

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 answers, 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. In a certain language, HOUSE is written as JQWUG. How will BRACELET be written in the same code language?
 - a) DTCEGNUMY
 - b) DTCUUGRF
 - c) DTCEGNGV
 - d) DTCEGNUMA
2. What comes next in the series 1, 4, 9, 16, ...?
 - a) 20
 - b) 24
 - c) 25
 - d) 26
3. Milk: Cow:: Meat: _____. Fill with the appropriate word)
 - a) Tiger
 - b) Lion
 - c) Goat
 - d) Elephant
4. If $5 + 3 = 21$ and $4 + 2 = 14$, then what is $6 + 1$ equal to?
 - a) 42
 - b) 32
 - c) 22
 - d) 12
5. Find the missing number: 1, 3, 6, 10, __, 21.
 - a) 12
 - b) 15
 - c) 18
 - d) 20
6. Which of the following sentences makes the most sense?
 1. She finished her homework.
 2. She went out to play.
 3. She started her homework.
 - a) 1, 2, 3
 - b) 3, 1, 2
 - c) 2, 1, 3
 - d) 1, 3, 2
7. Choose the synonym for the word "Arduous":
 - a) Easy
 - b) Difficult
 - c) Quick
 - d) Simple
8. If a triangle is rotated 90 degrees clockwise, which shape will it resemble?
 - a) Upside-down Triangle
 - b) Right-side-up Triangle
 - c) Square
 - d) Trapezoid
9. If a circle is divided into four equal parts, which of the following shapes is formed?
 - a) Triangle
 - b) Square
 - c) Quarter Circle
 - d) Rectangle
10. What comes next in this pattern?
○, ○●, ○●○, ○●○●, __?
 - a) ○●○●○
 - b) ●○●
 - c) ○●●○
 - d) ○●○●●

SECTION B

SCIENCE

11. The colour of the structures that grow out from the sprouted seed-
 - a) Black
 - b) White
 - c) Red
 - d) Green
12. Silk was first developed in _____.
 - a) India
 - b) England
 - c) Egypt
 - d) China

13. Match then following

COLUMN-I	COLUMN-II
1. Sweater	i. cotton
2. Cotton balls	ii. wool
3. Dhoti	iii. ginning
4. Gunny bags	iv. jute

- a) 1-iii,2-i,3-iv,4-ii
b) 1-ii,2-iii,3-i,4-iv
c) 1-i,2-iv,3-ii,4-iii
d) 1-iv,2-ii,3-iii,4-i
14. We can see enlarged view of a fabric using a-
a) Telescope
b) Periscope
c) Magnifying glass
d) All of these
15. When cycle moves on a straight path, it describes _____.
a) Rectilinear motion
b) Curvilinear motion
c) Translatory motion
d) Oscillatory motion
16. If the mass of an object is 23.54 gm and volume is 11.2 cm cube then its density is equal to (in gm/cm^3)-
a) 2.5 b) 6.2
c) 3.3 d) 2.1
17. Which of the following animals does not have a liquid skeleton?
a) Earthworm b) Jellyfish
c) Flatworms d) Cockroach
18. A girl is standing 20 cm from the plane mirror. If she moves a few steps towards the mirror, what will happen to the image size in the mirror?
a) The size of the image will increase
b) The size of the image will decrease.
c) The size of the image remains the same.
d) All of the above
19. A wire is wrapped around a rod such that the turns are not overlapping as shown in the figure. If length of the wire is 18 cm, and length of wire used in one turn is 0.4 mm, then the number of turns in the wrapped wire will be-
a) 450 b) 45000
c) 4500 d) 45
20. Which cell organelle is known as the powerhouse of the cell?
a) Mitochondria b) Lysosome
c) Golgi bodies d) Nucleus

SECTION C

ACHIEVER'S LEVEL

21. Read the given statements and select the correct option:

Statement 1: Clothes made from natural fibres are stronger than the clothes made from synthetic fibres.

Statement 2: Cotton, wool and rayon are some of the important natural fibres.

- a) Both statements 1 and 2 are true and Statement 2 is the correct explanation of Statement 1.
b) Both statements 1 and 2 are true but Statement 2 is not the correct explanation of Statement 1.
c) Statement 1 is true and Statement 2 is false.
d) Both statements 1 and 2 are false

22. The mixture of four different powders is taken in a petri dish. The properties of the powders are listed below in the table.

