1. Which of the following has minimum spaces among the particles?
   (A) solids
   (B) liquids
   (C) gases
   (D) none of these

2. Which of the following is not a property of particles of a matter?
   (A) The particles of matter are extremely small.
   (B) The particles of matter have spaces between them.
   (C) The particles of matter attract each other
   (D) The particles of matter are in stationary state

3. The rate of evaporation decreases with
   (A) Increase of temperature
   (B) Increase in wind speed
   (C) Increase in humidity
   (D) Increase of surface area

4. Which one of the following sets of phe-nomena would increase on raising the temperature?
   (A) Diffusion, evaporation,compression of gases
   (B) Evaporation, compression of gases, solubility
   (C) Evaporation, solubility, diffusion, com-pression of gasses, expansion of gases
   (D) Evaporation, solubility,diffusion, ex-pansion of gases.

5. How can we separate cream from milk?
   (A) Chromatography
   (B) Centrifugation
   (C) Sublimation
   (D) Distillation

6. The particles of a suspension will be of size.......................
   (A) Less than 1nm
   (B) Greater than 1000nm
   (C) Greater than 100nm
   (D) Greater than 10nm

7. Which one of the following is TRUE for compound?
   (A) It shows properties of its constituents.
   (B) It may be homogeneous or heterogeneous.
   (C) It has fixed melting and boiling points.
   (D) It can be seperated by physical methods.

8. Name the Indian philosopher who called "the smallest indivisible particles of matter" as parmanu.
   (A) Aryabhatt
   (B) Maharishi Kanad
   (C) Pakudha katyayama
   (D) Democritus

9. Law of definite proportions was proposed by:
   (A) Joseph Proust
   (B) John Dalton
   (C) A Lavoisier
   (D) Rutherford

10. The number value 6.022×10^{23} is also called
    (A) Dalton number
    (B) Avogadro number
    (C) Atomic number
    (D) Mass number

11. The number of moles for 52g of He is ....(atomic mass of He: 4u)
    (A) 6.02×10^{23}
    (B) 1
    (C) 52
    (D) 13

12. An α - particle is ....
    (A) A hydrogen nucleus
    (B) A helium nucleus
    (C) A proton
    (D) An electron

13. Two elements X and Y have the same atomic mass but their atomic numbers are 20 and 21 respectively. X and Y are
    (A) Isobars
    (B) Isotones
    (C) Isomers
    (D) Isotopes

14. Number of neutrons present in Hydrogen atom is ....
    (A) 0
    (B) 1
    (C) 2
    (D) 3

(A) Bee keeping
(B) Rearing pigs
(C) rearing cows and buffalloes
(D) Rearing silk moths

48. Cereals largely fulfill which of the following energy requirement?
    (A) Proteins
    (B) Carbohydrates
    (C) Fats
    (D) Minerals

49. Which tropic level is considered to be the most vulnerable to extinction?
    (A) Producer
    (B) Primary consumer level
    (C) Secondary consumer level
    (D) Tertiary consumer level

50. In which sphere of the environment Ozone layer is located?
    (A) Troposphere
    (B) Stratosphere
    (C) Mesosphere
    (D) Thermosphere

****

27ᵗʰMIX
(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 4 (four) 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(Blue or Black).**

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., School name** 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 answers and will be ignored for giving any credit. (only for pencil users)

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.

(A) The light body
(B) The heavy body
(C) Both have same K.E
(D) None of these

31. Considering air resistance negligible, the sum of potential and kinetic energies of the free falling body would be.
(A) Zero
(B) Increase
(C) Decrease
(D) Remians fixed

32. Which of the following waves do not require any kind of medium to propagate?
(A) Sound waves
(B) Earthquake waves
(C) Light waves
(D) Water surface waves

33. In longitudinal waves, the particles vibrate in a .... direction of propagation.
(A) Parallel
(B) Perpendicular
(C) Curved
(D) Both parallel & perpendicular

34. Sound wave of which of the following frequency is an ultrasonic sound?
(A) 30Hz
(B) 300kHz
(C) 3000Hz
(D) None of these

35. Who used the word 'protoplasm' the first time for living cells?
(A) Robert Hooke
(B) Leeuwenhoek
(C) Purkinje
(D) Robert Brown

