

ANSWER THE FOLLOWING

1 x 8 = 8

1. The SI unit of temperature is

- A] Kelvin                              B] Celsius                              C] Fahrenheit                              D] Newton

2. Which separation techniques will you apply for the separation of Butter from curd.

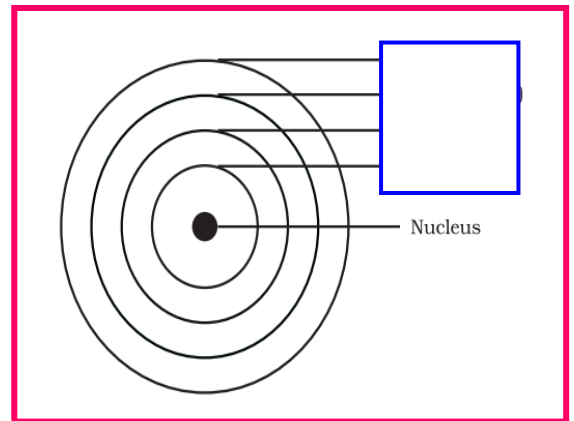
- A] centrifugation                              B] evaporation                              C] sublimation      D] distillation

3. Among the following which is the Avogadro constant

- A]  $6.022 \times 10^{23}$ .                              B]  $60.22 \times 10^{23}$ .  
C]  $602.2 \times 10^{23}$ .                              D]  $6022 \times 10^{23}$ .

4. In the given figure the correct arrangement of shell is

- A] KLMN    B] LKMN  
C] MLKN    D] KNML



5. An isotope of cobalt is used in the treatment of

- A] Cancer                              B] AIDS                              C] DENGUE                              D] CHIKENGUNYA

6. Blood has a fluid (liquid) matrix called

- A] Plasma    B] epithelium    C] alveoli    D] mitochondria

7. -----are warm – blooded animals with four – chambered hearts.

- A] Mammals    B] Amphibians    C] Reptilians    D] Vertebrate

8. If the velocity of an object changes from an initial value ‘u’ to the final value ‘v’ in time ‘t’

The acceleration ‘a’ is

- A]  $a = \frac{v-u}{t}$     B]  $a = \frac{t-u}{v}$     C]  $a = \frac{s-u}{v}$     D]  $v = u + at$

II. Answer the following:

1 x 8 = 8

9. State first law of motion.

10. What is the accepted value of [Gravitation] G .

11. What is gravity?

12. Define Power.

13. What is the audible range of sound in human beings.

14. How do we kill microbes?

15. How do we get rain?

16. How many nutrients are essential for crops?  
Use E-Papers, Save Trees  
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III. Answer the following:

2 x 8 = 16

17. Which of the following is matter?

Chair, air, love smell, hate, almonds, thought, cold, cold – drink smell of perfume.

18. Convert the following temperature to Celsius scale : [a] 300K [b] 573K.

19. Differentiate between homogeneous mixture and heterogeneous mixture.

20. Explain [a] Colloid [a] suspension

21. How many atoms are present in [i] H<sub>2</sub>S molecule [ii] PO<sub>4</sub><sup>3-</sup>?

22. Draw the sketch of Bohr's model of an atom with three shells.

23. Which organelle is known as the powerhouse of the cell? Why?

24. What is the role of epidermis in plants?

Answer the following :

25. Draw a labelled diagram of a neuron.

26. How does gymnosperms and angiosperms differ from each other.

3 x 9 = 27

27. A stone is thrown in a vertically upward direction with a velocity of 5 ms<sup>-1</sup> of the acceleration of the stone. Differentiating its motion is 10 ms<sup>-1</sup> in the downward direction what will be the height attained by the stone and how much time will it take to reach there?

28. An automobile vehicle has a mass of 1500 kg. What must be the force between the vehicle and road if the vehicle is to be stopped with a negative acceleration of 1.7 m s<sup>-2</sup>?

29. [a] State the universal law of gravitation [b] what do you mean by buoyancy?

[c] What is the acceleration of free fall?

30. An object of mass 40kg is raised to a height of 5m above the ground. What is the potential energy? If the object is allowed to fall, Find its kinetic energy when it is half-way down.

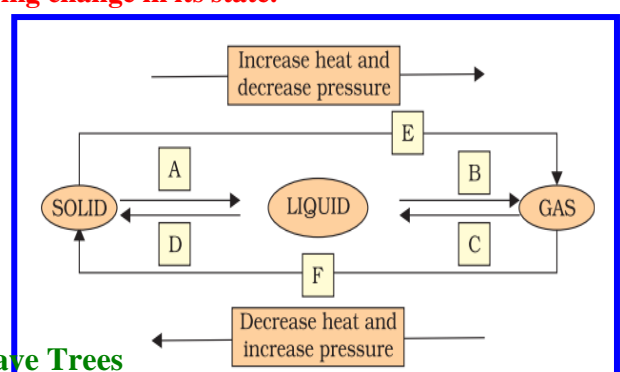
31. What are wavelength, frequency and amplitude of a sound wave?

How are wavelength and frequency of a sound wave related to speed?

32. A baby is not able to tell her/his caretakers that she/he is sick. What would help us to find out [a] that the baby is sick [b] What is the sickness?

