1. Brass is a homogeneous mixture of ____
   (A) zinc and copper (B) zinc and tin
   (C) tin and copper (D) iron and tin
2. Liquid air is a mixture of liquids_____
   (A) nitrogen and oxygen
   (B) nitrogen and hydrogen
   (C) hydrogen and oxygen
   (D) water vapour and carbon dioxide
3. A molecule always contains _____
   (A) only one type of atom
   (B) only two types of atom
   (C) one or more than one type of atom
   (D) always more than one type of atom
4. What is the ratio of the molecular mass of a compound to that of its gram molecular mass?
   (A) 6.022×10^{23} (B) $\frac{1}{6.022 \times 10^{23}}$
   (C) 1
   (D) different for different compounds
5. An atom of an element has 6 electrons in the M-shell which is also the valence shell. What would be the atomic number of the element?
   (A) 2 (B) 3
   (C) 6 (D) 16
6. What is the amount of heat energy required to melt 1kg of ice at 0^0C?
   (A) 100J (B) 100J/Kg
   (C) 3.34×10^5kg (D) 3.34×10^5J/kg
7. At what temperature can gallium melt?
   (A) 25^0C (B) 25K
   (C) 303K (D) 30K
8. What is the atomicity of neon molecule?
   (A) 1 (B) 2
   (C) 3 (D) 4
9. Find the number of atoms which constitute a mole of cupric hydroxide.
   (A) $1 \times 6.022 \times 10^{23}$ (B) $3 \times 6.022 \times 10^{23}$
   (C) $5 \times 6.022 \times 10^{23}$ (D) $7 \times 6.022 \times 10^{23}$
10. What is the atomic number of deuterium?
    (A) 1 (B) 2
    (C) 3 (D) 4
11. Which of the following statements of saline solutions which are mixtures of water and salt is correct?
    (A) They have fixed m.p. and b.p.
    (B) They do not have fixed m.p. and b.p.
    (C) Their m.p. and b.p.are just the same as pure water
    (D) none of the above
12. The ratio of the mass of an atom of an element to that of the mass of an atom of carbon is 16. What is the atomic mass of the element?
    (A) 12 (B) 16
    (C) 1.33 (D) 192
13. Which of the followings is an example of isotones?
    (A) ${}^{12}_{6}C$ and ${}^{14}_{6}C$ (B) ${}^{39}_{18}Ar$ and ${}^{40}_{20}Ca$
    (C) ${}^{39}_{18}Ar$ and ${}^{39}_{19}K$ (D) ${}^{20}_{10}Ne$ and ${}^{23}_{11}Na^{+}$
14. Sponge is a
    (A) sol (B) solid sol
    (C) Foam (D) solid foam
15. What is the percentage composition of phosphate in magnesium phosphate?
    (A) 23.66% (B) 36.25%
    (C) 72.52% (D) 79.83%
16. Name the instrument which is used to measure the relative atomic mass of elements.
    (A) Barometer (B) mass spectrometer
    (C) common balance (D) spring balance
17. What is the number of electrons which would have approximately the same mass as a hydrogen molecule?
    (A) 1 (B) 1837
    (C) 3674 (D) 6.022×10^{23}
18. A body is moving in a circular path with an average speed of 4.19m/sec where the time taken by the body to cover a complete cycle is 6 seconds. Find the displacement of the body after travelling

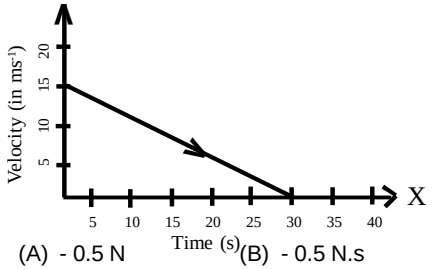
21sec where radius of the circular path is 4m.
    (A) 4m (B) 8m
    (C) 25.14m (D) 87.99m
19. What is the unit of momentum in F.P.S system?
    (A) kg ms^{-1} (B) g cms^{-1}
    (C) N ms^{-1} (D) lb fts^{-1}
20. 1MJ constitutes _____
    (A) 10KJ (B) 10^2KJ
    (C) 10^3 KJ (D) 10^6 KJ
21. What is the unit of specific gravity of a substance?
    (A) Kg m^{-3} (B) ms^{-2}
    (C) N m^2 Kg^{-2} (D) no unit
22. Find the speed of the satellite which is revolving uniformly at a height of 6400 km above the ground and takes a day to complete the revolution. [Radius of the Earth =6400km, neglecting the motion of the Earth]
    (A) $2\pi \times 266.67 km/hr$
    (B) $2\pi \times 266.67 m/\sec$
    (C) $2\pi \times 533.33 km/hr$
    (D) $2\pi \times 533.33 m/\sec$
23. Who determined the value of 'G' to be 6.67×10^{-11}N m^2/K^2
    (A) Issac Newton (B) Galileo Galilei
    (C) Archemede (D) Henry Cavendish
24. The gravitaional potential energy of a body depends on _____
    (A) mass of the body
    (B) height of the body from the ground
    (C) acceleration due to gravity of the place
    (D) all the above
25. (i) Sound is a mechanical wave
    (ii) Sound is an electromagnetic wave
    (iii) Sound is a longitudinal wave
    (iv) Sound is a transverse wave
    Which of the statements given above are correct?
    (A) (i) and (iv) (B) (ii) and (iii)
    (C) (i) and (iii) (D) (iii) and (iv)
26. Two bodies A and B of masses 1kg and 5Kg respectively are made to fall from a same height in vacuum. Which of the following statements about the two bodies given below is correct?
    (A) A will reach the ground first
    (B) B will reach the ground first
    (C) Both A and B will reach the ground simultaneously.
    (D) Depends on the height they fall
27. The weight of a body on the surface of the Earth is 18 N. What would be its mass when measured on the surface of the moon?
    (A) 1Kg (B) 1.84Kg
    (C) 3Kg (D) 10.78Kg
28. A body of mass 6Kg is dropped from the top of a building and takes 4 seconds to reach the ground. Find the kinetic energy that the body would hit the ground.
    (A) 235.2J (B) 2304.96J
    (C) 4609.92J (D) 9219.49J
29. The wave number of a wave s 255m^{-1}. What will be its time period if the speed of wave is 6000 m/s?
    (A) 15,30,000 sec (B) 23.53 sec
    (C) 6.54×10^{-7} sec (D) 3.92×10^{-3} sec
30. Which law is known as the real law of motion?
    (A) Newton's first law of motion
    (B) Newton's second law of motion
    (C) Newton's third law of motion
    (D) Universal law of Gravitation
31. A cube of mass 600g and volume 50 c.c is completely immersed in water. Find the bouyant force exerted on the cube.
    (A) 0.49 N (B) 5.88 N
    (C) 5.39 N (D) 12 N
32. Find the speed of the tip of the second hand of a clock where the length of the hand is 35 cm.

(A) $\frac{7}{12} cm/\sec$ (B) $\frac{11}{3} cm/\sec$

(C) 3 cm/sec (D) $\frac{1225}{6} cm/\sec$

33. What is the speed of sound in distilled water at 25°C?
(A) 1531 ms^{-1} (B) 1498 ms^{-1}
(C) 1207 ms^{-1} (D) 1103 ms^{-1}

34. The velocity -time graph of a body of mass 1.0 kg sliding along a straight path on a platform is shown in the figure. Obtain the impulse exerted by the platform on the body.



(A) - 0.5 N (B) - 0.5 N.s
(C) - 30 N (D) - 30 N.s

35. Oxysomes are present in
(A) Endoplasmic recticulum
(B) Mitochondria
(C) Lysosomes (D) Nucleus

36. What replaces the epidermis of the stem as the plant grows older?
(A) Epiblema (B) Phellogen
(C) Cuticle (D) Vessels

37. Marsilea is a plant present in the division__
(A) Thallophyta (B) Pteridophyta
(C) Bryophyta (D) Spermatophyta

38. BCG is a vaccine used for the preventation of
(A) Tuberculosis (B) Malaria
(C) Hepatitis (D) Rabies

39. Which of the followings is a breed of cow?
(A) Jaffarabadi (B) Kankrej
(C) Mehsana (D) Murrah

40. Which of the following is a membrane?
(A) Leucoplast (B) Chloroplast
(C) Tonoplast (D) Chromoplast

41. What type of muscle is present in bronchi of lungs?
(A) striated muscles (B) unstriated muscles
(C) cardiac muscles (D) all the above

42. Walking worms are present in the phylum____
(A) Arthropoda (B) Annelida
(C) Sipunculoidea (D) Platyhelminthes

43. Glucose, sodium ions and chloride ions are transported through the lipid bilayer of the membrane by the process of _____
(A) simple diffusion (B) facilitated diffusion
(C) active transport (D) osmosis

44. Which of the following is not a soil water?
(A) potable water (B) capillary water
(C) hygroscopic water (D) gravitational water

45. In which stage of Karyokinesis is the nucleolus completely disappear?
(A) Prophase (B) Metaphase
(C) Anaphase (D) Telophase

46. Which kingdom has the least number of known species?
(A) Kingdom Monera (B) Kingdom Protisto
(C) Kingdom Fungi (D) Kingdom Animalia

47. Which class of sub-phylum vertebrata include mostly marine fishes with cartilaginous endoskeleton and placoid scales?
(A) Chondrichthyes (B) Osteichthyes
(C) Cyclostomata (D) Placodermi

48. The process of leaving the field uncultivated to replenish the soil with plant nutrients is called_____
(A) Fallowing (B) Biometrics
(C) Heterosis (D) Pedigree system

49. Osteomalachia is a deficiency disease which occurs due to deficiency of _____
(A) Vitamin A (B) Vitamin B
(C) Vitamin D (D) Protein

50. Identify the organism which is responsible for ammonification.
(A) Pseudomonas (B) Nitrifying bacteria
(C) Azotobactor (D) Putrefying bacteria

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26th MIX
(SCIENCE)

Time Allowed 1 hour Maximum Marks : 100

Read the following instructions carefully before you begin to answer the questions.

1. This booklet contains 50 questions in all.
2. All questions are compulsory and each question carries 2 marks.
3. Before you start to answer the questions you must check up this booklet and ensure that it contains all the pages 3 (Three) and see that no page is missing or repeated. If you find any defect in this Booklet, you must replace it immediately.
4. There will **NOT** be any negative marking for wrong answers.
5. You are required to fill the information on the answer sheet which you will get in the examination hall by **H.B. pencil or BALL point pen.**
6. **Answer Sheet** and **Question Paper** will be supplied in examination hall. After the test is over, you should hand over the answer sheet to the invigilator before leaving the room.
7. You should write your **Name, Roll No.,** carefully on the space provided in the answer sheet. Otherwise you will be awarded **ZERO** mark.
8. If you wish to change your answer, **ERASE** completely the darkened circle by using an **ERASER** and then blacken the new circle. If not erased completely, smudges will be left on the erased circle and the question will be read as having two answer and will be ignored for giving any credit.
9. Answer the questions as quickly and as carefully as you can. Some questions may be difficult and others easy. Do not spend too much time on any question.
10. You are not allowed to leave the examination hall until you are advised to do so by the invigilator.