36. The main constituent of cell wall is
(A) Starch
(B) Cellulose
(C) Protein
(D) None of these

37. Which organelle is considered as a suicide bag?
(A) Centrosome
(B) Mesosomes
(C) Lysosomes
(D) Chromosome

38. Function of centriole is
(A) Formation of spindle fibre
(B) Nucleolus formation
(C) Cell wall formation
(D) Cell division

39. In plants which of the following have the capability of cell division?
(A) Parenchyma
(B) Sclerenchyma
(C) Xylem
(D) Apical meristem

40. Husk of a coconut is made of which tissue ?
(A) Parenchyma tissue
(B) Sclerenchyma tissue
(C) Collenchyma
(D) Xylem

41. Oesophagus and the lining of the mouth are also covered with which tissues?
(A) Squamous epithelium
(B) Ciliated epithelium
(C) Areolar connective
(D) Striated muscle tissues

42. Which of th following is group of invertebrate animals?
(A) Mammalia
(B) Pisces
(C) Reptilian
(D) Arthropods

43. Which of the following are called "Amphibians of plant kingdom"?
(A) Bryophytes
(B) Algae
(C) Pteridophytes
(D) Gymnosperms

44. Microbes which enter the body through nose most likely affect
(A) Liver
(B) Lungs
(C) Heart
(D) Brain

45. Which of th following is a viral infection?
(A) Diptheria
(B) Influenza
(C) Cholera
(D) Typhoid

46. Diseases which are always present in certain location are called
(A) Epidemic diseases
(B) Endemic diseases
(C) Acute diseases
(D) Chronic diseases

47. Apiculture deals with

15. If Z represents the atomic number and A represents mass number, then the number of neutrons in an atom can be computed as
(A) A + Z
(B) Z - A
(C) A - Z
(D) Z

16. The electronic configuration of an atom is 2,8,6. The valency of the given atom is
(A) 1
(B) 2
(C) 3
(D) 4

17. The maximum number of electrons that can be accomodated in M shell is
(A) 2
(B) 8
(C) 18
(D) 32

18. The SI unit of retardation is
(A) ms^2
(B) m/s
(C) m/s^{-2}
(D) m/s^2

19. A train moves with a uniform speed of 54kmph. What is its speed in m/s?
(A) 15m/s
(B) 1.5m/s
(C) 9m/s
(D) 90m/s

20. A truck covers 40 km with an average speed of 80km/hr. Then it travels another 40km with an average speed of 40km/hr. The average speed of the truck for the distance covered is
(A) 63.33km/hr
(B) 60Km/hr
(C) 50km/hr
(D) 53.33km/hr

21. The property of inertia is largest in
(A) a toy car
(B) a motorcycle
(C) a car
(D) truck

22. A ball is moving in a circle at fixed speed. Which of the following statement is TRUE?
(A) There is no acceleration present
(B) There must be only one force acting on it.
(C) Acceleration is present but has constant magnitude.
(D) Acceleration is present and acts tangent to the circle.

23. A body of weight W is suspended from the ceiling of a room through a rope of weight R, the ceiling pulls the rope by a force of
(A) (W+R)/2
(B) W + R
(C) W
(D) R

24. One newton is the force ....
(A) of gravity on a 1kg body
(B) of gravity on a 1g body
(C) Which gives a 1g body an acceleration of $1m/s^2$
(D) Which gives a 1kg body an acceleration of $1m/s^2$

25. Weight of an object on the surface of the moon is
(A) 1/5th that on the surface of the earth
(B) 1/3rd that on the surface of the earth
(C) 1/6th that on the surface of the earth
(D) 1/2 that on the surface of the earth

26. The force of attraction between two bodies (each having mass of 1kg) are kept at a distance of 1m with respect to each other is
(A) $6.7 \times 10^{-11} kgm^{-2}$
(B) $6.7 \times 10^{11} kgm^{-2}$
(C) $6.7 \times 10^{-11} N$.
(D) $6.7 \times 10^{11} N$.

27. The mass of an object ....
(A) varies at different locations.
(B) remains constant.
(C) can be measured using spring balance.
(D) is in the direction of gravitational force

28. kWh is the unit of
(A) acceleration
(B) power
(C) momentum
(D) energy

29. Which of the following is not correct?
(A) Energy is the ability of doing work.
(B) Work can be expressed as force X displacement.
(C) Unit of power is joule.
(D) Power is amount of work done per unit of time.

30. A light and heavy body have equal momenta. Which one has greater kinetic energy?