Powder	Colour	Soluble in water	Magnetic in nature	Conductor of electricity
1	Grey	No	Yes	Yes
2	Blue	Yes	No	Yes
3	White	Yes	No	No
4	White	No	No	No

- Which pair of substances would be most difficult to separate?
- a) 1 and 2 b) 2 and 3
c) 3 and 4 d) 2 and 4
23. In which of the following circuits will the bulb or bulbs glow least bright?
- a) A simple circuit with one bulb and one cell.
b) A simple circuit with one bulb and two cells.
c) A simple circuit with two bulbs and one cell.
d) A simple circuit with two bulbs and two cells.
24. Three students gave the following statements during a classroom discussion. This is what they said:
- David: The motion of a vibrating tuning fork exhibits periodic motion.
Nora: The blades of the fan is said to move in a rotatory motion.
James: The length of the footsteps is the same for different people.
- Which student(s) made the incorrect statement(s)?
- a) David and Nora
b) James only
c) Nora and James
d) David only
25. Which of the following will not allow electric current to pass through?
1. Plastic comb
 2. Gold earring
 3. Silver spoon
 4. Wooden box
 5. Copper utensil
 6. Lime juice
- a) 1 and 4 b) 2 and 3
c) 5 and 6 d) 1 and 6
26. Which of the following pairs are wrongly classified?
- P- Snakes and rats- Stay in burrows deep in the sand
Q- Snow leopard- Long ears to hear movements of predators
R- Mountain goats- Strong hooves for running up the rocky mountain slopes
S- Frogs- Breathe through blowholes located on the upper parts of their heads
- a) P and Q b) Q and R
c) R and S d) Q and S
27. Following are the properties of four minerals P, Q, R and S. identify them and select the correct option regarding them.
- P: It is required for proper functioning of thyroid gland
Q: It helps in maintaining body's water balance.
R: It is important for haemoglobin formation.
S: It strengthens bones, teeth and helps in blood clotting.
- a) Deficiency of P causes dryness of eyes and inflammation of tongue.
b) Q is also required for proper functioning of the nervous system.
c) Deficiency of R causes goitre.
d) S also helps to fight infections and keeps skin and mouth healthy.
28. Zoya a class 6 student grouped a few things together on the basis of some common properties as:
- Group I: Plastic bottle, balloon, ice wooden log
Group II: Food colour, vinegar, lemon juice, chalk powder
Group III: Clean water, glass window, lens, air
Group IV: Metal key, marble, copper coin, iron nail
- Select the incorrect statement.
- a) All statements listed in group I float on

- water.
- All statements listed in group II are soluble in water.
 - All substances listed in Group III are transparent
 - All substances listed in Group IV sink in water.
29. Which of the following is incorrect? Difference between weaving and knitting
- Weaving is done by machine while knitting is done by hands only.
 - Weaving uses only one yarn while knitting uses two sets of yarn.
 - Weaving is done for silk only while knitting is done in wool only.
- (I) only
 - (ii) and (iii) only
 - (I), (ii), (iii)
 - None of these
30. Which of the following statements about pinhole camera are correct?
- It is a camera with a single lens.
 - It produces an upside down image of an object.
 - It does not have a screen.
 - It works because light travels in a straight line
 - It forms virtual and colourless shadow of objects.
- (I) and (v) only
 - (ii) and (iv) only
 - (I), (iii) and (iv) only
 - (ii), (iv) and (v)
31. Spot the process that can be used to separate each of the following,
- Cashews from mixture of almonds and cashews.
 - Sugar crystals from a mixture of red lentils.
 - Small stones from a mixture of pulses.
 - Cut and cubed apples from a bowl of fruit salad
- Winnowing
 - Hand-picked
 - Threshing
 - Sieving.
32. Which one of the following methods can be used to separate a solid substance dissolved in water
- Filtration
 - Evaporation
 - Sublimation
 - Loading
33. Fibres are converted to yarn by the process of:
- Spinning
 - Knitting
 - Weaving
 - Rearing
34. A stick of length 1 m is cut into ten small sticks of equal length. Length of one small stick is:
- 1 cm
 - 1 mm
 - 1 dm
 - None of the above
35. Which one of the following types of joint is present between skull and upper jaw
- Hinge joint
 - Fixed joint
 - Pivot joint
 - Ball and socket joint
36. A car is moving on a curved path. Motion of the wheel of the car is an example of:
- Rectilinear Motion
 - Rotational motion
 - Periodic motion
 - All of these
37. A simple device that is used to either break or complete the electric circuit is called:
- Switch
 - Terminal
 - Ammeter
 - Voltmeter
38. Which one of the following will lead to reduction in availability of ground water?

- a) Plantation
- b) Rainwater harvesting
- c) Constructing more lakes
- d) Building more roads

39. Water table refers to

- a) level of ground water
- b) Level of surface water
- c) Level of sea water
- d) Amount of rainfall in a year

40. A gas is colourless, odourless and heavier than air and extinguishes fire. Name it.

- a) Nitrogen
- b) Hydrogen
- c) Carbon Dioxide
- d) Oxygen



Space for rough work