



INTSO EDUCATION

SCIENCE TALENT SEARCH OLYMPIAD (STSO) 2015-16

STAGE - 1

TIME : 60 min.

CLASS : IV

Max. Marks : 50

Instructions:

- ⇒ Fill the OMR sheet completely and carefully.
- ⇒ Each question carries one mark and has only one correct answer. No negative marks
- ⇒ The question paper contains 50 questions to be answered in 60 minutes.

PHYSICS

1. Nutcracker is an example of _____ []
1) First class lever 2) Second class lever 3) Third class lever 4) Wheel and axle
2. Simple machines are used to _____ []
1) Gain force 2) Gain time 3) Gain mass 4) Both 1 and 2
3. Light spreads in _____ []
1) Only one direction 2) Only two directions 3) Only four directions 4) All directions
4. A double inclined plane is called _____ []
1) Screw 2) Wedge 3) Pulley 4) Inclined plane
5. Among the following luminous bodies are _____ []
1) Sun 2) Candle 3) Bulb 4) All the above
6. The force applied to lift weight is called _____ []
1) Effort 2) Load 3) Effort arm 4) Load arm
7. _____ is a dark region cast by an object that blocks light []
1) Image 2) Shadow 3) Screen 4) All the above
8. For class - 3 lever, Mechanical advantage is _____ []
1) Equal to 1 2) Less than 1 3) Greater than 1 4) All the above
9. The nature of shadow depends on the _____ []
1) Nature of object which blocks the light 2) Nature of source of light
3) Both 1 and 2 4) Neither 1 nor 2
10. Beam balance is _____ class of lever []
1) First 2) Second
3) Third 4) It is not simple machine
11. Among the following which can not cast the shadow []
1) Wood 2) Paper 3) Glass 4) Human body
12. Among the following expression for mechanical advantage is _____ []
1) Load + Effort 2) Load ÷ Effort 3) Load × Effort 4) LOAD – Effort
13. Example of first class lever is _____ []
1) Scissors 2) Bottle opener 3) Stapler 4) Tweezers
14. Among the following class - 3 lever is _____ []
1) Catapult 2) Stapler 3) Crowbar 4) Broom

15. A first class lever has _____ in the middle []
 1) Fulcrum 2) Load 3) Effort 4) All the above
16. An inclined plane wrapped around a cylinder is called ____ []
 1) Pulley 2) Wedge 3) Inclined plane 4) Screw

CHEMISTRY

17. 'X' is a pure substance that cannot be broken down into simpler substances and it is composed of same kind of particles. Then 'X' is a/an []
 1) compound 2) mixture 3) element 4) both 1 and 2
18. Which among the following are noble gases []
 1) Hydrogen 2) Helium 3) Oxygen 4) All
19. Identify the odd one among the following []
 1) Hydrogen 2) Oxygen 3) Water 4) Nitrogen
20. Water is a compound made up of two elements hydrogen and oxygen which chemically combine in a fixed ratio of 1:8 by mass . Then the mass ratio of Hydrogen and oxygen in H_2O_2 (Hydrogen peroxide) is []
 1) 1 : 8 2) 2 : 32 3) 1 : 16 4) both 2 & 3
21. Divya observed two substances A and B respectively and she wrote characteristics of A and B as follows.
A – It is made up of only one kind of atoms and it cannot be broken down into simpler substances by any physical or chemical methods .
B – It is a pure substance made up by the union of two or more elements and it is not possible to separate the components by physical methods. []
 Then A and B will be
 1) A is a compound , B is an element 2) A is an element , B is a compound
 3) Both A and B are elements 4) Both A and B are compounds
22. The constituent elements of marble are []
 i) Calcium ii) Carbon iii) Hydrogen iv) Oxygen
 1) only i and ii 2) only ii and iii 3) only i,ii,iv 4) all are present
23. Homo atomic molecules among the following are []
 1) Cl_2 2) H_2 3) O_2 4) All
24. i) Elements can be represented by symbols []
 ii) Compounds can be represented by formulae
 iii) Compounds are formed by chemical changes
 iv) Elements can be classified as metals, non metals and metalloids
 The correct statements are
 1) only i and ii 2) only ii and iii 3) only iii and iv 4) all are correct
25. An element is represented by a symbol 'Na', its Latin name is []
 1) Kalium 2) Sodium 3) Aurum 4) Natrium
26. Identify who am 'I' []
 i) I am the liquid metallic element, present in thermometers
 ii) I am the most useful element for respiration of living things.
 1) I – Hydrogen II - Nitrogen 2) I – Helium II - Oxygen
 3) I – Mercury II - Oxygen 4) I - Nitrogen II – Oxygen