33. Write a note on how forests influence the quality of our air, soil and water resources.

34. Name A, B, C, D, E and F in the following diagram showing change in its state.



35.[a] How do porifera animals differ from coelenterate animals?

[b] What are the differences between amphibians and reptiles ?

36. Write the electronic configuration of any one pair of isotopes and isobars.

37. Cite an experiment to show that sound needs a material medium for its propagation. OR

4 x 4 = 16

37 [b] Explain How the human ear works.

38. Draw a neat diagram of Plant Cell OR Animal cell and write the function of

1 x 5 = 5

[a] Cytoplasm [b] Chloroplast [c] Lysosome

## KEY ANSWERS

1	2	3	4	5	6	7	8
A	A	A	A	A	A	A	A

### 9. State first law of motion.

An object continues to be in a state of rest or uniform motion along a straight line unless acted upon by an unbalanced force.

### 10. What is the accepted value of [Gravitation] G .

$6.673 \times 10^{-11} \text{ N m}^2 \text{ kg}^{-2}$  .

### 11. What is gravity?

The force of gravitation due to the earth is called.

Force of gravitation due to the earth is called gravity.

### 12. Define Power.

Power is defined as the rate of doing work . The SI unit of power is watt.  $1 \text{ W} = 1 \text{ J} / \text{s}$ .

### 13. What is the audible range of sound in human beings.

The audible range of sound in human beings is 20 Hz to 20000 Hz

### 14. How do we kill microbes?

One way is to use medicines that kill microbes.

### 15. How do we get rain?

Evaporation of water from water bodies and subsequent condensation given us rain.

### 16. How many nutrients are essential for crops ?

There are thirteen nutrients essential for crops. Of these 6 are required macro nutrients and 7 are Micro – nutrients.

### III. Answer the following:

$2 \times 8 = 16$

### 17. Which of the following are matters?

Chair, air , love smell, hate , almonds , thought , cold, cold – drink smell of perfume.

Ans: Chair , air , almonds, cold –drink.

### 18. Convert the following temperature to Celsius scale :[a] 300K [b] 573K.

Ans: 300 K  $C^\circ = K^\circ - 273 = 300 - 273 = 27^\circ C$

573 K  $C^\circ = K^\circ - 273 = 573 - 273 = 300^\circ C$

### 19. Differentiate between homogeneous mixture and heterogeneous mixture

Sl. No	Homogeneous mixture	Heterogeneous mixture
1	No physical detectable boundary	Physical separation is possible
2	Particles are mixture and produces Monophasic	Produces biphasic

**20. Explain [a] Colloid [a] suspension**

**Colloid :** Homogeneous solutions in which solute particles are bigger than true solution Ex:-ink, blood , milk

**Suspension:** Heterogeneous mixture in which the solute particles are big enough to settle down. Example

Paints, Dosa batter

**21. How many atoms are present in [i] H<sub>2</sub>S molecule [ii] PO<sub>4</sub><sup>3-</sup> ion ?**

H<sub>2</sub>S molecule = H → 2 atoms      S → 1 atom

PO<sub>4</sub><sup>3-</sup> ion = P → 1 atom    O → 4 atom

**22. Draw the sketch of Bohr's model of an atom with three shells.**

**23. Which organelle is known as the powerhouse of the cell ? Why ?**

**Ans:** Mitochondria. The energy required for various chemical

Activities needed for life is released by it in the form of ATP [ Adenosine triphosphate ]

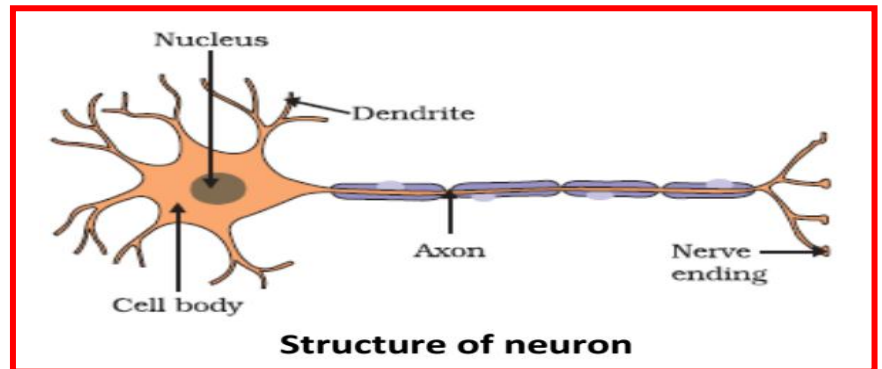
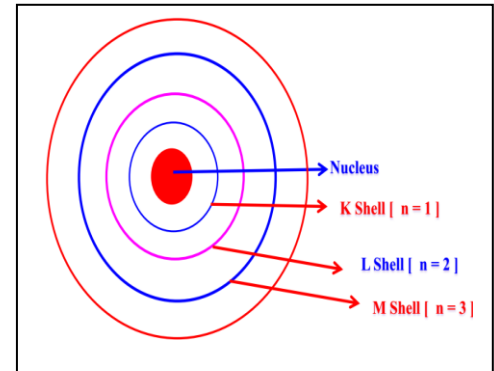
**24. What is the role of epidermis in plants ?**

**Ans:** [a] protects all parts of the plant body.

[b] Water resistance due to waxy substance.

