

SMART SOCIETY INTERNATIONAL SCIENCE OLYMPIAD (SSISO)



Organized by

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

TOTAL QUESTIONS: 40

DURATION: 1 HOUR

INSTRUCTIONS TO THE CANDIDATES:

1. The question paper is divided into 3 sections.
Section A - Logical Reasoning (10 Questions)
Section B - Science (10 Questions)
Section C- Achiever's Level Science (20 Questions)
2. In section A, each question carries 2 marks. In Section B, each question carries 2 marks. In section C, each question 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.
5. To mark your choice of correct answer, darken the circles on the OMR sheet. For this purpose, use HB Pencil or Black ball point pen.
6. Rough work should be done in the blank space provided at the end of the booklet.
7. Return the OMR sheet to the invigilator at the end of the examination.
8. Please fill in your personal details in the space provided below.

NAME:

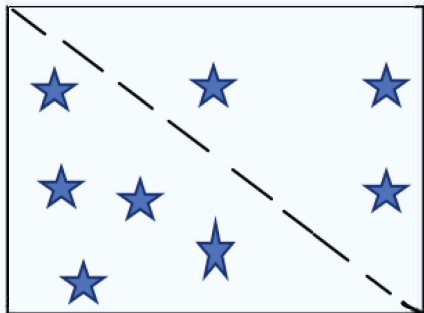
SCHOOL NAME:

CONTACT DETAILS OF GUARDIAN:

SECTION A

LOGICAL REASONING

1. A figure has 5 stars on the left side of a diagonal line and 3 stars on the right side. How many stars do you need to add from left side to the right side to make the figure symmetrical?



- a) 4 b) 1
c) 3 d) 2
2. If 'Book' means 'Ground', 'Ground' means 'Stag', 'Stag' means 'Pen' and 'Pen' means 'Pencil', then where you could play?
- a) Pen b) Book
c) Stag d) Pencil
3. If A = 1, B = 2, C = 3, etc., what is the sum of the letters in the word "CAT"?
- a) 60 b) 24
c) 28 d) 15
4. What is the next colour in the rainbow sequence? Red, Orange, Yellow, Green, __?
- a) Blue b) Violet
c) White d) Black
5. Continue the pattern: Triangle, Square, __, Hexagon?
- a) Rectangle b) Pentagon
c) Oval d) None of these
6. Sarah is facing south. She turns 90 degrees to her left, then 90 degrees to her right. Which

direction is she facing now?

- a) North b) East
c) West d) South
7. A boy starts walking from point A towards the east for 10 meters then turns left and walks 5 meters. After that, he turns left again and walks 10 meters. In which direction is he now?
- a) West b) East
c) North d) South
8. A girl walks 30 meters east, then 30 meters south, and finally 30 meters west. How far is she from her starting point?
- a) 30 meters b) 15 meters
c) 10 meters d) 20 meters
9. At what time will the minute hand be at 180 degrees from the hour hand if the time is between 12 noon and 11 pm.?
- a) 6:00 b) 7:20
c) 8:00 d) 9:00
10. Find the next pair of letter in the series given below.
WB, TF, QJ, NN, KR,
- a) HV b) IV
c) HU d) IV

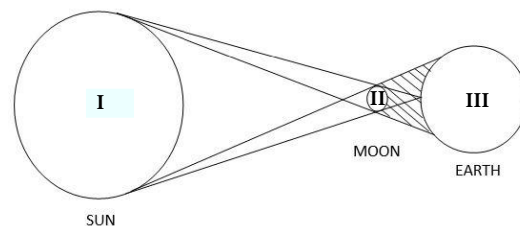
SECTION B

SCIENCE

11. Which of the following is a renewable source of energy?
- a) Coal b) Natural Gas
c) Solar Energy d) Nuclear Energy
12. Which of the following best describes the process of photosynthesis?

- a) The conversion of light energy into chemical energy by plants
- b) The breakdown of glucose to release energy
- c) The process by which animals breathe
- d) The movement of water through a plant

20.