32. Match the statements in Column A with Column B []

Column – A

- i) A substance obtained by mixing two or more pure substances
- ii) A clear liquid obtained by the process of filtration
- iii) Removing insoluble impurities from muddy water by allowing it to settle.
- iv) A pure liquid obtained from its salt solution.
- v) A solid obtained from its hot vapours

Column – B

- a) Sublimate
- b) decantation
- c) Mixture
- d) distillate
- e) Winnowing
- f) Filtrate

- 1) i - c, ii - f, iii - b, iv - d, v - a
- 2) i - b, ii - d, iii - f, iv - e, v - a
- 3) i - c, ii - b, iii - f, iv - d, v - a
- 4) i - d, ii - f, iii - a, iv - c, v - b

33. A mixture of common salt and ammonium chloride can be separated by []

- 1) Evaporation
- 2) Filtration
- 3) sieving
- 4) sublimation

34. Which of the following physical properties of components of mixture are useful in separation of substances by hand picking []

- 1) size
- 2) shape
- 3) colour
- 4) all

BIOLOGY

35. Which of the following is required by a leaf to prepare food material by photosynthesis []

- 1) Oxygen
- 2) Carbon dioxide
- 3) Hydrogen
- 4) Nitrogen

36. Largest flower is produced by []

- 1) Lotus
- 2) Rose
- 3) Rafflesia
- 4) Orchid

37. The plant shown in the above diagram is []

- 1) Ground nut
- 2) Pitcher plant
- 3) Sugar cane
- 4) Bottle guard plant



38. Which of the following chemicals can be used to test the presence of starch []

- 1) Iodine
- 2) Iron
- 3) Sodium
- 4) Copper

39. Which of the following plants cannot prepare their own food, []

- 1) Mango
- 2) Tamarind
- 3) Cuscuta
- 4) Sugarcane

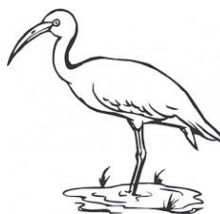
40. A bird can keep its body warm by []

- 1) Flight feathers
- 2) Down feathers
- 3) Tail feathers
- 4) All the above

41. Observe the following picture []

Which of the following are the food of above bird.

- 1) Plant
- 2) Seed
- 3) Fruits
- 4) Fish



42. Layer surrounding the earth is []

- 1) Biosphere
- 2) Lithosphere
- 3) Hydrosphere
- 4) Atmosphere

43. Food of humming bird is []

- 1) Seeds
- 2) Nectar
- 3) Worms
- 4) Fish

44. Which of the following is a flightless bird. []

- 1) Penguin
- 2) Humming bird
- 3) Sparrow
- 4) Pigeon

45. Birds do not have []
 1) Legs 2) Tongue 3) External ears 4) Skin
46. Which of the following is incorrect []
 1) Owl : Snakes 2) Parrot : Fruits
 3) Toucan : Fish 4) Humming bird : Nector
47. Which of the following are adaptation of a bird to fly []
 P) Hollow bones
 Q) First pair of limbs are modified to wings
 R) Feathers covering the body
 S) Reduced weight of the body
 1) P,Q & S 2) P, Q & R 3) R & P 4) P, Q, R, S
48. When we take a bottle from the refrigerator and keep it outside we can process involved is see water drop lets on the bottle. The process involved here is []
 1) Evaporation 2) Condensation 3) Precipitation 4) Freezing
49. Falling of water drops from the cloud is []
 1) Freezing 2) Sublimation 3) Precipitation 4) Evaporation
50. Read the following table []

Condensation of excess moisture in the air	X
Air Below freezing temperature	Y

X & Y are

- 1) X - Fog, Y - Dew 2) X - Dew, Y - Fog 3) X-Fog, Y - Snow 4) X-Dew, Y - Fog

