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(SCHOLARS INTEGRAL MATHS & SCIENCE OLYMPIADS)



BIGGEST NATIONAL LEVEL OLYMPIADS (STAGE - II)

MAX. MARKS : 100

SISO QUESTION PAPER

TIME: 60 MIN.

NAME OF THE STUDENT :

HALL TICKET NUMBER :

NAME OF THE SCHOOL :

INSTRUCTIONS TO THE STUDENTS :

- ✎ Write your Hall ticket number immediately after receiving the question paper booklet.
- ✎ Darken the answers only on the OMR Sheet.
- ✎ Read the instructions given on the OMR sheet and follow them accordingly.
- ✎ Don't write any thing on the question paper booklet.
- ✎ To do rough work, use only the white paper provided in the examination hall.
- ✎ **No negative marks.**
- ✎ This question paper booklet consists of 45 questions.
- ✎ **PHYSICS** (Q.No-1 to 15) :
 - First 10 questions (1 to 10) are single correct answer type.
 - Each question carries TWO marks.
 - Next 5 questions (11 to 15) are one or more than one correct answer type.
 - Each question carries THREE marks.
- ✎ **CHEMISTRY** (Q.No-16 to 30) :
 - First 10 questions (16 to 25) are single correct answer type.
 - Each question carries TWO marks.
 - Next 5 questions (26 to 30) are one or more than one correct answer type.
 - Each question carries THREE marks.
- ✎ **BIOLOGY** (Q.No-31 to 45) :
 - All questions (31 to 45) are single correct answer type.
 - Each question carries TWO marks.
- ✎ Students are not allowed to use any Mathematical and Physical tables (OR) any other electronic devices.
- ✎ After completion of the examination hand over the OMR answer sheet to the invigilator without fail. You can retain the question paper with you.
- ✎ Students should not leave the examination hall before the last bell rings.
- ✎ To know your results log in to our website **www.simsolympiads.org** after 1st March-2017.
- ✎ Stage-I result copy will be sent to the school mail id. Please contact your branch principal to know your branch result.

CLASS : VI

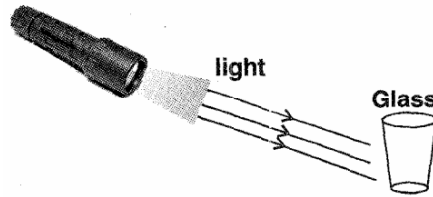
PHYSICS

Single Correct Answer Type :

10 × 2 = 20M

1. There is no dark shadow formed by the glass when light is shone on it. This is because

- 1) It is not night time yet
- 2) The light is not strong enough
- 3) The glass is a transparent object
- 4) The glass is an opaque object



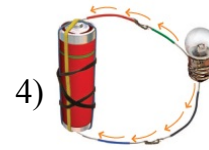
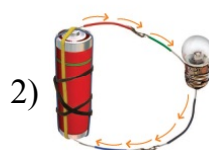
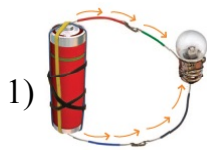
2. In circular motion the

- 1) Direction of motion is fixed
- 2) Direction of motion changes continuously
- 3) Acceleration is zero
- 4) Velocity is constant

3. Among the items mentioned below, we can observe a clear reflection of ours in

- 1) Smooth cushion surface
- 2) Still water surface
- 3) Wooden table
- 4) Polished shoe

4. Which of the following shows correct direction of current?



5. The image formed by a pinhole camera is upside-down because

- 1) Light travels in straight line
- 2) Light rays become laterally inverted as they pass through a pin hole camera
- 3) Light rays pass through the pin hole
- 4) Light rays get reflected

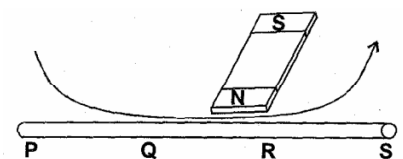
6. The terminals of a battery are joined by a length of resistance wire. Which change increases the current in the battery?

- 1) Connecting an identical wire in series with the first one.
- 2) Increasing the temperature of the wire
- 3) Using a shorter wire of the same material and same thickness
- 4) Using a thinner wire of the same material and the same length.

7. Farhan magnetised a piece of iron rod using the stroking method as shown in the diagram below.

Which part of the iron rod becomes the North-seeking pole?

