

1. In which sphere of the environment Ozone layer is located?  
(A) Troposphere (B) Stratosphere  
(C) Mesosphere (D) Thermosphere
2. Cereals largely fulfill which of the following energy requirement?  
(A) Proteins (B) Carbohydrates  
(C) Fats (D) Minerals
3. Diseases which are always present in certain location are called  
(A) Epidemic diseases  
(B) Endemic diseases  
(C) Acute diseases  
(D) Chronic diseases
4. Microbes which enter the body through nose most likely affect  
(A) Liver (B) Lungs  
(C) Heart (D) Brain
5. Which of the following is group of invertebrate animals?  
(A) Mammalia (B) Pisces  
(C) Reptilian (D) Arthropods
6. Husk of a coconut is made of which tissue ?  
(A) Parenchyma tissue  
(B) Sclerenchyma tissue  
(C) Collenchyma  
(D) Xylem
7. Function of centriole is  
(A) Formation of spindle fibre  
(B) Nucleolus formation  
(C) Cell wall formation  
(D) Cell division
8. The main constituent of cell wall is  
(A) Starch (B) Cellulose  
(C) Protein (D) None of these
9. Sound wave of which of the following frequency is an ultrasonic sound?  
(A) 30Hz (B) 300kHz  
(C) 3000Hz (D) None of these
10. 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
11. A light and heavy body have equal momenta. Which one has greater kinetic energy?  
(A) The light body  
(B) The heavy body  
(C) Both have same K.E  
(D) None of these
12. kWh is the unit of  
(A) acceleration (B) power  
(C) momentum (D) energy
13. 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)  $6.7 \times 10^{-11} \text{kgm}^{-2}$   
(B)  $6.7 \times 10^{11} \text{kgm}^{-2}$   
(C)  $6.7 \times 10^{-11} \text{N}$ .  
(D)  $6.7 \times 10^{11} \text{N}$ .
14. 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  $1 \text{m/s}^2$   
(D) Which gives a 1kg body an acceleration of  $1 \text{m/s}^2$
15. 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.
16. Which of the following has minimum spaces among the particles?  
(A) solids (B) liquids  
(C) gases (D) none of these

46. Which organelle is considered as a suicide bag?  
(A) Centrosome (B) Mesosomes  
(C) Lysosomes (D) Chromosome
47. In plants which of the following have the capability of cell division?  
(A) Parenchyma  
(B) Sclerenchyma  
(C) Xylem  
(D) Apical meristem
48. 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
49. Which of the following are called "Amphibians of plant kingdom"?  
(A) Bryophytes (B) Algae  
(C) Pteridophytes (D) Gymnosperms
50. Which of the following is a viral infection?  
(A) Diphtheria (B) Influenza  
(C) Cholera (D) Typhoid

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**27<sup>th</sup>MIX**  
**(SCIENCE)**

Time Allowed 1 hour

Maximum Marks : 100

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

**CODE**  
**B**

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) Isobars (B) Isotones  
(C) Isomers (D) Isotopes
31. 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
32. 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)  $Z$
33. The maximum number of electrons that can be accommodated in M shell is  
(A) 2 (B) 8  
(C) 18 (D) 32
34. 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
35. The property of inertia is largest in  
(A) a toy car (B) a motorcycle  
(C) a car (D) truck
36. Weight of an object on the surface of the moon is  
(A)  $1/5^{\text{th}}$  that on the surface of the earth  
(B)  $1/3^{\text{rd}}$  that on the surface of the earth  
(C)  $1/6^{\text{th}}$  that on the surface of the earth  
(D)  $1/2$  that on the surface of the earth
37. 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
38. 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.
39. 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
40. The SI unit of retardation is  
(A)  $\text{ms}^2$  (B)  $\text{m/s}$   
(C)  $\text{m/s}^{-2}$  (D)  $\text{m/s}^2$
41. 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
42. 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
43. 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) Remains fixed
44. In longitudinal waves, the particles vibrate in a ..... direction of propagation.  
(A) Parallel  
(B) Perpendicular  
(C) Curved  
(D) Both parallel & perpendicular
45. Who used the word 'protoplasm' the first time for living cells?  
(A) Robert Hooke  
(B) Leeuwenhoek  
(C) Purkinje  
(D) Robert Brown

17. The rate of evaporation decreases with  
(A) Increase of temperature  
(B) Increase in wind speed  
(C) Increase in humidity  
(D) Increase of surface area
18. How can we separate cream from milk?  
(A) Chromatography (B) Centrifugation  
(C) Sublimation (D) Distillation
19. 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 separated by physical methods.
20. Name the Indian philosopher who called "the smallest indivisible particles of matter" as parmanu.  
(A) Aryabhatt  
(B) Maharishi Kanad  
(C) Pakudha katyayama  
(D) Democritus
21. The number value  $6.022 \times 10^{23}$  is also called  
(A) Dalton number  
(B) Avogadro number  
(C) Atomic number  
(D) Mass number
22. An  $\alpha$  - particle is .....  
(A) A hydrogen nucleus  
(B) A helium nucleus  
(C) A proton  
(D) An electron
23. Number of neutrons present in Hydrogen atom is .....  
(A) 0 (B) 1  
(C) 2 (D) 3
24. Apiculture deals with  
(A) Bee keeping  
(B) Rearing pigs  
(C) rearing cows and buffaloes  
(D) Rearing silk moths
25. 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
26. Which one of the following sets of phenomena would increase on raising the temperature?  
(A) Diffusion, evaporation, compression of gases  
(B) Evaporation, compression of gases, solubility  
(C) Evaporation, solubility, diffusion, compression of gases, expansion of gases  
(D) Evaporation, solubility, diffusion, expansion of gases.
27. 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
28. Law of definite proportions was proposed by:  
(A) Joseph Proust (B) John Dalton  
(C) A Lavoisier (D) Rutherford
29. The number of moles for 52g of He is .....(atomic mass of He: 4u)  
(A)  $6.02 \times 10^{23}$   
(B) 1  
(C) 52  
(D) 13
30. Two elements X and Y have the same atomic mass but their atomic numbers are 20 and 21 respectively. X and Y are