[c] Protection against loss of water.

**25. Draw a labelled diagram of a neuron.**



**26. How does gymnosperms and angiosperms differ from each other**

Sl no	Gymnosperms	Angiosperms
1	Naked seed	Covered seed
2	Evergreen and woody	Flowering plants
3	Perennial Ex:- Pinus deodar	Monocot or dicot Ex:- Pulses , grain

**27. A stone is thrown in a vertically upward direction with a velocity of 5 ms<sup>-1</sup> of the acceleration**

**Of the stone . Differentiating its motion is 10 ms<sup>-1</sup> in the downward direction what will be the height**

**Attained by the stone and how much time will it make to reach there ?**

**Ans:**  $V^2 = u^2 + 2as$

$$\therefore S = \frac{v^2 - u^2}{2a} = \frac{0 - (5)^2}{2 \times (-10)}$$

$$= 1.25M$$

$$V = U + at$$

$$t = \frac{v-u}{a} = \frac{0-5}{2 \times (-10)} = 0.5 \text{ sec.}$$

**28. An automobile vehicle has a mass of 1500 kg. What must be the force between the vehicle and road**

**If the vehicle is to be stopped with a negative acceleration of  $1.7 \text{ m s}^{-2}$  ?**

Ans:  $a = 1.7 \text{ ms}^{-2}$     $m = 1500\text{kg}$

$$F = ma$$

$$= 1500 \times 1.7$$

$$= 1500 \times \frac{17}{10} \text{ [ to remove decimal place we add 10 to the denominator ]}$$

$$= 150 \times 17$$

$$= 2550 \text{ Newton.}$$

**29. [a] State the universal law of gravitation [b] what do you mean by buoyancy ?**

**[c] What is the acceleration of free fall?**

[a] Every object in the universe attracts every other object with a force which is proportional to the

Product of their masses and inversely proportional to the square of the distance between them.

$$\therefore F = \frac{GMm}{d^2}$$

[b] The property of liquid exerts upward force to push the objects towards the surface .

[c] The body change its velocity in unit time during its free fall .  $g = 9.8 \text{ ms}^{-2}$  .

**30. An object of mass 40kg is raised to a height of 5m above the ground. What is the potential energy?**

**If the object is allowed to fall, Find its kinetic energy when it is half – way down.**

Ans:  $V^2 - U^2 = 2gh$

$$V^2 = 2 \times (10) \times (2.5)$$

$$V^2 = 50 \text{ m/s}^{-2} .$$

$$V = \pm \sqrt{50}$$

$$\text{K. E.} = \frac{1}{2} mv^2 .$$

$$= \frac{1}{2} \times 40 \times 50$$

$$= 1000 \text{ J}$$

**31. What are wavelength , frequency and amplitude of a sound wave ?**

**How are wavelength and frequency of a sound wave related to speed ?**

Ans : Wavelength : Distance between two consecutive compressions or rarefactions, denoted by  $\lambda$

Unit is metre.

Frequency: Number of oscillations per unit time, its unit is, Hertz (Hz) denoted by ‘ f ’

**Amplitude:** The magnitude of maximum displacement in the medium from mean position.

$$[b] \text{ Speed} = \frac{\text{Distance}}{\text{time}} = \frac{\lambda}{T} \quad [v = n \lambda]$$

Speed = wavelength x frequency

**32. A baby is not able to tell her/his caretakers that she/ he is sick. What would help us to find**

**Out [a] that the baby is sick [b] What is the sickness ?**

**Ans :** (a) Active face and movements

(b) Crying /Screaming

(c) Rashes on skin

(d) Drowsiness

(e) temperature

(f) loose motions and symptoms help the sickness of the body.

**33. Write a note on how forests influence the quality of our air, soil and water resources.**

**Ans:** [a] Photosynthesis

[b] Transportation.

[c] food chain and food wells

[d] Precipitation.

[e] Absorption of pollutants

**34. Name A , B , C , D, E and F in the following**

**diagram showing change in its state.**

[a] Melting point

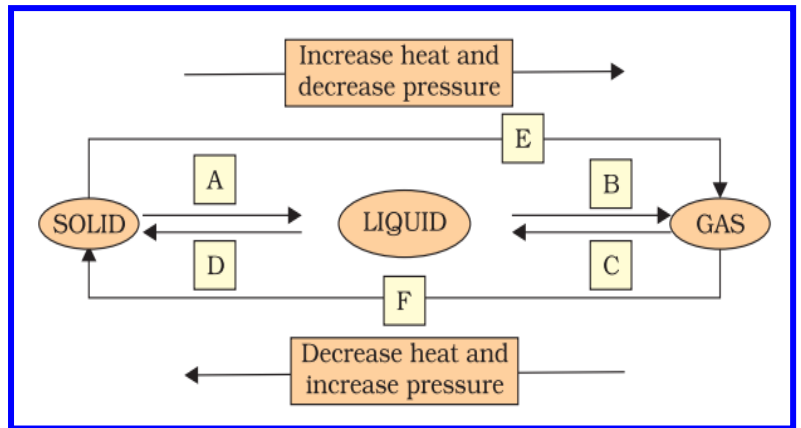
[b] Vapourisation

[c] Condensation

[d] Aolisification

[e] Sublimation.

