



INTSO EDUCATION

SCIENCE TALENT SEARCH OLYMPIAD (STSO) 2015-16

STAGE - 1

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. No negative marks
- ⇒ The question paper contains 50 questions to be answered in 60 minutes.

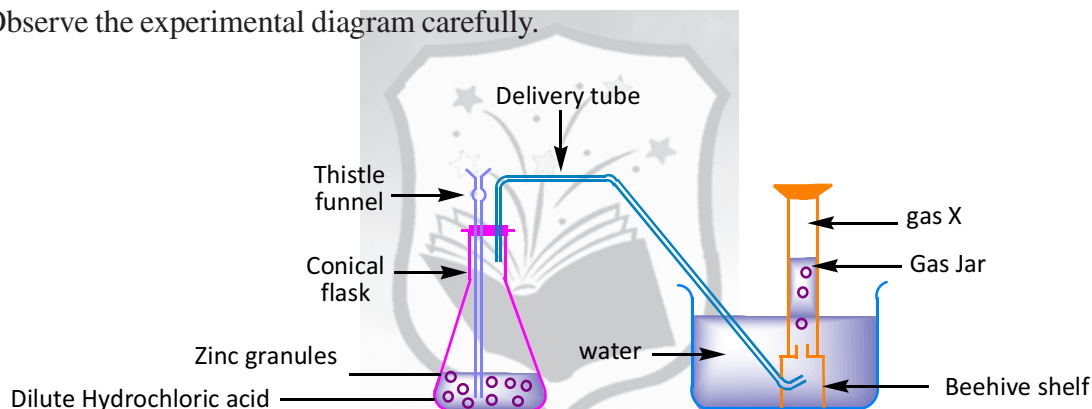
PHYSICS

1. Which of the following is the smallest, standard unit of length ? []
1) Centimetre 2) Metre 3) Kilometre 4) Millimetre
2. 1 acre = _____ m² []
1) 4046 2) 4460 3) 4600 4) 5026
3. The force applied on moon by the earth is called _____ force []
1) Contact 2) Non contact 3) Frictional 4) Mechanical
4. The area of leaf is measured by using []
1) Scale 2) Thread 3) Graph paper 4) Burette
5. The unseen force which opposes the motion of object when it moves on the other body is called _____ force []
1) Magnetic 2) Friction 3) Mechanical 4) Gravitational
6. Volume of a cube is calculated by multiplying its side []
1) Two times 2) Four times 3) Three times 4) One time
7. A stored energy is called _____ energy []
1) Potential 2) Kinetic 3) Both 1 and 2 4) None of these
8. Force can be measured in []
1) kg 2) newton 3) meter 4) joule
9. Example for bodies possessing Potential energy _____ []
1) Water stored in a dam 2) Flowing water
3) A rolling rock 4) A moving train
10. A kite flying in air has []
1) Only potential energy 2) Only kinetic energy
3) Both kinetic and potential energy 4) Neither potential nor kinetic energy
11. One cubic metre is equal to : []
1) 10⁶ cc 2) 10⁴ cc 3) 10⁹ cc 4) 10³ cc
12. When we rub our palms vigorously _____ energy is produced []
1) Magnetic 2) Heat 3) Gravitational 4) Any of these
13. The energy transformation in lighting a match stick is from []
1) Mechanical to Heat energy 2) Potential to Kinetic energy
3) Heat to Mechanical energy 4) Light to Heat energy

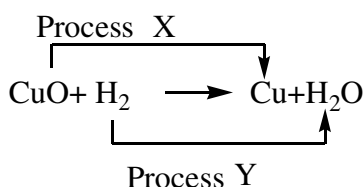
14. Simple pendulum is used to measure []
 1) Time 2) Length 3) Temperature 4) Force
15. A moving train is an example of possessing []
 1) Potential energy 2) Kinetic energy 3) Chemical energy 4) Nuclear energy
16. The gap between two events is called : []
 1) Length 2) Time 3) Area 4) Volume

CHEMISTRY

17. Hydrogen is the lightest , most abundant element in the universe but in the earth's crust it is the ninth most abundant element, the percentage of hydrogen of earth's weight is []
 1) 0.01% 2) 0.9% 3) 0.09% 4) 0.03%
18. The isotope of hydrogen which is used in nuclear reactors in the form of heavy water is []
 1) Protium 2) Deuterium 3) Tritium 4) all
19. Hydrogen gas can be prepared by electrolysis of acidified water. The Hydrogen gas is collected at []
 1) Cathode 2) Anode 3) top of electrolytic cell 4) all
20. Observe the experimental diagram carefully.



