (4 x 4 = 16M)

Q26. [Pictograph Construction] Draw a neat pictograph for pet animals owned by families (Dogs: 12, Cats: 8, Birds: 16, Rabbits: 4) using symbol  = 4 animals.

Q27. [Figure Geometry Angles] Refer to an angle figure where rays branch out from vertex O forming adjacent angles $\angle 1$, $\angle 2$, $\angle 3$. Name specific combinations using three letters.

Q28. In a classroom game up to 60, children say 'Zip' for multiples of 4, 'Zap' for multiples of 6, and 'Zip-Zap' for common multiples. (i) How many times is 'Zip' said? (ii) How many times is 'Zap' said? (iii) How many times is 'Zip-Zap' said? (iv) At which number is 'Zip-Zap' said for the 2nd time?

Q29. [Number Puzzle / Figure] I am a 4-digit palindrome number. My hundreds digit is double my tens digit, and my thousands digit is 1. Who am I?