[f] Sublimation.



**35.[a] How do porifera animals differ from coelenterate animals?**

**[b] What are the differences between amphibians and reptiles ?**

[a]

Sl No	Proifera	Coelenterate
1	Cellular level of organisation	Tissue level of organisation.
2	No division of labour.	Division of labour is seen.
3	Do not have coelom	Have coelom

[b]

Sl No	Amphibians	Reptiles
1	Levels both in land and water	Can live in water but need To come out for oxygen.
2	Can jump	Move by crawling
3	Skin is moist and soft.	Skin is dry and scaly.

36. Write the electronic configuration of any one pair of isotopes and isobars.

Isotopes are variants of a particular chemical element which differ in neutron number, and consequently in nucleon number. All isotopes of a given element have the same number of protons but different numbers of neutrons in each atom.

Isobars are atoms or nuclides of separate chemical elements having the same number of nucleons (protons+ neutrons). ... Atoms of chemical elements having same atomic mass but a different atomic number are called *Isobars*. The sum of the number of protons and neutrons together form the ...

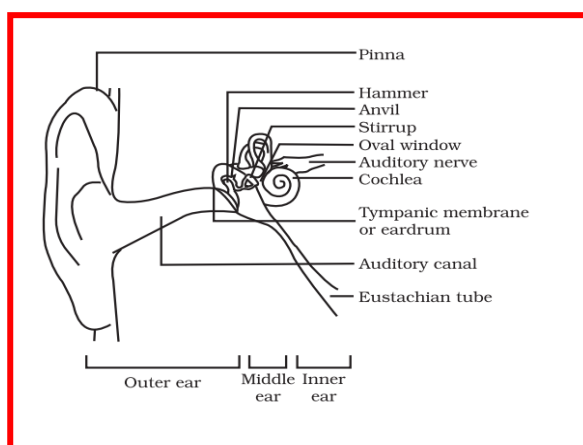
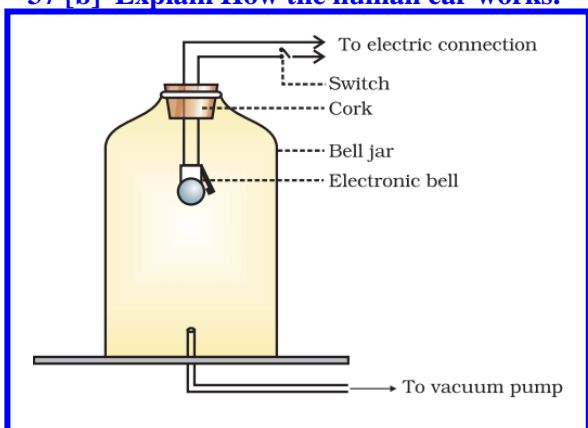
[a]  $^{12}_6\text{C}$  [Carbon]  $1s^2 2s^2 2p^2$ . [b]  $^{14}_6\text{C}$  [Carbon]  $1s^2 2s^2 2p^2$

[c]  $^{40}_{20}\text{Ca}$  [Calcium]  $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2$  OR 2, 8, 8, 2

[d]  $^{40}_{18}\text{Ar}$  [Argon]  $1s^2 2s^2 2p^6 3s^2 3p^6$ . OR 2, 8, 8

37. Cite an experiment to show that sound needs a material medium for its propagation. OR

37 [b] Explain How the human ear works.



- The electric bell is suspended inside an air tight glass jar which is connected to a vacuum pump. Working : (i) When we press the switch, we will be able to hear the bell. (ii) When the air in the jar is pumped out gradually, the sound becomes feeble although the same amount of current is flowing through the bell. (iii) When the air is removed completely, we will not be able to hear the sound of the bell. Conclusion : This experiment shows that sound requires a medium for its propagation.

Explain How the human ear works.

Here is how the ear works normally:

The sound waves are gathered by the outer ear and sent down the ear canal to the eardrum. The sound waves cause the eardrum to vibrate, which sets the three tiny bones in the middle ear into motion. The motion of the bones causes the fluid in the inner ear or cochlea to move.