Look at the figure. It shows solar eclipse. Where will be the Earth in it? (DO NOT CONSIDER SIZE IN DIAGRAM)

- a) I b) II
- c) III d) None of these

SECTION C

ACHIEVER'S LEVEL

13. Which part of the cell is known as the "powerhouse" because it produces energy?

- a) Nucleus b) Ribosome
- c) Mitochondria d) Golgi Apparatus

14. Which layer of the Earth is liquid?

- a) Crust b) Mantle
- c) Outer Core d) Inner Core

15. What type of simple machine is a seesaw?

- a) Lever b) Pulley
- c) Inclined Plane d) Wheel and Axle

16. What type of rock is formed from cooled magma?

- a) Sedimentary b) Metamorphic
- c) Igneous d) Fossilized

17. Which of the following is an example of a physical change?

- a) Burning wood b) Rusting iron
- c) Melting ice d) Baking bread

18. What is the term for animals that can make their own food?

- a) Heterotrophs b) Autotrophs
- c) Herbivores d) Carnivores

19. Which part of a fish helps it to swim?

- a) Gills b) Fins
- c) Scales d) Tail

21. What is the primary function of white blood cells in the human body?

- a) To carry oxygen
- b) To digest food
- c) To fight infections
- d) To produce hormones

22. What is a pandemic?

- a) A disease that affects only animals
- b) A disease that spreads quickly in a small area
- c) A disease that spreads over multiple countries or continents
- d) A disease that has no cure

23. Which organ in the body is primarily responsible for filtering blood and producing urine?

- a) Heart b) Liver
- c) Kidneys d) Lungs

24. Which nutrient is essential for building and repairing tissues in the body?

- a) Carbohydrates b) Proteins

- c) Fats d) Vitamins
25. In which part of the plant does photosynthesis primarily occur, and what is the role of chlorophyll in this process?
- Roots; it absorbs water
 - Leaves; it captures sunlight
 - Flowers; it attracts pollinators
 - Stems; it transports nutrients
26. What is the term for the practice of breeding plants or animals for specific traits?
- Natural selection
 - Genetic engineering
 - Selective breeding
 - Adaptation
27. Which type of immunity is acquired through exposure to a disease or vaccination?
- Innate immunity
 - Passive immunity
 - Active immunity
 - Herd immunity
28. What is the main purpose of the lymphatic system in the human body?
- To transport oxygen
 - To filter waste
 - To help fight infections
 - To digest food
29. Which of the following is NOT a function of the liver?
- Producing bile
 - Storing glucose
 - Filtering toxins from the blood
 - Pumping blood
30. What is produced when an acid reacts with a base?
- Salt and water
 - Hydrogen gas
 - Oxygen gas
 - Carbon dioxide
31. According to Newton's second law of motion, what is the relationship between force, mass, and acceleration?
- $\text{Force} = \text{Mass} + \text{Acceleration}$
 - $\text{Force} = \text{Mass} \times \text{Acceleration}$
 - $\text{Force} = \text{Mass} / \text{Acceleration}$
 - $\text{Force} = \text{Acceleration} / \text{Mass}$
32. Which part of the brain is primarily responsible for balance and coordination?
- Cerebrum
 - Cerebellum
 - Brainstem
 - Hippocampus
33. Which of the following elements is a noble gas?
- Oxygen
 - Nitrogen
 - Neon
 - Chlorine
34. Which of the following types of energy is stored in the bonds of chemical compounds?
- Kinetic Energy
 - Potential Energy
 - Thermal Energy
 - Nuclear Energy
35. What is a major concern associated with the overuse of antibiotics?
- Increased effectiveness of antibiotics
 - Development of antibiotic-resistant bacteria
 - Shorter duration of bacterial infections
 - Complete eradication of diseases

36. Identify the correct relation:
- a) Speed and velocity both are scalar quantities
 - b) Speed and velocity both are vector quantities
 - c) Speed is scalar but velocity is vector
 - d) Speed is vector but velocity is scalar

37. Which of these is a property of liquids?
- a) They have a fixed shape.
 - b) Liquids do not have a tendency to flow.
 - c) They take the shape of their container.
 - d) They are always visible.

38. What happens when vinegar is mixed with baking soda?
- a) It freezes
 - b) It bubbles and fizzes
 - c) It turns blue
 - d) It changes to solid

39. What is the main cause of seasons on Earth?
- a) Distance from the Sun
 - b) Earth's mass and size
 - c) Earth's tilt on its axis
 - d) The Moon's phases

40. Humidity means amount of ----- in the air?
- a) Dust Particle
 - b) Cloud
 - c) Water Vapour
 - d) Heat



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