

Class : 9<sup>th</sup>

SUBJECT: SCIENCE 2019 – 20

Time : 90m

SUMMATIVE ASSESMENT - 1

Marks:40

ANSWER THE FOLLOWING QUESTIONS:

1. Suggest a method to liquify atmospheric gases

1 X 6 = 6

A] Evaporation B] Sublimation c] Filtration d] Condensation.

2. Which of the following will show “ Tyndall effect ”

A] Salt solution B] copper sulphate solution C] Milk D] None of these

3. Who discovered cell among the following.

A] Robert Kelvin B] Robert hooke C] Thomson D] Robert Mendal leve

4. Given an [Equation ] expression for centripetal force.

A]  $f = mv^2 r$  B]  $f = \frac{mv^2}{r}$  C]  $m = \frac{fv^2}{r}$  D]  $S = ut + \frac{1}{2} at^2$

5. What is the momentum of an object of mass ‘m’ moving with a velocity ‘v’

A]  $\frac{1}{2} mv^2$  B]  $mv^2$ . C]  $s = ut + at$  D]  $mv$

6. Which method is commonly used for improving cattle breeds

A] Direct Breeding B] Cross Breeding C] Indirect breeding D] None of these.

7. Match the following:

1 X 4 = 4

	A	B	Answer
1	Skin	[a] Cuboidal epithelium	
2	Bark of tree	[b] Connective tissue	
3	Bone	[c] Cork protective tissue	
4	Lining of kidney tubule	[d] Stratified Squamous epithelium	
		[e] Complex permanent tissue	

Answer the following :

1 X 4 = 4

8. What is the importance of universal law of gravitation?

9. Convert 300K temperature into the Celcius scale.

10. Which separation techniques will apply for the separation of Wheat grains from husk.

2 X 8 = 16

11. Define the term “tissue”?

12. A motor boat starting from rest on a lake accelerates in a straight line at constant rate of  $3.0 \text{ ms}^{-2}$

For 8.0 s. How far does the boat travel during this time?

13. How do plants get nutrients?

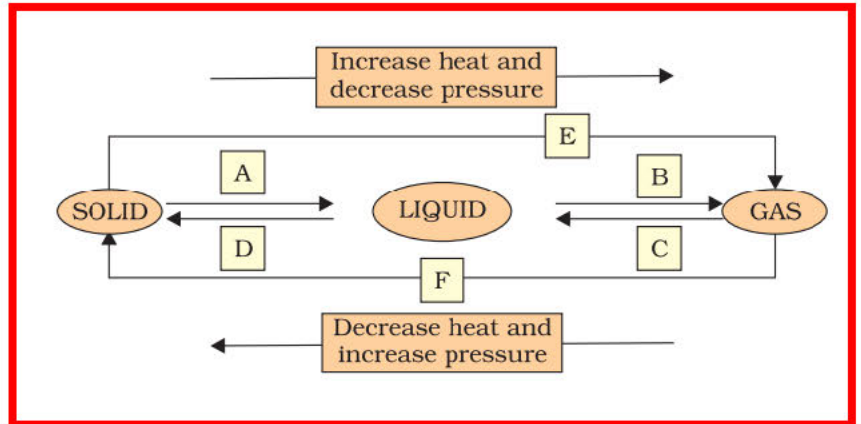
14. Give reasons: [a] Water at room temperature is a liquid.

[b] An iron almirah is a solid at room temperature.

15. Write the formula to find the magnitude of the gravitation force between the earth and an object On the surface of the earth.

16. If the moon attracts the Earth, Why does the earth not move towards the moon ?

17. Name A,B,C,D in the following: diagram showing change in its state.



18. The odometer of a car reads 2000km .

At the start of a trip and 2400km at the

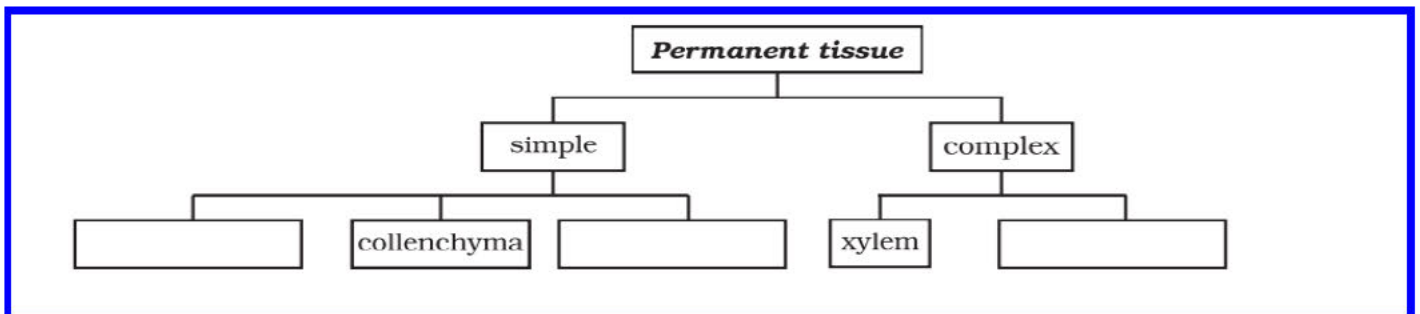
End of the trip. If the trip took 8 h ,

Calculate the average speed of the car in  $\text{km h}^{-1}$  and  $\text{ms}^{-1}$ .