38. Draw a neat diagram of Plant Cell OR Animal cell and write the function of

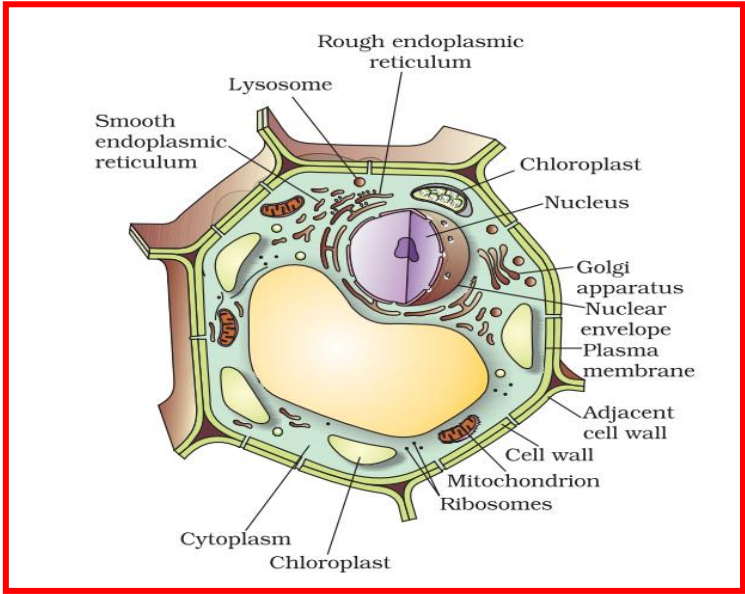
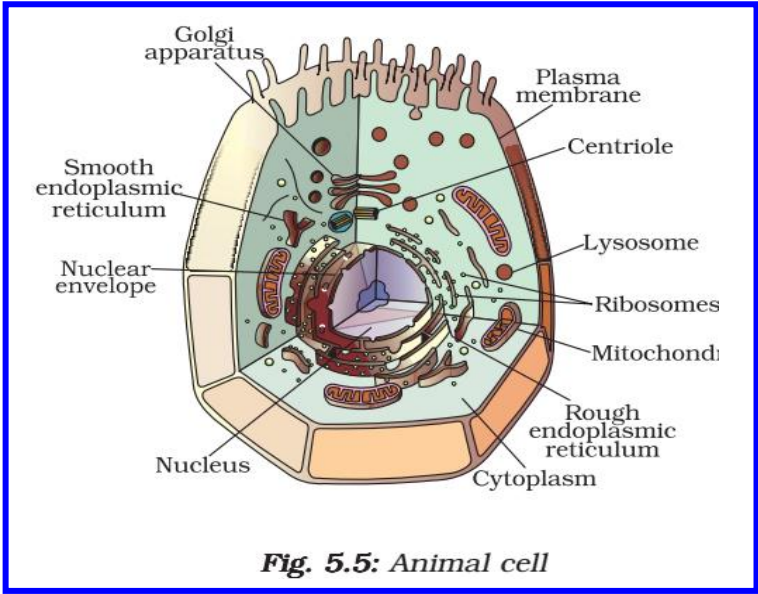
[a] Cytoplasm [b] Chloroplast [c] Lysosome

Cytoplasm is a thick solution that fills each cell and is enclosed by the cell membrane. It is mainly composed of water, salts, and proteins. In eukaryotic cells, the cytoplasm includes all of the material inside the cell and outside of the nucleus.

[b] **Chloroplast:** Chloroplasts work to convert light energy of the Sun into sugars that can be used by cells. The entire process is called photosynthesis and it all depends on the little green chlorophyll molecules in each chloroplast. Plants are the basis of all life on Earth.

[c] **Lysosome:** One of the key organelles involved in digestion and waste removal is the lysosome. Lysosomes are organelles that contain digestive enzymes. They digest excess or worn out organelles, food particles, and engulfed viruses or bacteria. Lysosomes are like the stomach of the cell.





Subject : SCIENCE

9<sup>TH</sup> STANDARD

Code: 83 – E

Time: 2.30 Hour

Marks: 80

ANSWER THE FOLLOWING

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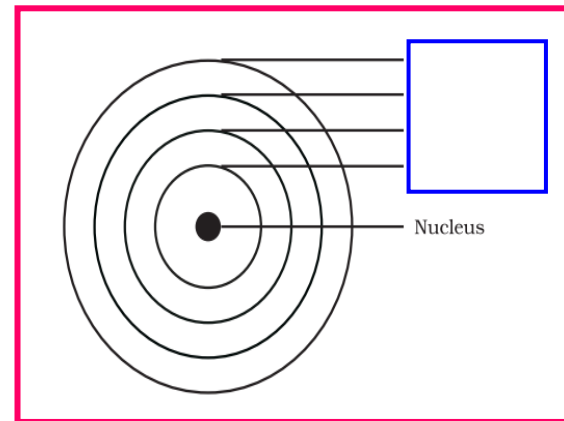
- A] centrifugation                      B] evaporation                      C] sublimation                      D] distillation

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- A]  $6.022 \times 10^{23}$ .                      B]  $60.22 \times 10^{23}$ .  
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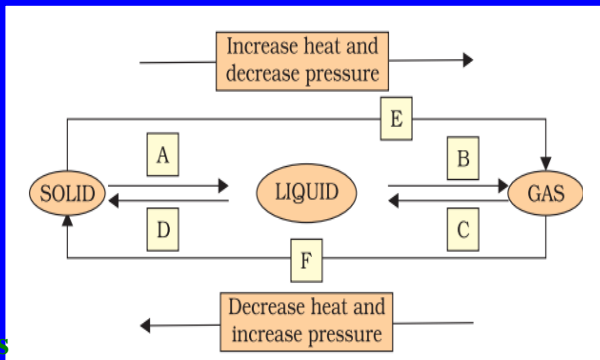
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ವಿಷಯ : ವಿಜ್ಞಾನ

9<sup>TH</sup> ನೇ ತರಗತಿ

Code: 83 – E

ಸಮಯ: 2.30 ಫಂ

ಅಂಕಗಳು: 80

ಇವುಗಳನ್ನು ಉತ್ತರಿಸಿ:

1 x 8 = 8

1. SI ಪದ್ಧತಿಯಲ್ಲಿ ಉಷ್ಣತೆಯ ಏಕಮಾನ

- A] ಕೆಲ್ವಿನ್                      B] ನ್ಯೂಟನ್                      C] ಪ್ಯಾಸ್ಕಲ್                      D] ಸೆಲ್ಸಿಯಸ್

2. ಮೊಸರಿನಿಂದ ಬೆಣ್ಣೆ ಬೇರ್ಪಡಿಸಲು ಬಳಸುವ ತಂತ್ರವನ್ನು ಹೆಸರಿಸಿ.

