

BOARD - QUE.PAPER
4
SOLUTION

SOLUTIONS

SCIENCE AND TECHNOLOGY
QUESTION PAPER-4 : JULY-2015

STANDARD-10
**JULY
2015**
011(E)

Part-A : Time : 1 Hour / Marks : 50

Part-B : Time : 2 Hours / Marks : 50

PART-A

Time : 1 Hour

011(E)

[Maximum Marks : 50

Instructions : As per Question Paper-1.

- Which is the most important property of nano materials?
(A) Force (B) Pressure (C) Friction (D) Temperature
- Carbon nano-tubes are cylinders formed by bonding together bucky balls with _____.
(A) one open and one closed end. (B) both ends closed.
(C) both ends open. (D) none of the given three options.
- What is the focal length of a Convex lens having power +5.0 D ?
(A) -10 cm (B) -20 cm (C) + 20 cm (D) + 10 cm
- Which type of image is always formed by a Plane mirror ?
(A) Real and inverted (B) Real and erect
(C) Virtual and inverted (D) Virtual and erect
- Which phenomenon does not play a role in the formation of rainbow ?
(A) Reflection (B) Refraction (C) Absorption (D) Dispersion
- Which lens is used to correct the defect of vision termed as Presbyopia ?
(A) Convex (B) Concave (C) Contact (D) Bifocal
- Which lens spectacle will be used by the person having far-sightedness defect ?
(A) Concave lens (B) Convex lens (C) Cylindrical lens (D) Bifocal lens
- Through which electrolyte is electric current passed to deposit layer of Copper over the metallic spoon ?
(A) Ferrous sulphate (B) Dihydrogen sulphate
(C) Copper sulphate (D) Sodium sulphate
- If the work is to be done to take 5 C electric charge from one point to another point is 20 J, what will be the potential difference between these two points ?
(A) 3 V (B) 15 V (C) 5 V (D) 4 V
- Which of the following formula states Ohm's law ?
(A) $R = \frac{1}{V} v$ (B) $I = \frac{R}{V}$ (C) $V = IR$ (D) $P = I^2R$
- The formula for an electric current is _____.
(A) $I = Qt$ (B) $I = \frac{t}{Q}$ (C) $I = \frac{Q}{t}$ (D) $I = W \cdot t$

12. By which instrument the presence of magnetic field can be determined ?
(A) Voltmeter (B) Ammeter (C) Magnetic needle (D) Galvanometer
13. How many times does an AC electric current with frequency 50 Hz changes its direction 1 sec. ?
(A) 25 (B) 50 (C) 75 (D) 100
14. What is produced around a conducting wire, when electric current is passed through it ?
(A) Electric field (B) Gravitational field
(C) Magnetic field (D) Work field
15. Which is the most brilliant planet of the Solar system ?
(A) Earth (B) Jupiter (C) Mars (D) Venus
16. Which of the following is not a member of the Solar system?
(A) Stars (B) Planets (C) Asteroids (D) Artificial Satellites
17. Which is the hottest planet of the Solar system
(A) Mercury (B) Mars (C) Earth (D) Venus
18. During launching of which space shuttle, did an Indian astronaut Kalpana Chawla was killed ?
(A) Discovery (B) Colombia (C) Challenger (D) Atlantis
19. What is formed by reaction of non-metal oxide with water?
(A) Salt (B) Acid (C) Base (D) Metal
20. What will be OH^- concentration in aqueous solution having $\text{pH} = 8$?
(A) $1 \times 10^{-6} \text{ M}$ (B) $18 \times 10^{-8} \text{ M}$ (C) $8 \times 10^{-6} \text{ M}$ (D) $8 \times 10^{-8} \text{ M}$
21. If 1 mole solute is dissolved in 1 litre solution, then what is the concentration of solution called ?
(A) 1 amu (B) 1 molal (C) 1 normal (D) 1 molar
22. Which of the following substance is taken as a remedy of the acidity ?
(A) Basic (B) Acidic (C) Neutral (D) Amphoteric
23. Which of the following is an alloy ?
(A) 22 carat gold (B) 24 carat gold (C) Silver (D) Aluminium
24. Which metal is used in thermometer ?
(A) Silver (B) Sodium (C) Copper (D) Mercury
25. Which alloy is used to make parts of music instruments ?
(A) Brass (B) Magnalium (C) Steel (D) Nickel
26. Which of the following gases is used as preservative in juice of fruits and jams?
(A) NH_3 (B) H_2O (C) SO_2 (D) CO_2

