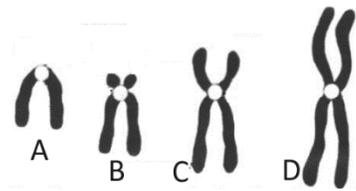
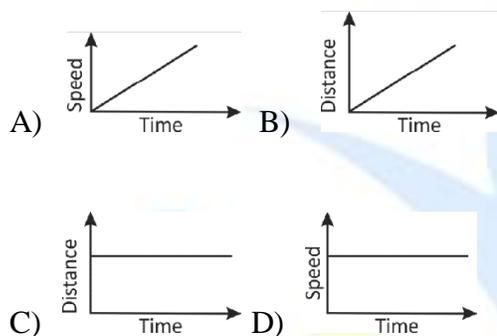


1. Which one of the following is the acrocentric chromosome?



- A) A
B) B
C) C
D) D

2. Which one of the following graphs shows uniform acceleration?



3. Choose the isobar from the following.

- A) ${}^6\text{C}_{12}$ and ${}^6\text{C}_{14}$
B) ${}^{92}\text{U}_{235}$ and ${}^{92}\text{C}_{238}$
C) ${}^1\text{H}_1$ and ${}^1\text{C}_2$
D) ${}^{18}\text{Ar}_{40}$ and ${}^{20}\text{Ca}_{40}$

4. Humans are classified according to the following hierarchy:

Animalia Chordata Mammalia Primates
Hominidae Homo Sapiens Which category is represented by Primates in the above hierarchy?

- A) Order
B) Genus
C) Kingdom
D) Family

5. What is the number of water molecules contained in a drop of water weighing 0.12g?

- A) 2.007×10^{21}
B) 4.014×10^{21}
C) 2.007×10^{22}
D) 4.014×10^{22}

6. Calculate the number of molecules of chloroform (CHCl_3) weighing 0.0239 g (H =1, C=12, Cl=35.5).

- A) 0.2046×10^{17}
B) 1.2046×10^{20}
C) 2.2046×10^{22}
D) 3.1046×10^{21}

7. A student has three cubes, one is steel cube with 40 g mass and 100 cm^3 volume, second is silver cube with 30 g mass and 10 cm^3 volume, and third is iron cube with 80 g mass and 100 cm^3 volume. Compare the cube and find out which one of the following cube has the highest density?

- A) Steel cube has highest density
B) Iron cube has highest density
C) Silver cube has highest density
D) Steel and silver has same density

8. Which one of the following statements correctly describes the relationship between the buoyant force and an object in fluid?

- A) The buoyant force is equal to the volume of the fluid that the object displaces.
B) The buoyant force is equal to the density of the fluid that the object displaces.
C) The buoyant force is equal to the volume of the fluid that the object displaces.
D) The buoyant force is equal to the weight of the fluid that the object displaces.

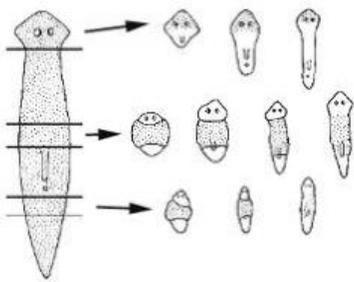
9. Which one of the following shows that cathode rays are negatively charged particles?

- A) Cathode rays produce greenish light on striking the wall of discharge tube
B) Cathode rays cast shadows of the objects placed in their path
C) Cathode rays move the blades of a paddle wheel placed in their path
D) Cathode rays are deflected towards the positive plate of an electric field

10. Classify the following materials in to elements, compounds and mixtures: Methane, granite, blood, sodium, silver, iron, sugar

- A) **Elements:** Sodium and silver **Compounds:** Methane, Granite, sugar **Mixtures:** Iron, blood
 B) **Elements:** Sodium, silver, iron, **Compounds:** Methane, sugar **Mixtures:** Granite, blood
 C) **Elements:** Sodium, silver, iron,
 D) **Elements:** Methane, silver, iron, **Compounds:** Sodium, sugar **Mixtures:** Granite, blood