- A] ಸೆಂಟ್ರಿಫ್ಯೂಸ್ ( ಕೇಂದ್ರತ್ಯಾಗಿ )                      B] ಆವೀಕರಣ                      C] ಉತ್ಪತನ                      D] ಆಸವನ

3. ಇವುಗಳಲ್ಲಿ ಯಾವುದು ಅವಗಾಡ್ರೋ ಸ್ಥಿರಾಂಕ

- A]  $6.022 \times 10^{23}$ .                      B]  $60.22 \times 10^{23}$ .  
C]  $602.2 \times 10^{23}$ .                      D]  $6022 \times 10^{23}$ .

4. ಇವುಗಳಲ್ಲಿ ಸರಿಯಾದ ಜೋಡಣೆ

- A] KLMN                      B] LKMN  
C] MLKN                      D] KNML

5. ಕೋಬಾಲ್ಡ್ ನ ಸಮನ್ವಾನಿಯೊಂದನ್ನು ----- ಚಿಕಿತ್ಸೆಗೆ ಬಳಸುತ್ತಾರೆ

- A] ಕ್ಯಾನ್ಸರ್                      B] AIDS                      C] ಡೆಂಗ್ಯೂ                      D] ಚಿಕ್ಕನ್ ಗುನೈ

6. ರಕ್ತವು ದ್ರವ ಮಾತೃಕೆಯನ್ನು ಹೊಂದಿದೆ ಇದನ್ನು ----- ಎಂದು ಕರೆಯುವರು.

- A] ಪ್ಲಾಸ್ಮ                      B] ಅನುಲೇಪಕ                      C] ಆಲ್ಬಿಯೋಲೈಗಳು                      D] ಫೋಯಂ

7. ಇವುಗಳಲ್ಲಿ ಯಾವುದು ಬಿಸಿ ರಕ್ತ ಪ್ರಾಣಿಗಳಾಗಿವೆ ಮತ್ತು ನಾಲ್ಕು ಕೋಣೆಗಳ ಹೃದಯವನ್ನು ಹೊಂದಿವೆ.

- A] ಸ್ತನಿಗಳು                      B] ಸರೀಸೃಪಗಳು                      C] ಉಭಯವಾಸಿಗಳು                      D] ಮೀನುಗಳು

8. ಒಂದು ಕಾಯದ ಪ್ರಾರಂಭಿಕ ವೇಗವು 'u' ಆಗಿದ್ದು 't' ಕಾಲದಲ್ಲಿ ಅದರ ಅಂತಿಮ ವೇಗವು 'v' ಅದರೆ, ಅದರ ವೇಗೋತ್ಕರ್ಷವು 'a' ಯು

- A]  $a = \frac{v-u}{t}$                       B]  $a = \frac{t-u}{v}$                       C]  $a = \frac{s-u}{v}$                       D]  $v = u + at$

9. ನ್ಯೂಟನ್ ರ ಚಲನೆಯ ಮೊದಲನೇ ನಿಯಮ ನಿರೂಪಿಸಿ.

10. G ನ ಒಪ್ಪಿತ ಮೌಲ್ಯವು ----- ಆಗಿದೆ

11. ಗುರುತ್ವ ಬಲ ಎಂದರೇನು ?

1 x 8 = 8

12. ಸಾಮರ್ಥ್ಯ ಎಂದರೇನು ?

13. ಮಾನವನಲ್ಲಿ ಶ್ರವಣ ಶಬ್ದ ಕೇಳುವಿಕೆಯು [ ಸರಾಸರಿ ಶ್ರವ್ಯದ ] ವ್ಯಾಪ್ತಿ ಎಷ್ಟು ?

14. ರೋಗಕಾರಕ ಸೂಕ್ಷ್ಮ ಜೀವಿಗಳನ್ನು ನಾವು ಹೇಗೆ ಕೊಲ್ಲಬಹುದು ?

15. ಮಳೆ ಹೇಗೆ ಉಂಟಾಗುತ್ತದೆ ?

16. ಬೆಳೆಗಳಿಗೆ ಎಷ್ಟು ಪೋಷಾಂಶಗಳ ಅಗತ್ಯವಿದೆ .

17. ಈ ಕೆಳಗಿನ ಯಾವುವು ದ್ರವ್ಯಗಳಾಗಿವೆ ?