- 1) P
- 2) Q
- 3) R
- 4) S



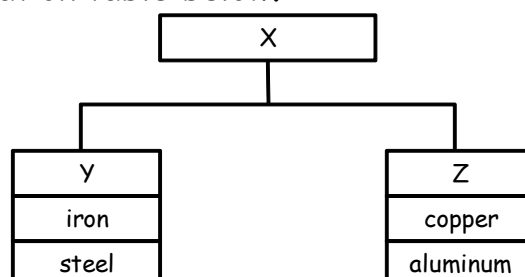
8. The main function of a switch is to

- 1) Allow charges to flow
- 2) Complete or break a circuit
- 3) Make the bulb glow easily
- 4) Prevent electric shocks

9. There are following number of poles in a magnet

- 1) One
- 2) Two
- 3) Three
- 4) Four

10. Look at the classification table below.



Which of the following correctly describes X, Y and Z?

- | | |
|--------------------------------|--|
| 1) X Metals | 2) X Metals |
| Y can sink | Y can be magnetised |
| Z can float | Z cannot be magnetised |
| 3) X Metals | 4) X Metals |
| Y cannot be attached by magnet | Y can allow electricity to pass through |
| Z can be attached by magnets | Z cannot allow electricity to pass through |

Multi Correct Answer Type :

5 × 3 = 15M

11. Choose the correct statements from the following

- 1) Distance between Delhi and Hyderabad is of order in km
- 2) Hundred centimetre make one metre
- 3) 1 tonne is equal to 10^6 g
- 4) A simple pendulum is used to measure the mass of a bob

12. Which of the following statements is/are correct?

- 1) Electricity like heat and light is a form of energy.
- 2) Electric current can flow through the brick walls of a house.
- 3) The metal electric wires can be replaced with plastic ones to allow flow of current.
- 4) Electrical energy can be converted to chemical energy

13. The essential condition for the formation of shadow is

- 1) There should be an opaque material
- 2) There should be a source of light and screen
- 3) The object must be placed in the path of light
- 4) There should be a transparent material

14. What happens to the air in a car tyre as a result of a motorway journey?

- 1) The temperature remains the same and the pressure increases
- 2) The temperature decreases and the pressure increases
- 3) The temperature increases
- 4) The pressure increases

15. Which of the following group has both magnetic and Non-magnetic materials?

- | | |
|------------------------------------|--------------------------------------|
| 1) Plastic, wood, iron, paper | 2) Iron, nickel & cobalt |
| 3) Leather, iron, nickel & clothes | 4) Plastic, leather, clothes & paper |

Single Correct Answer Type :

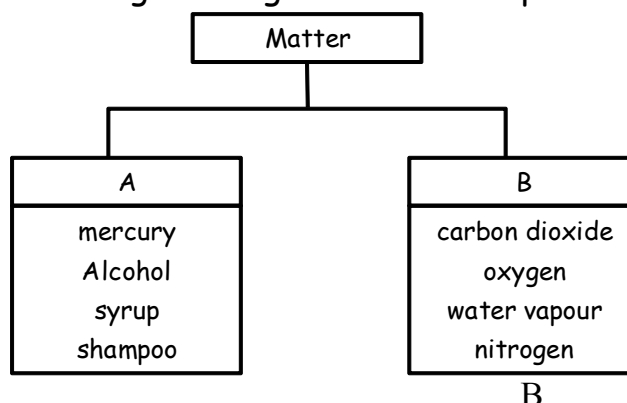
10 × 2 = 20M

16. Consider the given statements and choose the option that correctly declares them either true(T) or false(F).

- A) Air cannot be seen.
- B) Air occupies space and has mass.
- C) Combustion occurs only in the presence of nitrogen.
- D) Deep sea divers carry oxygen cylinders along with them when they go deep into the sea.
- E) Plants need carbon dioxide for respiration

- | | A | B | C | D | E | | A | B | C | D | E |
|----|---|---|---|---|---|----|---|---|---|---|---|
| 1) | T | T | F | F | T | 2) | T | T | F | T | F |
| 3) | T | T | T | F | T | 4) | T | T | T | F | T |

