



INTSO EDUCATION

SCIENCE TALENT SEARCH OLYMPIAD (STSO) 2015-16

STAGE - 2

TIME : 60 min.

CLASS : V

Max. Marks : 50

Instructions:

- ⇒ Fill the OMR sheet completely and carefully.
- ⇒ Each question carries one mark and has only one correct answer. $\frac{1}{4}$ (one fourth) marks will be deducted for indicating incorrect response of each question.
- ⇒ The question paper contains 50 questions to be answered in 60 minutes.

PHYSICS

1. Earth pulls every object towards _____ []
1) centre of earth 2) surface of earth 3) oceans on earth 4) mountains on earth
2. _____ is amount of matter contained in a body []
1) mass 2) weight 3) length 4) volume
3. SI unit of measuring length is _____ []
1) millimetre 2) centimetre 3) metre 4) kilometre
4. Stretched spring possess _____ energy []
1) kinetic energy 2) potential energy
3) both potential and kinetic energy 4) neither potential nor kinetic energy
5. Among the following, the correct way of representing length of pencil is _____ []
1) 10 centimetres 2) '10' centimetres 3) 10. centimetres 4) 10 centimetre
6. One litre is equal to _____ []
1) 100 ml 2) 1000 ml 3) 1000 cm³ 4) both 2 and 3
7. Potential energy is measured in _____ []
1) newton 2) joule 3) joule / second 4) joule - second
8. The least measurement that can be measured by the centimetre scale is _____ []
1) 1 cm 2) 10 mm 3) 1 m 4) 1 mm
9. Among the following, the unit which is not used to measure length of an object is []
1) ton 2) yard 3) cubit 4) foot
10. Correct expression for kinetic energy is _____ []
1) mV^2 2) $\frac{mV}{2}$ 3) $\frac{mV^2}{2}$ 4) $2mV^2$
11. Among the following, III class lever is []
1) pliers 2) wheel barrow 3) human arm 4) bottle opener
12. The correct expression for mechanical advantage of a simple machine is []
1) $\frac{Load}{Effort}$ 2) $\frac{Effort}{Load}$ 3) Load - Effort 4) Effort + Load
13. The force which is responsible to stop the vehicles on road is _____ []
1) gravitational force 2) frictional force 3) magnetic force 4) tension force

14. The lever in which effort is in middle is _____ []
 1) class I lever 2) class II lever 3) class III lever 4) class IV lever
15. Door knobs is an example to _____ []
 1) pulley 2) wheel and axle 3) wedge 4) screw
16. An unbalanced force can cause _____ []
 1) increase the speed 2) decrease the speed
 3) change the direction of speed 4) all the above
17. Efficiency of ideal machine is _____ []
 1) 50% 2) 70% 3) 90% 4) 100%

CHEMISTRY

18. Argon, helium and oxygen are three different elements. They occur as gases in the air around us. Oxygen reacts easily with a large number of elements like carbon, zinc but doesnot react with gold. Read the above passage and identify the symbols of elements present in the above passage.
 1) Ar, He, O, C, Zn, Au 2) HE, o, C, Zn, Au, Ar []
 3) O, c, AR, He, ZN, Au 4) ar, C, Zn, AU, He, O
19. Take four similar clean watch glasses pour 5 ml of clear _____ []
 i) rain water ii) well water
 iii) river water iv) sea water, separately in each of them.
 Cover the watch glasses with a filter paper and place them either in sunshine or in oven till water evaporates. In which of the water samples there will be maximum residue.
 1) rain water 2) well water 3) river water 4) sea water
20. Choose the correct scientific term to represent the combined state of water in salts. []
 1) frozen water 2) water of crystallisation
 3) water of salt 4) all the above
21. Which of the following forms are gaseous state of water []
 i) Cloud ii) Mist iii) Dew iv) Fog
 1) i, ii, iii only 2) iii, iv only 3) i, ii, iv only 4) ii, iii, iv only
22. Sheetal has taken an empty bottle and fixed a deflated balloon on its mouth. She placed the bottle in a container filled with hot water. After sometime, the balloon gets inflated. What could be the most appropriate reason for this ? []
 1) Air when gets heated becomes heavier and rises up
 2) Air when gets heated becomes lighter and settles down
 3) Air when gets heated becomes heavier and settles down
 4) Air when gets heated becomes lighter and rises up
23. Saurabh blew at a plastic toy windmill and then hold it under a tap from which water was dripping. Which of the following was Saurabh trying to prove ? []
 1) That wind and flowing water possess energy
 2) That his mouth and the tap possess energy
 3) That his mouth and the water possess energy
 4) That moving air and moving water does not possess energy
24. The boiling point of liquid nitrogen is _____ []
 1) – 196 °C 2) – 209 °C 3) – 183 °C 4) – 186 °C

25. There are two identification test for oxygen. []
 I) A wooden splinter burns in air but it burns rapidly in pure oxygen by forming gas X.
 II) When oxygen gas is brought in contact with colourless nitrogen oxide brown fumes of gas Y is formed

Identify gas X and Y respectively

- 1) CO, NO 2) CO₂, NO₂ 3) CO₂, NO 4) NO, NO₂
26. Concentrated oxygen allows things to burn very rapidly. The fire that killed the appollo 1 crew in a launch pad test, by giving no time to control the fire because the spaceship contained concentrated oxygen. Concentrated oxygen means []
 1) oxygen at high temperature 2) oxygen at high pressure
 3) oxygen at more quantity 4) all the above
27. The deep sea divers carry oxygen cylinders for breathing. They use mixture of oxygen and another gas X instead of nitrogen, name the gas 'X'. []
 1) Hydrogen 2) Argon 3) Helium 4) Neon
28. The symbol of an element is the short hand representation of name of an element. There are few important guidelines given by IUPAC to assign a symbol for an element. Some information is given below. []

S.No	Element	Symbol
1	Mercury	A
2	B	Sb
3	Sodium	C

Choose the correct option to complete the above table.