- Name the method which is used to collect gas X []
 1) Upward displacement of water 2) Downward displacement of water
 3) Upward displacement of air 4) Downward displacement of air
21. $2KClO_3 \xrightarrow[MnO_2]{\Delta} 2KCl + X_{(g)} \uparrow$ []
 The correct statement with respect to X is / are
 i) X is a odourless gas
 ii) X is pale blue in liquid state
 iii) X is quite reactive
 1) i,ii only 2) i,ii,iii 3) ii,iii only 4) i,iii only
22. Oxygen is used for artificial respiration in the form of carbogen in hospitals, carbogen is a mixture of []
 1) 95% carbon and 5 % of oxygen 2) 95% carbon dioxide and 5% oxygen
 3) 95% carbon monoxide and 5% oxygen 4) 95% oxygen and 5% carbon dioxide
23. The boiling point of liquid hydrogen is []
 1) 253°C 2) -100°C 3) -10°C 4) -253°C



In the above reaction, the property exhibited by Hydrogen is []
 1) Reduction 2) Oxidising property 3) Oxidation 4) Reducing property

25. Which of the following sets are correct in respect to discovery of oxygen []
 i) Priestly – Active air ii) Lavoisier – oxygen
 iii) Oxygen means water former iv) Oxygen means acid former
 1) i, ii, iii 2) i, ii, iii 3) i, ii, iv 4) all

26. The Latin name of the element Antimony is []
 1) Stannum 2) Stibium 3) Hydrargyrum 4) Wolfram

27. $\text{Al}_2(\text{CO}_3)_3 + x \text{HNO}_3 \rightarrow y \text{Al}(\text{NO}_3)_3 + z \text{CO}_2 + 3\text{H}_2\text{O}$
 Identify the value of x,y,z in balanced equation []
 1) x = 1, y = 6, z = 3 2) x = 3, y = 2, z = 3 3) x = 6, y = 2, z = 3 4) x = 6, y = 3, z = 3

28. Choose the correct chemical formula formed by the higher valency of stannum and chloride radicals []
 1) SnCl_2 2) SnCl_3 3) SnCl_4 4) SnCl_5

29. The symbols of three elements are written as Es, Rf, Bh. These elements are named in the honour of scientists respectively []
 1) Albert Einstein, Rutherford, Neils Bohr 2) Albert Einstein, Neils Bohr, Rutherford
 3) Neils Bohr, Rutherford, Albert Einstein 4) Rutherford, Neils Bohr, Albert Einstein

30. The correct symbols of the elements Gold, Mercury and Cobalt are respectively []
 1) Go, Me, Co 2) Au, Me, Co 3) Au, Hg, CO 4) Au, Hg, Co

31. A metal M forms a compound of its sulphide with a chemical formula M_2S_3 , then its oxide formula is []
 1) M_3O_2 2) MO 3) M_3O 4) M_2O_3

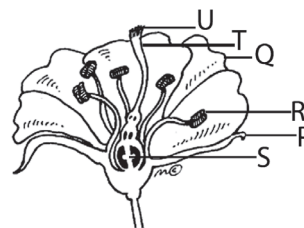
32. $\text{CaCO}_{3(x)} + 2\text{HCl}_{(y)} \rightarrow \text{CaCl}_{2(z)} + \text{H}_2\text{O}_{(l)} + \text{CO}_{2(w)}$
 Identify x,y,z, w respectively in the above equation with respect to their physical states []
 1) x – gas, y – liquid, z – aqueous, w – gas
 2) x – solid, y – aqueous, z – aqueous, w – gas
 3) x – aqueous, y – liquid, z – solid, w – gas
 4) x – liquid, y – liquid, z – aqueous, w – gas

33. The symbol of calcium is []
 1) CA 2) cA 3) ca 4) Ca

34. The symbols of few elements are given based on the places (or) countries where they were discovered. Name the symbol of the element based on the country's name []
 1) Es 2) Am 3) Po 4) Cf