17. Which one of the following headings could best represent A and B?



A

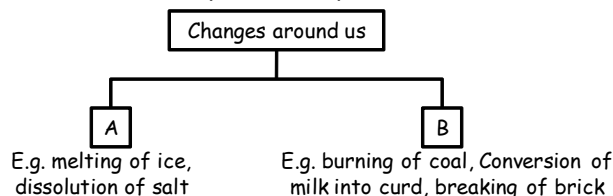
B

- 1) Has no definite shape
- 2) Has definite shape
- 3) Has definite volume
- 4) Occupies space

- Has definite value
Has no definite shape
Has no definite volume
Does not occupy space

18. Consider the following flow chart. A and B stand respectively for

- 1) Temporary and irreversible changes
- 2) Permanent and temporary changes
- 3) Chemical and physical changes
- 4) Irreversible changes and chemical changes



19. A mixture contains three different substances X, Y and Z. X particles are very heavy, magnetic and contribute 50% of the mixture. Y particles are insoluble, and contribute 40% of the mixture. Z particles are soluble, and contribute 10% of the mixture. Which of the following methods can be used to separate X, Y and Z?

- 1) Sieving, Magnetic separation, Filtration
- 2) Winnowing, Magnetic separation, Hand picking
- 3) Handpicking, Sublimation, Sieving
- 4) Magnetic separation, Filtration, Evaporation

20. Match the following and choose the correct option :

Column - I

- a) Cellulose fibre
- b) Synthetic fibre
- c) Inorganic fibre
- d) Vegetable fibre
- e) Animal fibre

Column - II

- p) Flax
- q) Carbon fibre
- r) Nylon
- s) Cellulose ester
- t) Wool

- 1) a-s, b-r, c-q, d-p, e-t 2) a-s, b-r, c-q, d-t, e-q 3) a-r, b-q, c-s, d-p, e-t 4) a-s, b-t, c-r, d-p, e-q

21. A liquid mixture of three substances A, B and C is separated under following steps:

Step -I : The mixture is filtered, so that C gets separated out.

Step -II : The filtrate is subjected to distillation (first boiling and then condensation).

Step -III : Then B is collected after condensation and A remained behind in the distillation flask.

Identify A, B and C.

A

B

C

- | | | |
|-----------------|-------|----------|
| 1) Saw dust | Water | Sugar |
| 2) Salt | Water | Sugar |
| 3) Sugar | Water | Sand |
| 4) Chalk powder | Water | Saw dust |

22. Fill in the blanks using words given in the options below:

- I. During _____, clouds convert into rain drops.
 II. _____ involves circulation of water from oceans to clouds.
 III. The rainwater which seeps into the ground and collected there is known as ____
 IV. Water which is suitable for drinking is known as _____ water.

I	II	III	IV
1) Evaporation	rain cycle	under ground	potable
2) Precipitation	water cycle	ground water	potable
3) Condensation	ground water	rain cycle	potable
4) Melting	water cycle	ground water	potable

23. Ramu's sister broke a white dove bird, a symbol of peace, made of plaster of Paris. Ramu tried to reconstruct the toy by making a powder of the broken pieces and then making a paste by mixing water. This is a physical change? Why?

- 1) Yes, because it involves the formation of a new substance
 2) No, because of the formation of a new substance having properties different from the original
 3) No, because such a change is reversible in nature

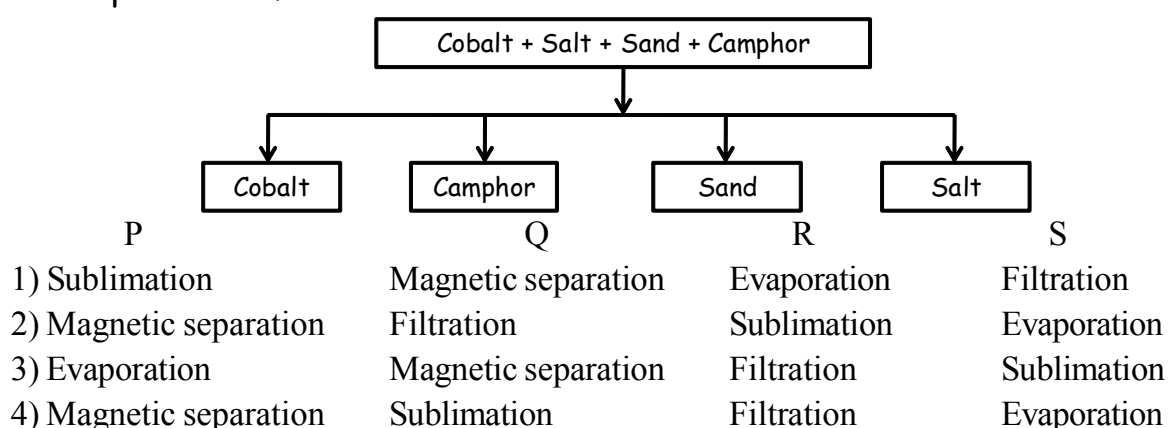
1) Yes, because it involves the formation of a no new substance