- | A | B | C |
|-------|----------|----|
| 1) MC | Antimony | Na |
| 2) Hg | Stibium | Na |
| 3) Hg | Antimony | So |
| 4) Mr | Stibium | Na |
29. A chemical formula represents the number of atoms of each element present in the given compound. Then choose the correct statement from the following. []
 I) A formula unit of sodium chloride contains one chlorine atom and one atom of sodium
 II) A molecule of Ammonium chloride contains four hydrogen atoms, one atom of nitrogen and one atom of chlorine
 III) A molecule of sulphuric acid contains one oxygen atom, one atom of sulphur and two atoms of hydrogen.
 1) I and II only 2) II and III only 3) I and III only 4) All are correct

30.

S.NO	Cation	Anion	Formula of compound
1	Calcium	Chloride	A
2	B	Sulphate	(NH ₄) ₂ SO ₄
3	Aluminium	C	A/PO ₄

Choose the correct option to complete the above table with A, B and C respectively.

- | A | B | C |
|----------------------|----------|-----------|
| 1) CaCl | Ammonium | Phosphide |
| 2) CaCl ₂ | Ammonia | Phosphide |
| 3) CaCl ₂ | Ammonium | Phosphate |
| 4) CaCl ₂ | Ammonia | Phosphite |

31. Identify the symbols which are given in the honour of scientists []
 1) Cf 2) Rf 3) Pu 4) All
32. Among the following, an atomic equation is []
 1) $4HCl + O_2 \rightarrow 2H_2O + 2Cl_2$ 2) $Mg + 2HCl + MgCl_2 + H_2$
 3) $KClO_3 \rightarrow KCl + 3O$ 4) $2KClO_3 \rightarrow 2KCl + 3O_2$
33. The reactant 'X' in the reaction $N_2 + X \rightarrow NH_3$ is []
 1) H_2 2) O_2 3) NH_3 4) N_2
34. The chemical formula of oxalate ion is []
 1) $Cr_2O_7^{-2}$ 2) CrO_4^{-2} 3) $C_2O_4^{-2}$ 4) $C_2O_7^{-2}$

BIOLOGY

35. Identify the path travelled by a male gamete to reach ovule []
 1) Stigma \rightarrow style \rightarrow ovary 2) Ovary \rightarrow style \rightarrow stigma
 3) Style \rightarrow ovary \rightarrow stigma 4) Style \rightarrow stigma \rightarrow ovary
36. Match the following . []

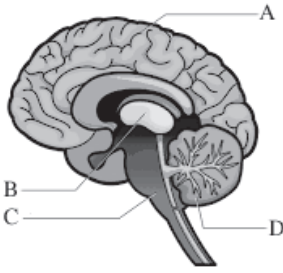
Part - A	Part - B
Sepal	Protection
Petal	X
Stamen	Y

X, Y represents

- 1) X - Pollination, Y - Production of female gametes
 2) X - Pollination, Y - Production of male gametes
 3) X - Photosynthesis Y - Pollination
 4) X - Fertilization Y - Pollination
37. Which part of a seed gives root system after germination []
 1) Cotyledons 2) Plumule 3) Radicle 4) Coleoptile



38. The seed shown in this picture disperse by []
 1) Water 2) Wind 3) Animal 4) Explosion
39. Which of the following parts grow below the soil []
 1) Radicle 2) Plumule 3) Cotyledous 4) All the above
40. Identify the correct sequence of life cycle of a flowering plant []
 1) Seed \rightarrow Fruit \rightarrow Flower \rightarrow Bud \rightarrow Plant
 2) Bud \rightarrow Plant \rightarrow Fruit \rightarrow Flower \rightarrow Seed
 3) Bud \rightarrow Flower \rightarrow Fruit \rightarrow Seed \rightarrow Plant
 4) Plant \rightarrow Seed \rightarrow Fruit \rightarrow Flower \rightarrow Bud
41. Identify the blood vessel which carries oxygenated blood to all parts of the body. []
 1) Pulmonary artery 2) Pulmonary Vein 3) Systemic aorta 4) Coronary artery



42.

Observe the Picture of brain.

[]

Which part of the brain controls heart beat

- 1) C 2) A & C 3) B 4) A & B

43.

Which of the following is not an example of reflex action.

[]

- 1) Coughing 2) Sneezing
3) Watering of the mouth 4) Eating

44.

Largest external organ of the human body

[]

- 1) Heart 2) Skin 3) Brain 4) Lungs

45.

Observe the following flow chart of sound transmission

[]



B & E in the flow chart are

- 1) Stirrup & Brain 2) Anvil & Nerves 3) Hammer & Brain 4) Anvil & Brain

46.

Dry Cough , mild fever, fatigue and excessive sweating are the symptoms of the following disease

[]

- 1) Tuberculosis 2) Mumps 3) Measles 4) Small pox

47.

Vitamin	Deficiency disease
A	X
D	Rickets
C	Y

[]

X & Y represents

- 1) X - Night blindness Y - Scurvy 2) X - Goitre Y - Night blindness
3) X - Night blindness Y - Goitre 4) X - Anaemia Y - Goitre

48.

Which of the following is not a communicable disease

[]

- 1) Mumps 2) Obesity 3) Measles 4) Tuberculosis

49.

Identify the adaptation shown by this animal

[]

- 1) Possess more fat
2) Possess more RBC
3) Winter sleep
4) Good sense of smell



50.

Which of the following animal living in desert never drink water in its life time

[]

- 1) Desert lizard 2) Camel 3) Kangaroo rat 4) Fennex fox