BIOLOGY

35. Picture of flower
Pistil is represented by
- | | |
|------------|------------|
| 1) P, Q, R | 3) S, T, U |
| 2) R, S, T | 4) P, R, S |



36. Pollengrains are produced on
- | | | | |
|-----------|----------|-----------|----------|
| 1) Stigma | 2) Style | 3) Anther | 4) Sepal |
|-----------|----------|-----------|----------|

37. Plants pollinated by wind produces
- | | |
|---------------------------------|------------------|
| 1) Large flowers | 2) Small flowers |
| 3) Do not produce pollen grains | 4) Heavy flowers |

38. Which of the following represents the life cycle of a plant
- 1) Fertilisation → Embryo → Zygote → Seed → Plant
 - 2) Fertilisation → Zygote → Embryo → Seed → New plant
 - 3) Zygote → Fertilisation → Embryo → Seed → New plant
 - 4) Fertilisation → Seed → Zygote → Embryo → New plant

Name of the plant	Part producing new plant
1) Potato	P
2) Carrot	Root
3) Bryophyllum	R

P & R are from the above table are respectively.

- | | | | |
|----------------|----------------|----------------|------------------|
| 1) Root & Stem | 2) Stem & Leaf | 3) Root & Leaf | 4) Root & Flower |
|----------------|----------------|----------------|------------------|
40. Which of the following method you will select to produce more rose plants in your garden
- | | |
|-------------|-------------------|
| 1) Layering | 2) Grafting |
| 3) Cutting | 4) Tissue culture |

41. The following table shows the adaptations of an animal
- | | |
|-------------------|-------------------------------------|
| ♦ Strong legs | ♦ Good sense of smell |
| ♦ Sharp eye sight | ♦ Body colour matching surroundings |

Identify the animal which shows above adaptations

- | | | | |
|----------|---------|---------|--------|
| 1) Camel | 2) Bear | 3) Deer | 4) Yak |
|----------|---------|---------|--------|

42. Hump of the camel stores
- | | | | |
|-------------|------------------|---------|------------------|
| 1) Proteins | 2) Carbohydrates | 3) Fats | 4) All the above |
|-------------|------------------|---------|------------------|

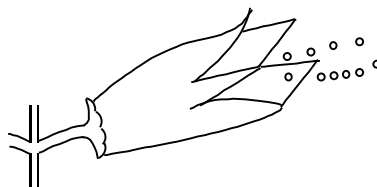
43. Which of the following animals have more RBC to obtain more oxygen from the air
- | | | | |
|---------------|------------|--------|----------|
| 1) Polar bear | 2) Penguin | 3) Yak | 4) Camel |
|---------------|------------|--------|----------|

44. Which of the following is not an adaptation of fish
- | | | | |
|---------------------|---------------------|------------------------|-----------------------|
| 1) Streamlined body | 2) Presence of Fins | 3) Presence of trachea | 4) Presence of scales |
|---------------------|---------------------|------------------------|-----------------------|

45. Seeds with hooks or spines will disperse by
- | | | | |
|--------------------|---------|--------------|----------|
| 1) Birds & animals | 2) Wind | 3) Explosion | 4) Water |
|--------------------|---------|--------------|----------|

46. Seeds of dandelion & milkweed disperse by
- | | | | |
|--------------------|---------|----------|--------------|
| 1) Birds & animals | 2) Wind | 3) Water | 4) Explosion |
|--------------------|---------|----------|--------------|

47. This mechanism of dispersal is
- | | |
|-------------|--------------|
| 1) Blowing | 2) Bursting |
| 3) Blooming | 4) Explosion |



48. List of seeds are given in this table []

- ◆ Cashew ◆ Wheat
- ◆ Ground nut ◆ Mango
- ◆ Rice ◆ Bean
- ◆ Maize

Identify the seeds with single cotyledon

- 1) Groundnut & Mango 2) Rice & Cashew
- 3) Maize & Wheat 4) Bean & Mango

49. Which part of a germinating seed gives leaves []

- 1) Radicle 2) Cotyledon 3) Seed coat 4) Plumula

50. Pollengrains produce, pollentube when they fall on []

- 1) Style 2) Anther 3) Ovary 4) Stigma