2 x 8 = 16

ಕುರ್ಚಿ , ಗಾಳಿ , ಪ್ರೀತಿ , ವಾಸನೆ , ದ್ವೇಷ . ಬಾದಾಮಿಗಳು , ಆಲೋಚನೆ, ತಂಪು , ತಂಪು ಪಾನೀಯ, ಸೌಂದರ್ಯ ವರ್ಧಕದ ವಾಸನೆ.

18. ಈ ಕೆಳಗೆ ಕೊಟ್ಟಿರುವ ತಾಪಗಳನ್ನು ಸೆಲ್ಸಿಯಸ್ ಪದ್ಧತಿಗೆ ಪರಿವರ್ತಿಸಿ. :[a] 300K [b] 573K.

19. ಉದಾಹರಣೆಗಳೊಂದಿಗೆ ಸಮರೂಪ ಮತ್ತು ಅಸಮರೂಪ ಮಿಶ್ರಣಗಳ ನಡುವಿನ ವ್ಯತ್ಯಾಸ ತಿಳಿಸಿ.

20. ಇವುಗಳನ್ನು ವಿವರಿಸಿ : [1] ಕಲಿಲ [2] ನಿಲಂಬಿತ ಮಿಶ್ರಣ

21. ಇವುಗಳಲ್ಲಿ ಎಷ್ಟು ಪರಮಾಣುಗಳಿವೆ ಎನ್ನುವುದನ್ನು ತಿಳಿಸಿ. [1] H<sub>2</sub>S ಅಣು ಮತ್ತು [ii] PO<sup>3-</sup><sub>4</sub> ಅಯಾನ್

22. ಬೋರ್ ರವರ ಪರಮಾಣು ಮಾದರಿ ಯ ಚಿತ್ರ ಬರೆಯಿರಿ

23. ಯಾವ ಕಣದಂಗವು ಕೋಶದ ಶಕ್ತಿಕೇಂದ್ರ ಎಂದು ಹೆಸರಾಗಿದೆ ? ಏಕೆ ?

24.ಸಸ್ಯಗಳಲ್ಲಿ ಎಪಿಡರ್ಮಿಸ್ ನ ಪಾತ್ರವೇನು ?

25. ನರಕೋಶದ ಅಂದವಾದ ಚಿತ್ರ ಬರೆದು ಭಾಗಗಳನ್ನು ಗುರುತಿಸಿ

3 x 9 = 27

26. ಅನಾವೃತ ಬೀಜ ಸಸ್ಯಗಳು ಮತ್ತು ಆವೃತಬೀಜಸಸ್ಯಗಳು ಪರಸ್ಪರ ಹೇಗೆ ಭಿನ್ನವಾಗಿವೆ?

27. of 5 ms<sup>-1</sup> ವೇಗದೊಂದಿಗೆ ಕಲ್ಲೊಂದನ್ನು ನೇರ ಮೇಲ್ಮುಖವಾಗಿ ಎಸೆಯಲಾಗಿದೆ. ಕೆಳ ಮುಖ ದಿಕ್ಕಿನ ಚಲನೆಯಲ್ಲಿ ಅದು

10 ms<sup>-2</sup> ವೇಗೋತ್ಕರ್ಷವನ್ನು ಹೊಂದಿದ್ದರೆ, ಕಲ್ಲು ತಲುಪಿದ ಗರಿಷ್ಠ ಎತ್ತರ ಹಾಗೂ ಅಲ್ಲಿಗೆ ತಲುಪಲು ತೆಗೆದುಕೊಂಡ ಕಾಲವೆಷ್ಟು ?

28. ಒಂದು ವಾಹನದ ದ್ರವ್ಯರಾಶಿ 1500 kg ವಾಹನವನ್ನು ಋಣ ವೇಗೋತ್ಕರ್ಷ 1.7 m s<sup>-2</sup> ನಲ್ಲಿ ನಿಶ್ಚಲ ಸ್ಥಿತಿಗೆ ತಂದರೆ ವಾಹನ ಮತ್ತು ರಸ್ತೆಯ ನಡುವೆ ಉಂಟಾಗುವ ಬಲದ ಪ್ರಮಾಣ ಎಷ್ಟು?

29. [a] ವಿಶ್ವವ್ಯಾಪಿ ಗುರುತ್ವ ನಿಯಮವನ್ನು ನಿರೂಪಿಸಿ [b] ಸ್ವತಂತ್ರ ಪತನ ಎಂದರೇನು ?

[c] ಫಲನತೆ ಎಂದರೇನು ?

30. 40kg ರಾಶಿಯಿರುವ ಒಂದು ಕಾಯವನ್ನು ನೆಲದಿಂದ 5 ಎತ್ತರಕ್ಕೆ ಎರಿಸಲಾಗಿದೆ. ಅದರ ಪ್ರಚ್ಛನ್ನ ಶಕ್ತಿಯೆಷ್ಟು ? ಆ ಕಾಯವನ್ನು

ಸ್ವತಂತ್ರವಾಗಿ ಬೀಳುವಂತೆ ಮಾಡಿದಾಗ ಆರ್ಥ ಮಾರ್ಗದಲ್ಲಿ ಅದರ ಚಲನಶಕ್ತಿಯನ್ನು ಕಂಡುಹಿಡಿಯಿರಿ,

31.[ಅ] ಶಬ್ದ ತರಂಗದ ತರಂಗದೂರ, ಆವೃತ್ತಿ, ಕಾಲಾಂತರ ಮತ್ತು ವ್ಯಾಸ, ಎಂದರೇನು?