27. Which gas is used to prepare vegetable ghee from vegetable oil ?
(A) Chlorine (B) Hydrogen (C) Nitrogen (D) Oxygen
28. Which gas is supposed to be the main gas responsible for air pollution?
(A) SO₂ (B) CO₂ (C) CO (D) O₂
29. Which is the matured form of Coal ?
(A) Anthracite (B) Bitumine (C) Lignite (D) Peat
30. C₄H₁₀ is the molecular formula of which compound ?
(A) Butene (B) Butyne (C) Butane (D) Butanol
31. The oil from Ankleshwar of Gujarat contains what percentage of Sulphur containing compounds ?
(A) 0.4% (B) 0.3% (C) 0.2% (D) 0.1%
32. What is the electronic configuration of Carbon ?
(A) 2, 4 (B) 2, 5 (C) 2, 6 (D) 2, 7
33. '-ol' suffix is attached with which group in nomenclature ?
(A) -CHO (B) -OH (C) >C = O (D) -X
34. Which enzyme is responsible for conversion of milk into curd ?
(A) Invertase (B) Lactase (C) Zymase (D) Cellulase
35. What is the molecular formula of Glucose ?
(A) C₆H₂₂O₁₁ (B) C₁₂H₂₂O₁₁ (C) C₆H₁₂O₆ (D) C₆H₁₂O₁₁
36. Where is the process of digestion of food starts in human beings ?
(A) Mouth (B) Food canal (C) Stomach (D) Small intestine
37. Where is tricuspid valve found in human heart ?
(A) Right auricle and right ventricle. (B) Left auricle and left ventricle.
(C) Between two auricles. (D) Between two ventricles.
38. In which part of the body, blood gets purified (becomes oxygenated) ?
(A) Heart (B) Kidney (C) Lungs (D) Wind pipe
39. What happens in the process of Photosynthesis ?
(A) Conversion of Solar energy into Chemical energy.
(B) Conversion of Solar energy into Kinetic energy.
(C) Conversion of Chemical energy into Kinetic energy.
(D) Conversion of Kinetic energy into Chemical energy.
40. Which of the following hormone prepares our body for action in emergency situation?
(A) Testosterone (B) Growth hormone
(C) Insulin (D) Adrenalin
41. How many pairs of nerves arises from the Spinal cord ?
(A) 11 (B) 21 (C) 31 (D) 41

42. Identify the False statement from the following.
- (A) In plants, transpiration helps in regulation of temperature.
 - (B) By the process of Photosynthesis, Carbohydrate is synthesised in the green leaves.
 - (C) Walls of auricles are thick, while ventricles are thin.
 - (D) Like animals, plants do not possess any excretory organs or system.
43. Reproduction is essential for living organism in order to _____ .
- (A) maintain growth
 - (B) continue the species for ever
 - (C) keep the individual organ alive
 - (D) fulfill their energy requirements
44. Full name of NACO is _____ .
- (A) National Aids Control Organisation.
 - (B) National Aids Communication Organisation.
 - (C) National Acquired Control Organisation.
 - (D) National Address Communication Organisation.
45. In human beings, sex is determined by _____ .
- (A) Cell
 - (B) Genes
 - (C) Tissue
 - (D) Organelles
46. Transmission of character from generation to generation in living organism is known as
- (A) Migration
 - (B) Evolution
 - (C) Variation
 - (D) Heredity
47. The structural and functional unit of the environment is known as _____ .
- (A) Food web
 - (B) Food chain
 - (C) Photosynthesis
 - (D) Ecosystem
48. Which of the following food chain is in correct order ?
- (A) Producer → Decomposer → Herbivores
 - (B) Producers → Herbivores → Carnivores
 - (C) Decomposers → Producers → Herbivores
 - (D) Carnivores → Decomposers → Omnivores
49. Which of the following liquid is well known as gold
- (A) Kerosene
 - (B) Diesel
 - (C) Fuel oil
 - (D) Petroleum
50. Which of the following is used as a large water reservoir?
- (A) Lakes
 - (B) Dam
 - (C) Canal
 - (D) Well

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