19. Draw alabelled diagram of neuron.

OR

19.(a) Complete the table.



20. A stone of 1 Kg is thrown with a velocity of  $20\text{m s}^{-1}$ . Across the frozen surface of

a lake and comes to rest after travelling a distance of 50m. What is the force of friction between the stone and the ice?

21. Which of the following materials fall in the category of a 'pure substances' ?

[a] Ice [b] Milk [c] Iron [d] Hydrochloric acid [e] Calcium Oxide

[f] Mercury [g] Brick [h] Wood [i] Air.

22. Draw a neat diagram plant cell OR Animal cell and label

[a] Nucleus [b] Chloroplast

[c] Cytoplasm

[d] Mitochondria

## KEY ANSWERS

### 9<sup>TH</sup> SCIENCE SA – 1 GOVT URDU HIGH SCHOOL YELLAGONDAPALYA

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1. Suggest a method to liquify atmospheric gases

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2. Which of the following will show “ Tyndall effect ”

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4	Lining of kidney tubule	[d]Stratified Squamous epithelium	a
		[e] Complex permanent tissue	

1 X 4 = 4

Answer the following :

8. What is the importance of universal law of gravitation?

Answer: The universal law of gravitation proves that every object in the universe attracts every Other object.

9. Convert 300K temperature into the Celcius scale.

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

10. Which separation techniques will apply for the separation of

Wheat grains from husk.

Answer : Winnowing.

11. Define the term “tissue”?

Answer: The group of cells similar in structure that work together to achieve a particular function forms a tissue. This group of cells has a common origin.

12. A motor boat starting from rest on a lake accelerates in a straight line at constant rate of  $3.0 \text{ ms}^{-2}$

For 8.0 s. How far does the boat travel during this time?

2 X 8 = 16

Answer: Here  $u = \text{m/s}$

$$a = 3 \text{ ms}^{-2}$$

$$t = 8 \text{ S}$$

Using,  $s = ut + \frac{1}{2} at^2$

$$S = 0 \times 8 + \frac{1}{2} \times 3 \times 8^2 =$$

$$= 0 + \frac{1}{2} \times 3 \times 64 = 3 \times 32 = 96 \text{ m}$$

13. How do plants get nutrients?

Answer: Plants require sixteen essential nutrients from nature for their growth and development.

All these nutrients are obtained from air, water, and soil. Soil is the major source of nutrients. Thirteen

of these nutrients are available from soil. The remaining 4 nutrients [carbon, oxygen, hydrogen and Nitrogen] remaining P, K, Ca, Mg, S, B, Zn, Cu, Mn, Fe, Cl, Molybdenum [Mo]

14. Give reasons: [a] Water at room temperature is a liquid.

[b] An iron almirah is a solid at room temperature.

Ans:[a] Water at room temperature is a liquid because it has fluidity and has volume but no definite shape.

[b] An iron almirah is solid at room temperature because it is rigid and has a definite shape.

15. Write the formula to find the magnitude of the gravitational force between the earth and an object on the surface of the earth.

Ans: Let  $M_E$  be the mass of the earth and  $M$  be the mass of an object on its surface. If  $[R]$  is the radius of the earth then according to the universal law of gravitation, the gravitational force  $[F]$  acting between the

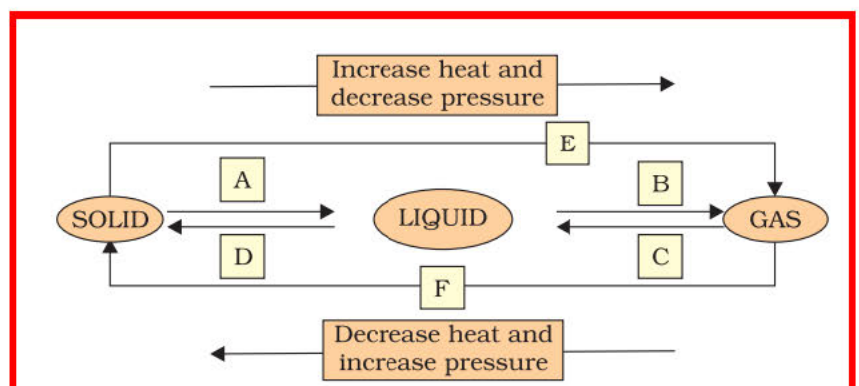
earth and the object is given by the relation. 
$$F = \frac{GM_E m}{R^2}$$

16. If the moon attracts the Earth, Why does the earth not move towards the moon ?

Ans: The Earth and Moon experience equal gravitational forces from each other. However the mass of the earth is much larger than the mass of the moon. Hence it accelerates at a rate lesser than the acceleration rate of the moon towards the Earth. For this reason, the earth does not move towards the moon.

17. Name A,B,C,D in the following diagram showing change in its state.

18. The odometer of a car reads 2000km at the start of a trip and 2400km at the



End of the trip. If the trip took 8 h ,

Calculate the average speed of the car

In  $\text{km h}^{-1}$  and  $\text{ms}^{-1}$  .

Solution: Distance covered by the car ,

$$S = 2400\text{km} - 2000\text{km} = 400\text{m}$$

Time elapsed,  $t = 8\text{h}$

Average speed of the car is ,

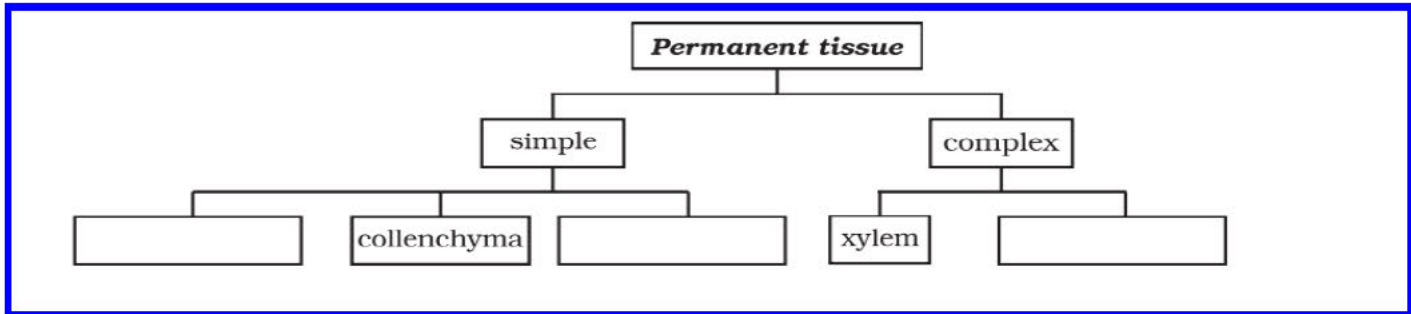
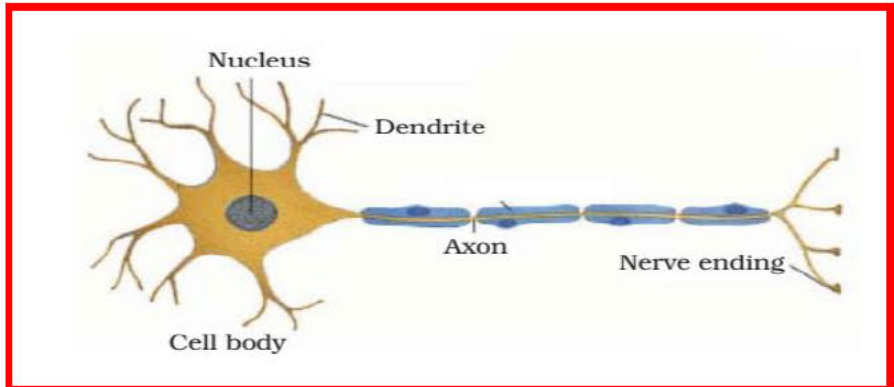
$$V_{\text{av}} = \frac{s}{t} = \frac{400}{8} = 50 \text{ km h}^{-1} .$$

19. Draw alabelled diagram of neuron.

OR

19.(a) Complete the table. [ Parenchyma, Sclerenchyma , Phloem ]

A = MELTING, B = BIOLING, C =CONDENSATIONS,  
D = SOLIDIFICATION E = SUBLIMATION F = SUBLIMATION.



20. A stone of 1 Kg is thrown with a velocity of  $20\text{m s}^{-1}$  . Across the frozen surface of

3 X 2 = 6

a lake and comes to rest after travelling a didtance of 50m. What is the force of friction between the stone and the ice?

Solution: initial velcoity of the stone  $u = 20 \text{ m/s}$

Final velocity of the stone,  $v = 0 \text{ m/s}$

Distance covered by the stone ,  $s = 50\text{m}$

According to third equation of motion

$v^2 = u^2 + 2as$  , where Acceleration ,  $a$

$$(0)^2 = (20)^2 + 2 \times a \times 50$$

$$400 + 100a \quad \text{or} \quad 100a = -400$$

$$a = \frac{-400}{100}$$

$$a = -4$$

21. Which of the following materials fall in the category of a ‘ pure substances’ ?

1 X 4 = 4

[a] Ice [b] Milk [c] Iron [d] Hydrochloric acid [e] Calcum Oxide

[f] Mercury [g] Brick [h] Wood [i] Air.

Ans: [a] [c] [d] [e] and [f] are pure substances.

22. Draw a neat diagram plant cell OR Animal cell

And label

[a] Nucleus [b] Chloroplast [c] Cytoplasm

[d] Mitochondria

