S I M S®

(SCHOLARS INTEGRAL MATHS & SCIENCE OLYMPIADS)

CLASS VII

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 : VII PHYSICS

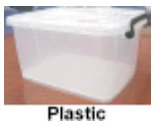
Single Correct Answer Type : **10 × 2 = 20M**

1. Four boxes made of different materials are left under the Sun for half an hour. Which one of the boxes will be the hottest after half an hour?

1) 

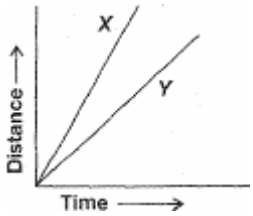
2) 

3) 

4) 

2. A current carrying conductor
   1) Experiences a force when it is in a magnetic field
   2) Does not experience a force when it is in magnetic field
   3) Experiences the force only when the field is electromagnetic in nature
   4) None of the above

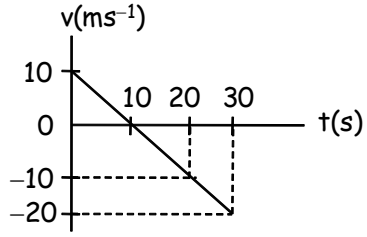
3. The figure shows the distance-time graph for the motion of two vehicles X and Y. Which one of them is moving faster?



   1) X is moving faster
   2) Y is moving faster
   3) Both move with same speed
   4) Y is faster initially, then X gets faster

4. On holding a stainless steel spoon near our face, we see
   1) Our inverted image on outer side of the spoon
   2) Our erect image on inner side of the spoon
   3) Our inverted image on inner side of the spoon
   4) Our laterally inverted image on inner side of the spoon

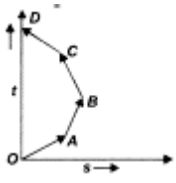
5. Velocity-time graph for a particle moving on a straight line is shown in the figure. Mark correct statement.



   1) The particle has never turned around.
   2) The particle has zero displacement.
   3) The average speed in the interval 0 to 10 s is the same as the average speed in the interval 10 s to 20 s.
   4) Both (1) and (2).

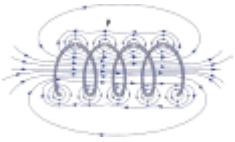
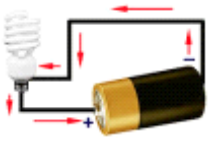
6. When a person moves closer to a plane mirror, the size of his image in the mirror
   1) Increases
   2) Remains the same
   3) Decreases
   4) First increases and then decreases

7. Which of the following options is correct for the object having a straight line motion represented by the graph shown in Figure?



   1) The object moves with constantly increasing velocity from O to A and then it moves with constant velocity.
   2) Velocity of the object increases uniformly
   3) Average velocity is zero
   4) The graph shown is impossible.

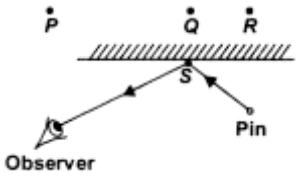
8. Which of the following is an example of coil?

1)  2)  3)  4) 

9. Which of the following shows a diverging lens?

1)  2)  3)  4) 

10. If a pin is placed in front of, and to the right of a plane mirror as shown in figure, then where is the image of the pin formed?



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

Multi Correct Answer Type : **5 × 3 = 15M**

11. A thermos flask prevents loss or gain of heat by

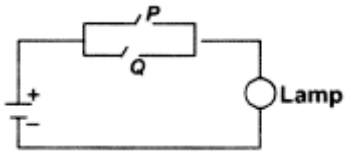
1) Conduction 2) Convection 3) Radiation 4) Reduction

12. Which of the following statements are false regarding the flow of heat between hot and cold bodies ?

1) It flows from hotter body to a colder body 2) It flows from colder to a hotter body
3) It flows in both the directions 4) It never flows from one body to the other

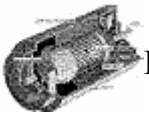
13. In the given circuit diagram, P and Q are switches. Lamp will glow when

1) P is open, Q is closed
2) P is closed, Q is open
3) P is closed, Q is closed
4) P is open, Q is open



14. Which of the following is/are sources of electric current?

1)  Car battery 2)  Dry cell

3)  Dynamo 4)  Electomagnet

15. Physical quantities which we can be obtained from a distance-time graph is/are

1) Speed 2) Time taken
3) Change in position 4) Change in weight

CLASS : VII CHEMISTRY

Single Correct Answer Type : **10 × 2 = 20M**

16. Harsha want to experiment with sugar crystals. Which of the following causes a sugar cube to change only physically and not chemically?
    1) Burning the sugar crystals
    2) Chewing the sugar crystals
    3) Dehydrating sugar crystals with sulphuric acid
    4) Crushing the sugar crystals and dissolving in water

17. It is easier to row a boat in direction of wind because
    1) Air exerts pressure in direction of sailing
    2) Air exerts pressure in opposite direction
    3) Cold wind is lighter
    4) Fresh air help the sail in easy breathing

18. Complete the following paragraph by selecting a set of appropriate words from the given options:
    Blacksmith generally make their own tools from iron. For this, they heat a piece of iron till it becomes __A__. It then becomes __B__ and is beaten into a desired shape. On __C__, it again becomes __D__.

	A	B	C	D
1)	Cooling	Hard	Red hot	Soft
2)	Red hot	Hard	Cooling	Soft
3)	Cooling	Soft	Red hot	Hard
4)	Red hot	Soft	Cooling	Hard

19. Rohan took some pickle by using metal spoon, but he left the spoon there. After a few days, when she again take the pickle, he found the spoon but with a hole. What could be the possible reason for this?
    1) Metal reacts with the burney material (glass) to give acid which dissolves the metal
    2) Metal reacts with the acid present in the pickle to form salt and hence, gets dissolved
    3) Metal is dissolved by the oil present in the pickle
    4) Metal is dissolved by a gas which is liberated by the oil in the presence of metal

20. In desert area
    1) Temperature is high and high rainfall
    2) Temperature is low and high rainfall
    3) Temperature is low and scanty rainfall
    4) Temperature is high and scanty rainfall

21. When we turn on bulb, the filament changes its colour and becomes bright. Is it a chemical change like burning?
    1) No, filament burn itself but that is not a chemical change
    2) Yes, it is a chemical change
    3) Yes, filament burns itself like wood to give light
    4) No, filament does not change into something new

22. The list below contains different acids and bases with their properties. Match them:

Column - I	Column - II
i) Hydrochloric acid	p) Strong base
ii) Carbonic acid	q) Turns red litmus to blue
iii) Sodium hydroxide	r) Strong acid
iv) Ammonium hydroxide	s) Organic acid
	t) Turns blue litmus to red

    1) i-r,t; ii-s,t; iii-p,q; iv-q
    2) i-s,t; ii-r,p; iii-q,p; iv-s
    3) i-r,t; ii-p,r; iii-s,t; iv-q
    4) i-r,p; ii-s,t; iii-p,r; iv-q

23. Mr. Suresh is the science teacher of Class VII, in an assignment said the students to write the names of three acidic substances. The names written by some students are as follow:

Rahul : Vinegar, lime water, milk of magnesia.

Ravi : Sour milk, vinegar, tamarind.

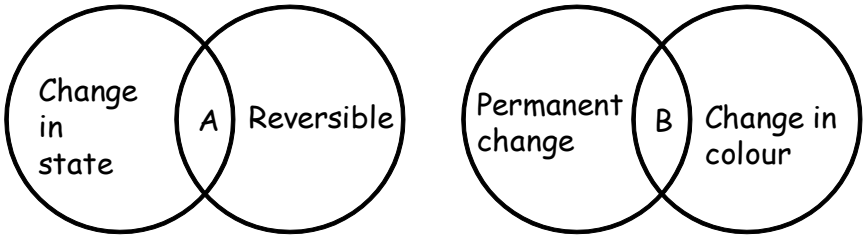
Sonia : Soap solution, turmeric, tamarind.

Surabhi : Slaked lime, soap solution, ammonia solution.

Whose answer is / are correct?

1) Rahul and Ravi 2) Only Sonia 3) Only Subhi 4) Only Ravi

24. Study the Venn diagram carefully. A and B respectively are



1) Breaking of wooden sticks, evaporation 2) Burning of candle, melting of ice.