24. Consider the given statements and choose the option that correctly declares them either true or false.

- A) Fog appearing on a cold winter morning is due to evaporation process.
 B) Water vapour is present in air only during the monsoon.
 C) Water evaporates into air from the oceans, rivers and lakes.
 D) The evaporation of water occurs fastest in sunlight.
 E) Clouds are formed by the process of evaporation and condensation.

A	B	C	D	E	A	B	C	D	E
1) F	T	T	T	F	2) T	F	F	T	T
3) F	F	T	T	T	4) T	F	F	F	T

25. Study the given flow chart and identify the process as P, Q, R and S involved in the separation of mixture.



Multi Correct Answer Type :

5 × 3 = 15M

26. Choose the correct statements :

- 1) In physical change there is no net absorption (or) release of energy
 2) In chemical change there net absorption (or) release of energy
 3) In physical change molecular properties remain same
 4) In chemical change molecular composition of a substance changes completely

27. State correct statements given below:

- 1) The level of under ground water in an area is known as ground water
- 2) Water vapours fall as snow when the atmosphere is extremely cold
- 3) Water is useful in the generation of electricity
- 4) Drinking untreated water can cause harmful diseases

28. Choose the incorrect statements

- 1) Formation of coal is an example of natural change
- 2) Curdling of milk is an example of chemical and reversible change
- 3) Sublimation of camphor is an example of reversible and permanent change
- 4) Pollution of air is an example of man made change

29. Which of the following statements are incorrect?

- 1) Soil contains water in the form of moisture
- 2) Hoar frost is liquid state of water
- 3) Water is a compound of hydrogen and nitrogen
- 4) Water is an essential component to sustain life on earth

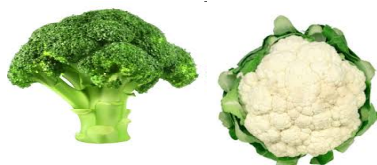
30. Choose the correct statements:

- 1) When the pressure on the surface of water suddenly decreases the solubility of the carbon dioxide decreases.
- 2) Carbon dioxide is a source for the respiration of water animals
- 3) When soda water bottle is opened carbon dioxide gas rapidly bubbles out
- 4) Dissolved carbon dioxide is utilized by water plants during photosynthesis

Single Correct Answer Type :

15 × 2 = 30M

31. Which part of the plants given below is eaten as food ?



- 1) Roots
- 2) Leaves
- 3) Flowers
- 4) Stems

32. Which characteristic feature helps human being to walk upright ?

- 1) Their head bones are light
- 2) They do not have tail
- 3) They have two legs
- 4) Their backbone holds the body up vertically

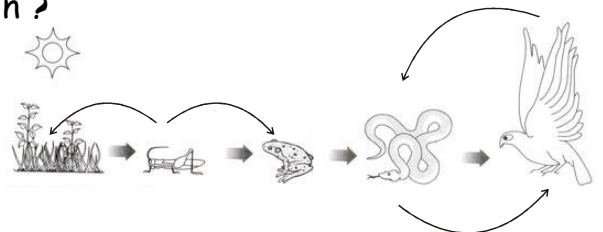
33. Which of the following groups consists of a herbivore, a carnivore and an omnivore respectively ?