Use Blue Paper, Save Trees  
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[ಆ] ಶಬ್ದ ತರಂಗದ ತರಂಗದೂರ ಮತ್ತು ಆವೃತ್ತಿಗಳು ಅದರ ಜವೊಂದಿಗೆ ಹೇಗೆ ಸಂಬಂಧಿಸಿವೆ?

32. ಒಂದು ಮಗು ತಾನು ರೋಗದಿಂದ ನರಳುತ್ತಿದ್ದೇನೆಂದು ಪೋಷಕರಿಗೆ ಹೇಳಲು ಅಶಕ್ತನಾಗಿದೆ.

ಅ] ಮಗು ರೋಗದಿಂದ ನರಳುತ್ತಿರುವುದೇ ?

[ಆ] ಮಗು ಯಾವ ರೋಗದಿಂದ ನರಳುತ್ತಿದೆ ಎಂಬುದನ್ನು ಪತ್ತೆಮಾಡಲು ನಮಗೆ ಸಹಾಯ ಮಾಡುವ ಅಂಶಗಳು ಯಾವುವು?

33. ಗಾಳಿ , ಮಣ್ಣು ಮತ್ತು ಜಲಸಂಪನ್ಮೂಲಗಳ ಗುಣಮಟ್ಟವನ್ನು ಕಾಪಾಡುವಲ್ಲಿ ಕಾಡುಗಳ ಪಾತ್ರವನ್ನು ವಿವರಿಸಿ.

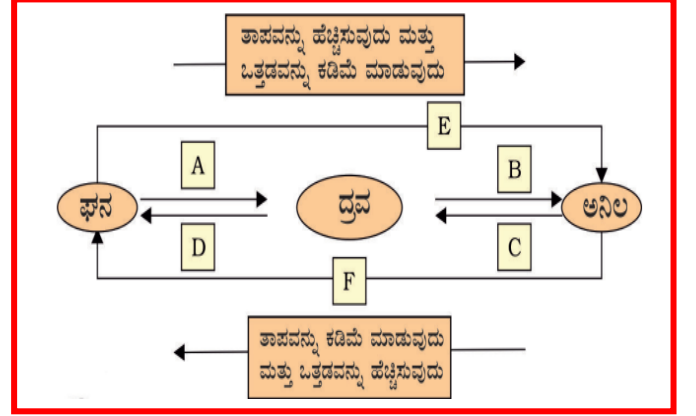
34. ಈ ಕೆಳಗಿನ ಚಿತ್ರದಲ್ಲಿ ದ್ರವ್ಯದ ಸ್ಥಿತಿಗಳ ಬದಲಾವಣೆಗಳನ್ನು ತೋರಿಸಲಾಗಿದೆ.

4 x 4 = 16

ಚಿತ್ರದಲ್ಲಿ A , B , C , D , E ಮತ್ತು F ಮತ್ತು ಗಳನ್ನು ಹೆಸರಿಸಿ.

35. ಪೋರಿಫೆರಾ ಜೀವಿಗಳು ಸಿಲಿಂಟರೇಟಾಗಳಿಗಿಂತ ಹೇಗೆ ಭಿನ್ನವಾಗಿವೆ?

ಉಭಯವಾಸಿಗಳು ಮತ್ತು ಪರೀಸೃಪಗಳಿಗಿರುವ ವ್ಯತ್ಯಾಸಗಳೇನು ?



36. ಯಾವುದಾದರೂ ಒಂದೇ ಜೊತೆ ಸಮಸ್ಥಾನಿಗಳು ಮತ್ತು ಐಸೋಬಾರ್ ಗಳ ಎಲೆಕ್ಟ್ರಾನ್ ವಿನ್ಯಾಸ ಬರೆಯಿರಿ.

37. ನಿರ್ವಾತದಲ್ಲಿ ಶಬ್ದವು ಪ್ರಸಾರವಾಗುವುದಿಲ್ಲವೆಂದು ತೋರಿಸುವ ಫಂಟಾ ಪಾತ್ರೆ ಪ್ರಯೋಗ ವನ್ನು ವಿವರಿಸಿ ಚಿತ್ರದ ಸಹಾಯದಿಂದ

ಅಥವಾ ಮಾನವನ ಕಿವಿಯು ಹೇಗೆ ಕಾರ್ಯನಿರ್ವಹಿಸುತ್ತದೆ [ ಚಿತ್ರದ ಸಹಾಯದಿಂದ ] ವಿವರಿಸಿ.

38. ಸಸ್ಯ ಜೀವಕೋಶ ಅಥವಾ ಪ್ರಾಣಿ ಜೀವಕೋಶ ದ ಅಂದವಾದ ಚಿತ್ರ ಬರೆದು ಇವುಗಳನ್ನು ವಿವರಿಸಿ.

1 x 5 = 5

[1] ಲೈಸೋಸೋಮ್ [2] ಕ್ಲೋರೋಪ್ಲಾಸ್ಟ್ [3] ಮೈಟೋಕಾಂಡ್ರಿಯ