3) Cutting of wood, freezing of water 4) Evaporation of water, burning of cracker

25. The major contributor of carbon monoxide is

1) Motor vehicles 2) Industrial processes

3) Hospital wastage 4) Stationary fuel combustion

Multi Correct Answer Type : **5 × 3 = 15M**

26. Which of the following is the first sign of an approaching cyclone?

1) High speed air 2) Powerful water waves in the sea

3) Sea breeze and land breeze 4) Heavy rain

27. Which of the following statements are correct ?

1) Nitric acid used in the manufacture of explosives

2) Magnesium hydroxide used in the making of antacid

3) When acids are slowly added to water, heat energy is released

4) When acids are slowly added to water, heat energy is absorbed

28. Find out the incorrect statement from the following.

1) Heating and cooling bring changes in matter

2) Physical change is always a permanent change

3) Gases cannot be dissolved in liquids

4) All liquids get mixed with each other

29. Sodium hydroxide is usually used to clean blocked drains. Which of the following options gives the most suitable reasons(s) for its use?

1) It is a mild acid that will not burn the hands

2) It is inexpensive and easily available

3) It is slippery and hence, can easily enter the blocked drain and clean it

4) It dissolves the grease that caused the blockage

30. Choose the correct statements:

1) Oxygen gas useful in the respiration process of acquatic animals

2) The percenage of carbondioxide is more at industrial area

3) Argon gas is a inactive gas

4) Dissolved oxygen is utilized by water plants during photosynthesis

CLASS : VII BIOLOGY

Single Correct Answer Type : **15 × 2 = 30M**

31. Which of the following statements are INCORRECT ?

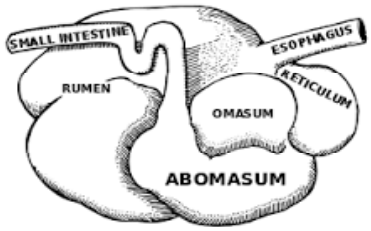
1) If you break Hydra into pieces each piece can become a new Hydra

2) If an Earthworm is cut into two pieces only the head portion is able to develop the whole body.

3) If a lizard's tail is cut, it can develop a new tail.

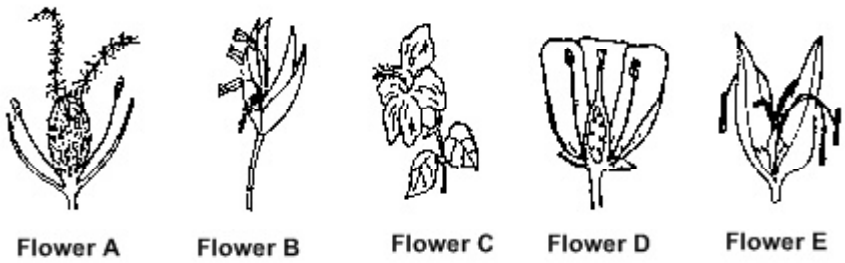
4) If a grasshopper's leg is cut, it can develop a new leg.

32. Which of the following represents the 'True stomach' in Ruminants?



1) Rumen 2) Reticulum 3) Omasum 4) Abomasum

33. The diagram below shows five different flowers, A, B, C, D and E.



Based on the observation of the reproductive parts only, which of the following flowers are likely to be wind-pollinated?

1) (A) & (C) 2) (B) & (E) 3) (A), (B), (C) & (E) 4) (A), (B), (C), (D) & (E)

34. Which of the following adaptations help plants to obtain more sunlight for 'Photosynthesis' ?

i) Presence of twining stems to climb up support.

ii) Arrangement of leaves that reduces overlapping.

iii) Presence of stomata on the underside of the leaves.

iv) Presence of air spaces in between cells in the stem of a totally submerged aquatic plant to remain upright in water.

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

35. Match the items in Column - I with those in Column - II

Column - II	Column - II
a) Yeast	i) Eathworm
b) Diaphragm	ii) Gills
c) Skin	iii) Alcohol
d) Leaves	iv) Chest cavity
e) Fish	v) Stomata
f) Frog	vi) Lungs and Skin
g) Insects	vii) Trachae

1) a - (iii) ; b - (iv) ; c - (i) ; d - (vi) ; e - (ii) ; f - (v) ; g - (vii)

2) a - (iii) ; b - (iv) ; c - (v) ; d - (i) ; e - (ii) ; f - (vi) ; g - (vii)

3) a - (iii) ; b - (iv) ; c - (i) ; d - (v) ; e - (ii) ; f - (vii) ; g - (vi)

4) a - (iii) ; b - (iv) ; c - (i) ; d - (v) ; e - (ii) ; f - (vi) ; g - (vii)

36. Which of the following statements about food made during photosynthesis are correct?

i) Food made in the leaves is transported to all parts of the plants.

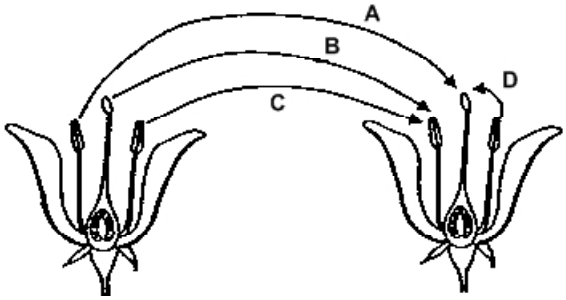
ii) Food made by plants can be stored as starch, sugar or oil in the plant.

iii) Excess food that plants made can be stored in different parts of the plant.

iv) Plants make use of the food that they made for respiration to release energy.

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

37. The diagrams shows two flowers from the same plant.



Which pair of arrows shows pollination taking place?

1) (A) & (B) 2) (B) & (C) 3) (A) & (D) 4) (C) & (D)

38. Mention the type of nutrition in the plants given below ?

A)  B)  C)  D) 

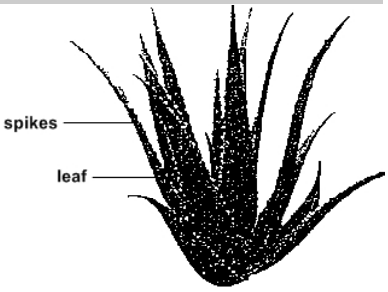
1) 'A' & 'B' are Parasites, 'C' & 'D' are Insectivorus plants

2) 'A' & 'B' are Saprophytes, 'C' & 'D' are Insectivorus plants

3) 'A' is Parasite ; 'B' is Saprophyte ; 'C' & 'D' are Insectivorus plants

4) 'A' is Insectivore ; 'B' is Parasite ; 'C' & 'D' are Saprophytes

39. The pictures shows a plant that Brinda found in her garden. The leaves have spikes on them. Which one of the following is the most likely function of the spikes?

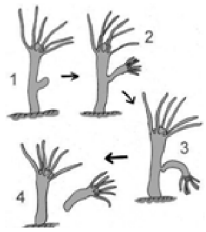


1) To reduce water loss to the surroundings.
2) To help the plant climb up higher for support.
3) To photosynthesis and make food for the plants.
4) To deter animals from eating the plant.

40. In which of the following Habitats, one would find animals adapted to live on the trees ?

1) Desert 2) Grasslands 3) Mountains 4) Tropical rain forest

41. The diagram given represents _____.



1) Regeneration in hydra
2) Locomotion in hydra
3) Budding in hydra
4) Nutrition in hydra

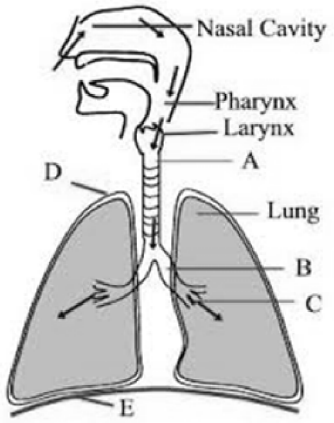
42. Which of these is an example of a total parasitic plant ?

1) Nepenthes 2) Utricularia 3) Cuscuta 4) Drosera

43. Which organism respire through 'Tracheal System' ?

1) Earthworm 2) Cockroach 3) Frog 4) Fish

44. Choose the CORRECT option which matches the labelled parts A,B,C,D & E.



1) A - Trachea ; B - Bronchiole ; C - Bronchi ; D - Pericardium ; E - Sternum
2) A - Trachea ; B - Bronchi ; C - Bronchiole ; D - Pleura ; E - Diaphragm
3) A - Trachea ; B - Bronchiole ; C - Bronchi ; D - Peritonium ; E - Diaphragm
4) A - Trachea ; B - Bronchiole ; C - Bronchi ; D - Pleura ; E - Rib cage

45. In Anaerobic respiration, glucose is broken down into which of the following substances?

1) Carbon dioxide and water 2) Carbon dioxide and Oxygen
3) Alcohol and Carbon dioxide 4) Alcohol and Oxygen

ALL THE BEST