



INTSO EDUCATION

SCIENCE TALENT SEARCH OLYMPIAD (STSO) 2015-16

STAGE - 2

TIME : 60 min.

CLASS : VII

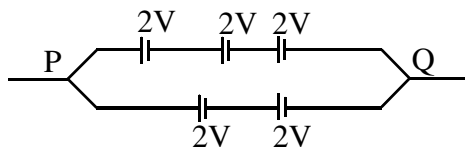
Max. Marks : 50

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. The speedometer of a vehicle gives us []
1) Average speed 2) Instantaneous speed 3) Initial speed 4) Final speed
2. In a cycle race, the cyclist covers a distance of 10 km in 5 minutes then the average speed of cyclist is []
1) 2 km/h 2) 60 km/h 3) 100 km/h 4) 120 km/h
3. A beam balance is used to measure : []
1) force 2) mass 3) weight 4) density
4. A person sitting in a moving bus is at rest with respect to []
1) trees 2) fields 3) buildings 4) other passengers.
5. The approximate length of second's pendulum is []
1) 10 cm 2) 100 cm 3) 10 mm 4) 100 mm
6. Water boils at []
1) 100 °C 2) 0 °C 3) 120 °C 4) -100 °C
7. The device used to measure the temperature of a body is []
1) Calorimeter 2) Thermometer 3) Odometer 4) Magnetometer
8. The alcohol thermometer cannot be used for measuring high temperatures because []
1) higher boiling point 2) lower boiling point 3) more expensive 4) less abundance
9. The normal temperature of a human body in celsius scale is []
1) 30 °C 2) 37 °C 3) 42 °C 4) 0 °C
10. Electric energy supplied to homes is measured by []
1) voltmeter 2) ammeter 3) galvanometer 4) kilowatt-hour meter
11. Among the following, example to the insulator is []
1) Copper 2) Aluminium 3) Alcohol 4) Brass
12. Fuse wire is an alloy of _____ []
1) copper and lead 2) Iron and tin 3) tin and lead 4) copper and iron
13. Three cells are connected as shown in figure, then the total emf in the circuit is []
1) 10 V
2) 3 V
3) 6 V
4) 4 V

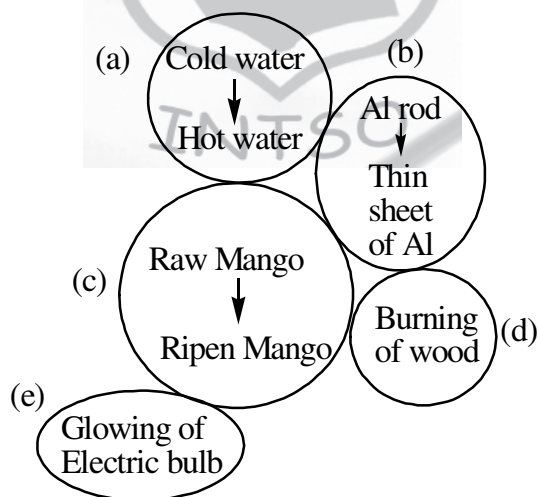


14. "Indian Meteorological Department" gives the information about []
 1) Earth quakes 2) Tsunami 3) Cyclones 4) All the above
15. A mirror which always forms a virtual, erect and diminished image is : []
 1) convex mirror 2) concave mirror 3) plane mirror 4) none of these
16. Shadow cast by heavenly bodies, is called []
 1) Umbra 2) Penumbra 3) Eclipse 4) Partial eclipse
17. The number of images formed when two plane mirrors are kept at angle of 60° are []
 1) 5 2) 6 3) 7 4) 9

CHEMISTRY

18. How many of which of the following substances turn china rose indicator to green colour. Shampoo, Lemonjuice, Soda water, Baking soda solution, Vinegar, Sugar solution, common salt solution []
 1) 7 2) 5 3) 2 4) 3
19. While doing experiments in the laboratory, Latha forgot to keep the lid of the calcium nitrate bottle. After some time, it was found that it becomes liquid. Teacher asked her why it was happened like that. What is Latha's answer. $\text{Ca}(\text{NO}_3)_2$ is []
 1) Hydrated salt 2) Deliquescent salt
 3) Anhydrated salt 4) Hygroscopic salt
20. Anaerobic bacteria digest animal waste and produce biogas (change - A). The biogas is then burnt as fuel (Change - B). Choose the correct one from the following []
 1) Process A is a physical change 2) Process 'B' is a chemical change
 3) Both the processes are physical changes 4) Both the processes are chemical changes