- 1) Toadstool, Goat, Eagle
- 2) Giraffe, Rat, Goat
- 3) Giraffe, House lizard, Rat
- 4) Mould, Bear, Snake

34. P = Knee joint and Q = Shoulder joint. What are P and Q ?

	P	Q
1)	Gliding joint	Pivot joint
2)	Hinge joint	Ball and Socket joint
3)	Pivot joint	Hinge joint
4)	Hinge joint	Gliding joint

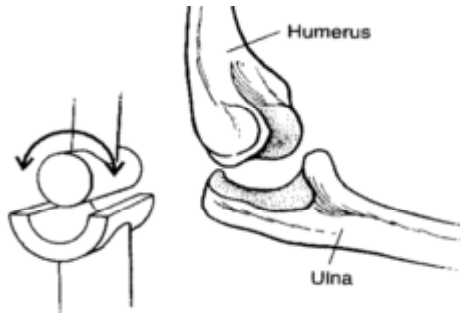
35. Which of the following adaptations enable the frogs to live both on land and in water ?
- They have gills that help them to breathe in the water
 - Their skin, when kept moist, can intake oxygen dissolved in water.
 - They have lungs that helps them to breathe when they are on land.
 - They can trap air bubbles in their throat
- (i) & (ii)
 - (i) & (iv)
 - (ii) & (iii)
 - (ii) & (iv)
36. By looking at a plant in the garden, Radha came to know that it has 'fibrous roots'. What led Radha to this conclusion ?
- Arrangement of flowers on stem
 - Arrangement of branches on the stem
 - Type of fruits on the plant
 - Type of venation in the leaves
37. Which of these help 'Polar bears' adapt to live in extreme cold climate ?
- White fur, fat below skin, keen sense of smell
 - White body, paws for swimming, gills for respiration.
 - Thin skin, large eyes, white fur
 - Long tail, blunt claws, thin skin, paws.
38. The water hyacinth is able to float on water
- As it has many fibrous roots.
 - Due to large air spaces in its stems
 - Because of dark green and large leaves
 - As it has large bundles of flowers
39. If a seed is inserted upside down into soil, in which direction will its stem and roots grow?
- STEM - Away from the Soil ; ROOTS - Towards the Soil
 - STEM -Towards the Soil ; ROOTS - Away from the Soil
 - STEM -Towards the Soil ; ROOTS - Towards the Soil
 - STEM -Away from the Soil ; ROOTS - Away from the Soil
40. Samantha has just opened a floral shop. Which of the following can help Samantha keep her flowers alive for a longer period of time?
- Hang the flowers upside down under the Sun.
 - Place the petals of the flowers in a container of water.
 - Wrap the flowers in dry plastic bags and place them in an airy location.
 - Cut the lower part of the stems of the flowers at an angle less than 90° and then place the lower part of the stems in a container of water.
41. A food chain shows a sequence of organisms in a region through which energy from producer gets transferred. In context to the above statement, what is wrongly depicted in the following food chain ?
- Snake eating frog
 - Frog eating grasshopper
 - Grasshopper eating plants
 - Snake eating eagle



42. "It is said that water is vital for our body". Which of the following statements does not justify this statement ?

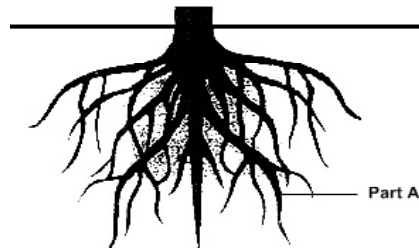
- 1) It serves as a solvent in which all chemical reactions take place in our body.
- 2) It transports nutrients throughout the body.
- 3) It helps our body to absorb nutrients from food.
- 4) It provides energy to our body.

43. The images given below represents which of the following joints ?



- 1) Hinge joint
- 2) Pivot joint
- 3) Gliding joint
- 4) Ball and Socket joint

44. The diagram below shows part of a green plant.



Why is Part A important to the plant?

- i) It anchors the plant firmly to the ground.
- ii) It takes in water and mineral salts for the plant.
- iii) It transport nutrients and water throughout the plant.
- iv) It produces the food used by the plant and stores for later use.

- 1) (i) & (ii)
- 2) (ii) & (iii)
- 3) (i), (ii) & (iii)
- 4) (i), (ii), (iii) & (iv)

45. Which of the following sequences CORRECTLY explains the 'Organization' of cells in complex organisms ?

- 1) Cells - Tissues - Organs - Systems
- 2) Cells - Tissues - Systems - Organs
- 3) Cells - Systems - Tissues - Organs
- 4) Cells - Organs - Tissues - Systems

✿✿✿ **ALL THE BEST** ✿✿✿