11. Which mode of reproduction has been shown in the following figure?

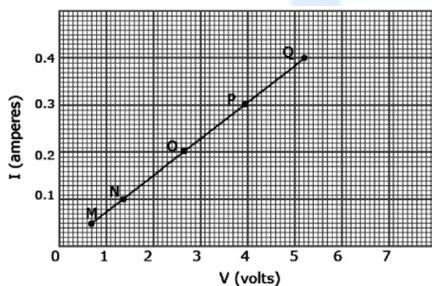


- A) Asexual mode of reproduction
 B) Sexual mode of reproduction
 C) Parthenogenesis
 D) All of these

12. If 100 J of energy is available at the producer level, calculate the amount of energy available to hawk in the following food chain.
 Green plants □ Grasshopper □ Frog □ Snake □ Hawk

- A) 0.1 J
 B) 0.01 J
 C) 10 J
 D) 10000 J

13. Examine the graph and calculate the resistance of the coil at the point Q.

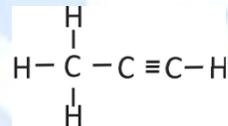


- A) 12 Ohms
 B) 5.2 Ohms
 C) 13 Ohms
 D) 0.4 Ohms

14. pH values of four solutions A, B, C and D are 7, 8, 9, 10 respectively. Put them in a sequence according to their nature.

- A) Acidic, acidic, neutral, basic
 B) Acidic, neutral, basic, basic
 C) Acidic, acidic, acidic, neutral
 D) Neutral, basic, basic, basic

15. Name the hydrocarbon given below.



- A) Propanal
 B) Propene
 C) Propyne
 D) Propanoic acid

16. On which one of the following factors the strength of an electromagnet depends?

- A) The number of turns in the coil
 B) The current flowing in the coil
 C) The length of air gap between its poles
 D) All of these

17. There is a device in the motor which is used to reverse the direction of current in the coil of a motor. What is the name of this device?

- A) Commutator
 B) Magnetic field
 C) Armature
 D) All of these

18. What are the end products of the anaerobic respiration that the yeast perform?

- A) Carbon dioxide, water and energy
 B) Alcohol, carbon dioxide and energy
 C) Lactic acid, carbon dioxide, and energy
 D) Alcohol, water and energy

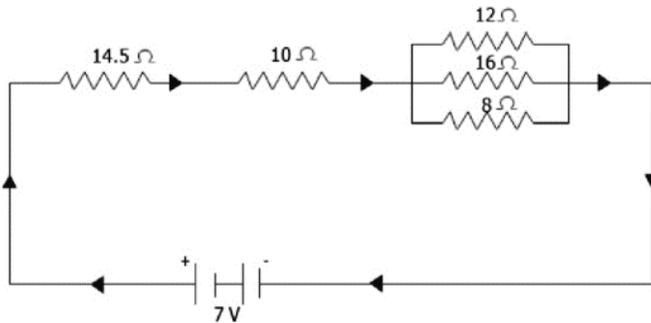
19. The steps involved in making a slide of epidermal peel of leaf are given as follows:

- I. pull out a thin peel from the lower surface of the leaf.
- II. place a drop of glycerine on the slide.
- III. stain the peel in safranin.
- IV. place the stained peel of the glycerine.
- V. remove the extra stain by washing with water.
- VI. place the cover slip over the peel.

Which one is the correct sequence of steps to be followed?

- A) I, II, III, IV, V, VI
- B) I, III, V, II, IV, VI
- C) I, III, IV, II, V, VI
- D) I, II, IV, III, V, VI

20. Examine the given circuit and calculate total current flowing in the circuit.



- A) 28 ampere
- B) 4 ampere
- C) 0.25 ampere
- D) 3.7 ampere

21. The ability to do work is

ANSWER:

22. Electromagnetic energy includes electricity and

ANSWER:

23. A boat motor changes chemical energy into Energy

ANSWER:

24. Work equals force times

ANSWER:

25. Thin membrane of eye through which light enters the eye first and gets refracted is called

ANSWER: