



INTSO EDUCATION

SCIENCE TALENT SEARCH OLYMPIAD (STSO) 2015-16

STAGE - 2

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. $\frac{1}{4}$ (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

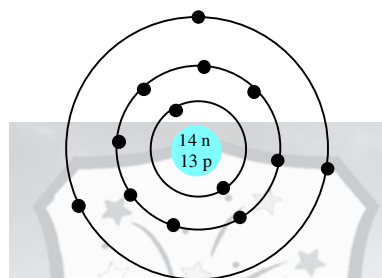
1. Among the following, example to object possess potential energy []
1) flowing river 2) rolling rock 3) moving train 4) water stored in dam
2. The force which is used to lift the weight is called _____ []
1) fulcrum 2) load 3) effort 4) none of these
3. The basic number of types of simple machines are []
1) 2 2) 3 3) 5 4) 6
4. The shadow of an object is formed on _____ side of the light source []
1) same 2) opposite 3) upper 4) down
5. Punching machine is a _____ type of lever []
1) first class 2) second class
3) third class 4) it is not a simple machine
6. A staircase is an example of _____ []
1) wedge 2) inclined plane 3) pulley 4) screw
7. At what time of the following, the length of the shadow of a tree is longest []
1) At 9 am 2) at 11 am 3) at 12 pm 4) at 1 pm
8. _____ is made two inclined planes joined to form a 'V' shape. []
1) wedge 2) inclined plane 3) pulley 4) screw
9. Among the following, example for second class lever []
1) scissors 2) hammer 3) bottle opener 4) forceps
10. _____ are used to convert solar energy into electrical energy []
1) solar cells 2) solar cookers 3) solar heaters 4) all the above
11. Among the following examples to wheel and axle. []
1) fishing rod 2) tongs 3) wheel barrow 4) steering wheel
12. Earth revolves around the sun due to _____ []
1) heat energy 2) magnetic energy 3) gravitational energy 4) light energy
13. Among the following, natural source of light is _____ []
1) candle 2) oil lamp 3) moon 4) sun
14. A fast moving stone has _____ energy []
1) potential energy 2) kinetic energy 3) heat energy 4) sound energy

15. Among the following magnetic substance is []
 1) aluminium 2) glass 3) paper 4) iron
16. _____ is the form of energy which gives us sensation of sight []
 1) light energy 2) sound energy 3) heat energy 4) magnetic energy
17. Among the following, which can form shadow is _____ []
 1) glass 2) ground glass 3) human body 4) tissue paper

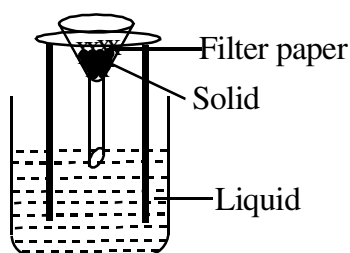
CHEMISTRY

18. Choose the correct symbol of phosphorus given by dalton. []
- 1)  2)  3)  4) 

19. The geometrical representation given below represents []

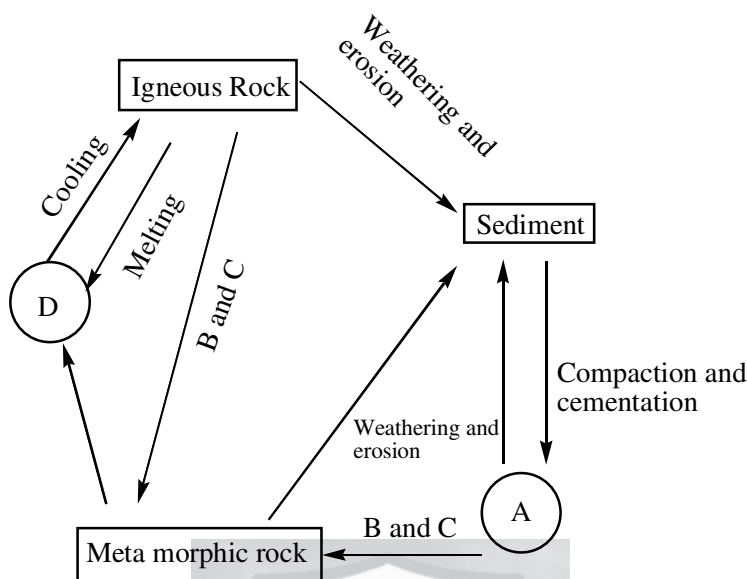


- 1) Magnesium 2) Aluminium 3) Chlorine 4) Argon
20. The elements that biochemist have found to be most important in the human body are oxygen, carbon, nitrogen, calcium and phosphorus. Then choose the percentage of the above elements in human body. []
- 1) Oxygen - 65%, carbon - 18%, Nitrogen - 24%, Calcium - 1.6% and Phosphorus - 0.9%
 2) Oxygen - 18%, carbon - 65%, Nitrogen - 1.6%, Calcium - 24% and Phosphorus - 0.9%
 3) Oxygen - 65%, carbon - 18%, Nitrogen - 1.6%, Calcium - 0.9% and Phosphorus - 24%
 4) Oxygen - 65%, carbon - 1.6%, Nitrogen - 18%, Calcium - 24% and Phosphorus - 0.9%
21. The given diagram shows a method by which a solid can be separated from solid-water mixture. Which one of the following could be that solid ? []



- 1) Salt 2) Sugar 3) Sand 4) Ice crystals
22. Every element has a specific name and symbols. The IUPAC approves the names of elements. The term IUPAC stands for []
- 1) Indian union of pure and applied chemistry
 2) International union of physical and analytical chemistry
 3) International union of pure and applied chemistry
 4) Indian union of physical and analytical chemistry

23. Compounds can be formed by the combination of atoms (or) ions. Then identify the correct formula of a compound formed by Al^{+3} and N^{-3} ions. []
- 1) Al_3N_3 2) Al_3N 3) Al/N_3 4) Al/N
24. Observe the Rock cycle given below and identify A, B, C and D respectively. []



- | | | | |
|--|--|---|---|
| <p>A</p> <p>1) Pressure</p> <p>2) Heat</p> <p>3) sedimentary rock</p> <p>4) Magma</p> | <p>B</p> <p>1) Magma</p> <p>2) sedimentary rock</p> <p>3) Heat</p> <p>4) Heat</p> | <p>C</p> <p>1) Heat</p> <p>2) Pressure</p> <p>3) Pressure</p> <p>4) Pressure</p> | <p>D</p> <p>1) sedimentary rock</p> <p>2) Magma</p> <p>3) Magma</p> <p>4) sedimentary rock</p> |
|--|--|---|---|

25. There are about 20 mineral species that qualify as gem minerals. Which constitute about 35 of the most common gemstones. Gem minerals are often present in several varieties and so one mineral can account for several different gemstones. Then Ruby and Sapphire are gemstones of
- 1) Quartzite 2) Corundum 3) Marble 4) Slate []
26. Separate the following substances as elements and compounds (NH_3 , H_2 , CO , I_2 , HNO_3 , O_3 , MgO , HCl). []

Elements	Compounds
1) H_2 , I_2 , MgO , HCl	NH_3 , CO , HNO_3 , O_3
2) H_2 , I_2 , O_3	NH_3 , CO , HNO_3 , MgO , HCl
3) H_2 , I_2 , O_3 , HNO_3 ,	NH_3 , CO , MgO , HCl
4) H_2 , I_2 , O_3 , NH_3 , CO	HNO_3 , MgO , HCl

27. Guess who am I ? []
- I) I am a kind of rock formed from molten rock called magma
- II) I am formed from soil, shells, bits of rocks and the remains of dead plants and animal matter
- III) I can be formed from sedimentary rocks when heat and pressure change the properties
- 1) I - Metamorphic rock, II - Igneous rock, III - Sedimentary rock
- 2) I - Igneous rock, II - Sedimentary rock, III - Metamorphic rock
- 3) I - Sedimentary rock, II - Igneous rock, III - Metamorphic rock
- 4) I - Igneous rock, II - Sedimentary rock, III - Sedimentary rock

28. Identify the correct statement from the following. []
- I) Granite comes from Magma
 II) Basalt comes from Magma
 III) Pumice comes from lava shot out of a volcano
- 1) I and II only 2) II and III only 3) I and III only 4) All are correct

29. The given figure is that of a bowl containing a mixture of iron fillings, salt and sand. []
 Which of the following processes help in separating the three of them ?