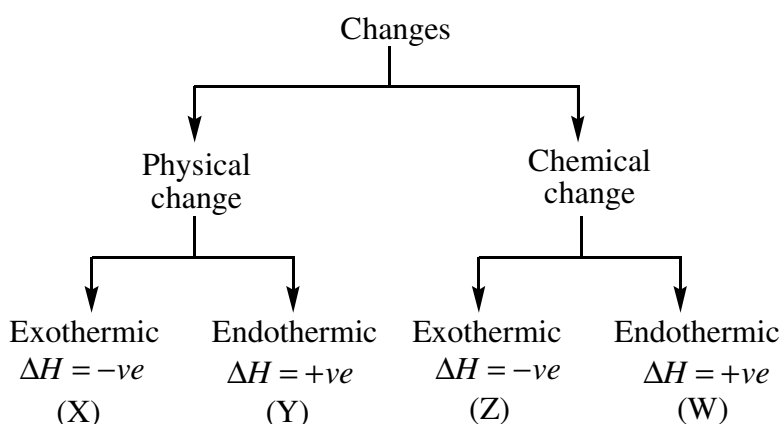
21.



In which of the following changes composition of initial substance will not be changed []

- 1) a,b,e 2) c,d 3) a,b,c,d,e 4) d,e
22. Sanjay is playing in the ground. An ant bites Sanjay and he is crying because of inflammation to the skin. His teacher applied calamine solution and he got relief from the pain. The calamine solution may contain. []
 1) NaOH 2) Vinegar 3) ZnCO_3 4) CuSO_4

Based on the following information, answer the questions 6, 7 and 8



$\Delta H = -ve$ means energy is evolved

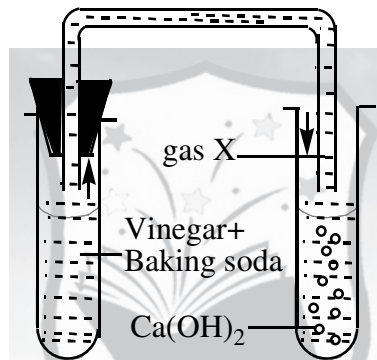
$\Delta H = +ve$ means energy is absorbed

23. Preparation of food by green plants comes under which of the following category []
 1) X 2) Y 3) Z 4) W
24. Which of the following changes comes under the category Z []
 1) lighting of bulb 2) volcanic eruption
 3) Formation of ice from water 4) sublimation of camphor
25. Dissolution of glucose in water comes under which of the following category []
 1) X 2) Y 3) Z 4) W
26. Weather changes []
 1) week after week 2) day after day
 3) with in a shortperiod 4) in any of the above time period
27. **Column - I** **Column - II**
 a) Hot and dryclimate p) Kashmir
 b) Very hot and wet climate q) Rajasthan
 c) Moderately hot and moderately wet r) Kerala
- Choose the correct match from the following []
- | | | | | | |
|----------|----------|----------|----------|----------|----------|
| a | b | c | a | b | c |
| 1) q | r | p | 2) q | p | r |
| 3) p | q | r | 4) r | p | q |
28. Weather conditions depend on []
 1) Oceans 2) Atmosphere
 3) Location of place on the earth 4) All of these
29. $2 \text{ Mg} + \text{O}_2 \rightarrow \text{X} \xrightarrow{\text{H}_2\text{O}} \text{Y}$. []
 On addition of red cabbage juice to the solution Y. What change is observed []
 1) Colour of the solution changes to green
 2) This change is same as the change observed when red cabbage juice is added to curd
 3) Solution Y is acidic in nature
 4) All the above

30. **Base** **Found in** []
- | | |
|-----------------------------|---------------------|
| a) $\text{Ca}(\text{OH})_2$ | p) Milk of magnesia |
| b) NH_4OH | q) Soap |
| c) KOH | r) Lime water |
| d) $\text{Mg}(\text{OH})_2$ | s) Window cleaner |
- | | a | b | c | d | |
|------------------|----------|----------|----------|----------|------------------|
| 1) r s p q | | | | | 2) s q p r |
| 3) r s q p | | | | | 4) q r s p |

