

SMART SOCIETY INTERNATIONAL MATHEMATICS OLYMPIAD (SSIMO)



Organized by

Department of Basic Science and Humanities
INSTITUTE OF ENGINEERING & MANAGEMENT,
IEM-UEM GROUP and SMART SOCIETY, USA

TOTAL QUESTIONS: 35

DURATION: 1 HOUR

INSTRUCTIONS TO THE CANDIDATES:

1. The following question booklet is divided into 3 sections
 - a) Section A (Logical Reasoning) : 10 Questions
 - b) Section B (Mathematical reasoning) : 10 Questions
 - c) Section C (Achiever's level Mathematics): 20 Questions
2. Each question of section A carries 2 mark. Each question of section B carries 2 marks and each question of section C carries 3 marks.
3. All questions are compulsory. There is no negative marking. Use of calculator is not permitted.
4. There is only ONE correct answer. Choose only ONE option for an answer.
5. To mark your choice of answers by darkening the circles on the OMR sheet, use HB Pencil or Blue/Black ball point pen.
6. Rough work should be done in the blank space provided in booklet.
7. Return the OMR sheet to the invigilator at the end of exam.
8. Please fill in your personal details (in block letters) in the space provided below.

NAME:

SCHOOL NAME:

CONTACT DETAILS OF GUARDIAN:

Section A

Logical Reasoning

- Horipada is facing south-west. He turns 90° anticlockwise and then 225° clockwise. In which direction will he be facing now?
a) North b) South
c) East d) West
- What number comes next in the sequence: 2, 6, 12, 20, ____?
a) 22 b) 30
c) 26 d) 24
- Find the odd one out: 83, 85, 87, 90, 91.
a) 83 b) 85
c) 87 d) 90
- What is the missing number in the pattern: 5, 10, 20, 40, ____, 160?
a) 50 b) 60
c) 80 d) 120
- How many times does the digit 5 appear between 1 and 100?
a) 15 b) 25
c) 20 d) 10
- If a train travels 60 km/h for 3 hours, how far does it travel?
a) 180 KM b) 120KM
c) 80KM d) 40KM
- You have 10 apples, and you give 3 to a friend. How many apples do you have left?
a) 4 b) 7
c) 5 d) 9
- A square has 4 equal sides. If one side is 8 cm, what

is the perimeter of the square?

- a) 32 CM b) 3.2 CM
c) 12 CM d) 16 CM

- What is the next shape in this pattern: Square, Circle, Square, Circle, ____?
a) Square b) Circle
c) Rectangle d) Triangle

Section B

Mathematical Reasoning

- A fish swims 4 meters every minute. How many meters will it swim in 5 hours?
a) 20 meter b) 20 kilo meter
c) 1200 meter d) 9 kilo meter
- How many sides does a decagon have?
a) 9 b) 8
c) 7 d) 10
- What is the sum of the angles in a quadrilateral?
a) 120 b) 90
c) 180 d) 360
- If you have a 3×3 grid of squares, how many total squares can be seen?
a) 10 b) 12
c) 14 d) 16
- A class of 30 students has 18 boys and the rest are girls. What fraction of the class are girls?
a) $1/5$ b) $2/5$
c) $7/5$ d) 1
- At 6:36 PM, what is the angle between minute hand and the hour hand?
a) Acute angle b) Obtuse angle
c) Right angle d) None of these

17. What is the next number in the pattern: 1, 4, 9, 16, ____?
a) 36 b) 49
c) 64 d) 25
18. If a point on a map is located at (3, 5), what are the coordinates of the point 2 units to the right and 1 unit down?
a) (1,3) b) (5,6)
c) (5,4) d) (5,7)
19. You are traveling from (4, 2) to (4, 5) on a grid. How many steps do you need to take?
a) 3 steps up. b) 3 steps down
c) 5 steps up. d) 5 steps down.
20. An athlete takes 6 rounds of a rectangular park, 35 m long and 27 m wide. Find the total distance covered by him.
a) 746 b) 744
c) 745 d) 748
23. The value of $45.61 + 21.49 - 60.1$
a) 7 b) 8
c) 9 d) None
24. COW=?
 $COW \div 25 \times 16 = 112$
a) 175 b) 125
c) 140 d) 200
25. A piece of cloth is 3 meters long. If you cut it into 6 equal pieces, how long is each piece?
a) 50 cm b) 0.05 m
c) 0.005 cm d) 0.06 km
26. A fish tank has a volume of 36 liters. If each fish needs 3 liters of water, how many fish can the tank hold?
a) 13 b) 15
c) 12 d) 14
27. Find the angle of a triangle if the other two angles are 45.64° and 65.36° .
a) 60 b) 90
c) 100 d) 69

Section C

Achiever's level Mathematics

21. A pie chart shows that 50% of students prefer pizza, 30% prefer burgers, and 20% prefer pasta. If there are 200 students, how many prefer pizza?
a) 105 b) 120
c) 130 d) 100
22. In a bar chart, the height of the bar for Monday is 7 units, for Tuesday is 4 units, and for Wednesday is 9 units. What is the total of the heights of the bars for Monday, Tuesday, and Wednesday?
a) 14 b) 15
c) 16 d) 20
28. A chessboard has 64 squares. How many 2×2 squares are there?
a) 25 b) 16
c) 49 d) 64
29. The cost of fencing a rectangular garden at Rs. 25 /meter is Rs. 5100. The length of the field is 54 meter, then its breadth is
a) 48 b) 58
c) 38 d) 150
30. A man is facing west. He turns 45° in the clockwise direction and then another 180° in the same direction and then 270° in the

- anticlockwise direction. Which direction is he facing now? Point D is in which direction with respect to Point F?
- a) South b) North-West
c) West d) South-West
31. In a shop there are 275 apples. Out of which $\frac{4}{25}$ are defective. Number of good apples are
- a) 231 b) 220
c) 250 d) None of these
32. The ratio of the length of school playground to its width is 5:3. If the width of the ground is 66 metres, the length of the playground is
- a) 110 m b) 100 m
c) 120 m d) 125 m
33. What is the greatest common divisor of 18 and 24?
- a) 1 b) 2
c) 4 d) 6
34. On a grid, point A is at (2, 3), and point B is at (5, 7). What is the distance between A and B?
- a) 8 b) 6
c) 5 d) 1
35. On a map, the scale is 1 cm = 10 km. If the distance between two cities is 6 cm on the map, what is the actual distance?
- a) 50 km b) 60 km
c) 60 m d) 80 km
36. A box has a length of 5 cm, a width of 3 cm, and a height of 2 cm. What is the surface area of the box?
- a) 62 cm². b) 62 cm³
c) 62 cm. d) 72 cm²
37. The number of prime factors of 364 is
- a) 4 b) 3
c) 2 d) 5
38. Find the greatest five digit number that can be formed by using all different digits and having 5 at tenth place?
- a) 98751 b) 99852
c) 98756 d) 99959
39. If a pie chart represents 360°, how many degrees does each part represent if the pie is divided into 4 equal sections?
- a) 45 b) 90
c) 180 d) 120
40. The present age of father is 45 years and that of son's is 15 years. Find the ratio of age of father to the age of son when father will be 60 years old.
- a) 1:2 b) 2:1
c) 2:3 d) 1:3