- 1) Magnetic separation, Filtration, Evaporation
 2) Handpicking, Filtration, Condensation
 3) Threshing, Filtration, Evaporation
 4) Magnetic separation, Evaporation, Winnowing



30. Which of the following are examples of sedimentary rocks. []
- 1) sand stone 2) shale 3) limestone 4) all

31. Rocks can be made in one or more way. Sedimentary rocks can be changed by time, heat and pressure under the surface of earth. These becomes metamorphic rocks. Then which of the following conversion is correct. []

- I) sand stone becomes quartzite
 II) shale becomes slate
 III) lime stone becomes marble
- 1) I and II only 2) II and III only 3) I and III only 4) All are correct

32. Among the following identify the correct separating technique and its example []
- 1) Sublimation - Ammonium chloride and Iodine
 2) Evaporation - Mixture of ink dye and water
 3) Chromato graphy - Separation of Butter from milk
 4) Separating funnel - Two miscible liquids

33. Study the given table of mixtures. []
- i) Grains + Husk
 ii) Iron filings + Sand
 iii) Ammonium chloride + Common salt
- Which of the following techniques are correct to separate the given mixtures ? []

Separation Techniques

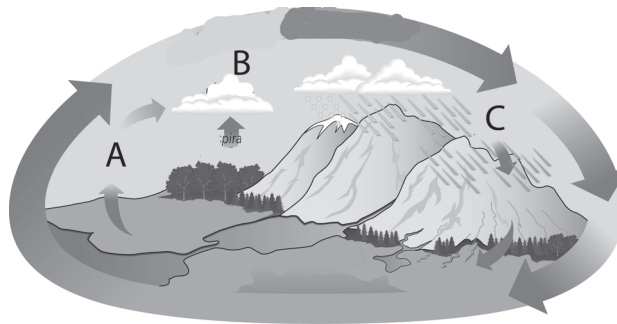
(i)	(ii)	(iii)
1) Filtration	Sedimentation	Decantation
2) Handpicking	Sedimentation	Filtration
3) Winnowing	Magnetic separation	Sublimation
4) Evaporation	Distillation	Sublimation

34. While passing through a construction site, Sohail observed labourers throwing sand into a sieve. Identify the impurities that are separated out by this method. []

- i) Dry leaves ii) Sand iii) Twigs
- 1) i and ii only 2) ii and iii only 3) iii and i only 4) i, ii and iii

BIOLOGY

35. Observe the following picture



In the Picture A represents

- 1) Condensation 2) Precipitation 3) Freezing 4) Evaporation []

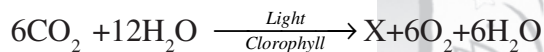
36. Falling of water from sky is called

- 1) Evaporation 2) Freezing 3) Precipitation 4) Sublimation []

37. Dodder plant is a parasite that depend on another plants for food and water; Dodder is a parasite because

- 1) It do not have sufficient water 2) It do not have chlorophyll
3) It do not have stem 4) It do not have leaves []

38. Observe the following equation of photosynthesis



X represents

- 1) Carbohydrate 2) Protein 3) Fat 4) Mineral []

39. Which of the following is not an insectivorous plant

- 1) Nepenthes 2) Drosera 3) Utricularia 4) Rafflesia []

40. The bird which builds home with twigs and leaves, for its young ones is

- 1) Bulbul 2) Weaver 3) Toucan 4) Pelican []

41. Identify the bird which shown in the picture

- 1) Toucan
2) Kingfisher
3) Humming bird
4) Bulbil []



42. Which of the following bird eats insects and seeds

- 1) Duck 2) Parrot 3) Humming bird 4) Sparrow []

43. Which of the following are present in a complete flower

- 1) Sepals 2) Carpels 3) Stamens 4) All the above []

44. Bees and butterflies helps the flower by facilitating

- 1) Bud formation 2) Pollination 3) Germination 4) Plant growth []

45. Which part of a seed develop in to leaves

- 1) Radicle 2) Plumule 3) Cotyledons 4) Seed coat []

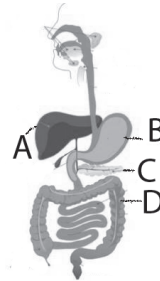
46. Which of the following is correct regarding the body organisation []

- 1) Tissue → organ → cell → organ systems
- 2) Cell → Tissue → organ → organ system
- 3) Tissue → cell → organ → organ system
- 4) Organ → Tissue → cell → organ system

47. Observe the picture of human digestive system []

Name of the organ A represented is

- 1) Liver
- 2) Gall bladder
- 3) Stomach
- 4) Pancreas



48. Identify the part of digestive system in which complete digestion of food occurs []

- 1) Large intestine
- 2) Small intestine
- 3) Stomach
- 4) Food pipe

49. Identify the function of excretory stem []

- 1) Filters and removes waste from blood.
- 2) Filter and remove waste from food
- 3) Transports food to all parts of body
- 4) Transports blood to all parts of body

50. Kidneys are located []

- 1) On either side of vertebral column
- 2) In the chest cavity
- 3) On either side of Stomach
- 4) On either side of Intestine