31. Place A = Vizag, B = Vijayawada, C = Hyderabad
 The decreasing order of rate of rusting of iron objects in the above mentioned places is []
 1) $C > B > A$ 2) $A > B > C$ 3) $B > A > C$ 4) $A > C > B$
32. Which of the following is not an application of neutralisation in daily life []
 1) Indigestion 2) Soil treatment 3) Factory wastes 4) Acid rains

Based on the following diagram answer the questions (16 and 17)



33. What is the common name of the main product formed in the above experimental set up []
 1) Lime water 2) Lime 3) Lime stone 4) Slaked lime
34. Volume of the gas at STP in lit required to produce 50g of the main product produced in the above experiment (in the right test tube) is []
 1) 22.4 lit 2) 1 lit 3) 11.2 lit 4) 44.8 lit

BIOLOGY

35. Which of the following mineral ions present in the food are essential for muscle contraction and nerve impulse transmission []
 I) Sodium II) Potassium III) Calcium IV) Iron
 V) Phosphorous VI) Magnesium
 Correct set from the above
 1) I, V, VI 2) I, II, III 3) I & III 4) I, V, III
36. Which of the following are the functions of water in our body []
 I) Transport of substances II) Waste removal
 III) Maintains body temperature IV) Digestion
 Correct statements are
 1) I & IV 2) I, II, IV 3) I & III 4) I, II, III, IV
37. Iodine is an important mineral for the functioning of thyroid gland. Iodised salt, fish and sea foods are the sources of this mineral. []
 Deficiency of iodine leads to
 1) Myxoedema 2) Addison's disease 3) Goitre 4) Tetany

38. Silk plantation is mainly concentrated in the following regions, except []
 1) Khammam 2) Adilabad 3) Ananthpur 4) Warangal
39. The number of eggs laid by female moth at one time are []
 1) 300 2) 5000 3) 500 4) 3000
40. Removal of grease, dirt and dust from wool is called []
 1) Bleaching 2) Scouring 3) Spinning 4) Shearing
41. Cuscuta takes food from the plant on which it is climbing. This mode of nutrition is called heterotrophic nutrition. This plant has special roots called X which penetrate in to Y tissues of host and absorb food from it []
 X and Y represent
 1) X - Hypae Y - Epithelial 2) X - haustoria Y - vascular
 3) X - Root hairs Y - Meristematic 4) X - haustoria Y - cambium
42. Read the following []
 I) Lichens represents symbiotic relation between algae and fungi
 II) Fungus gives protection for algal partner
 III) It is an example of balanced parasitism
 IV) Lichens do not grow in polluted area, hence they can be considered as an indicators of pollution
 Correct statements are
 1) I & II 2) I, II, III 3) I, II, IV 4) I, II, III, IV
43. Which of the following scientist described leaf as an organ of respiration []
 1) Stephan Hales 2) Priestley 3) Ingenhouz 4) Von Helmont
44. The amount of oxygen present in inhaled and exhaled air respectively []
 1) 0.4 & 40 ml 2) 210 & 165 ml 3) 210 & 65 ml 4) 200 & 20 ml
45. Find the odd one regarding respiration []
 1) Earthworm 2) Leech 3) Tad pole 4) Frog
46. Structural and functional units of lungs are []
 1) Bronchi 2) Bronchioles 3) Alveoli 4) Nephrons
47. Find the incorrect pair []
 1) Incomplete flower : Cucumber 2) Complete flower : Datura
 3) Unisexual flower : Ipomea 4) Bisexual flower : Pea
48. Site of germination of pollengrain on the flower is []
 1) Stigma 2) Style 3) Pistil 4) Ovary
49. 2nd male nuclie fuses with X present at the centre of Y ; Fuses with it and form as Z []
 X, Y & Z represents
 1) X - secondary nucleus Y - Embryosac and Z - Endosperm
 2) X - Egg, Y - Ovary and Z - Zygote
 3) X - Plar nuclei, Y - Embryosac and Z - Zygote
 4) X - Synergids, Y - Ovary and Z - Endosperm
50. Find the correct one []
 Dahlia : root : Sugar cane : ?
 1) Root 2) Stem 3) Leaf 4) Corm

