

16.09.19
STD: IX [AN]

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HALF YEARLY ASSESSMENT
SCIENCE

Marks: 80
Time: 3Hrs

I. Choose the right option in the following statements: 3x1=3

1. Assertion [A]: To every action there is an equal and opposite reaction

Reason [R]: The sailor jumps forward the boat moves backward

- (a) Both A & R are correct
- (b) Both A & R are wrong
- (c) A and R are true R explains about A
- (d) A is true R is wrong

2. Assertion [A]: In a chemical change, the properties of the product formed, varies from that of the reactants.

Reason [R]: Digestion of food is a chemical change

- (a) [A] and [R] are correct
- (b) [A] and [R] are wrong
- (c) [A] is correct [R] is wrong
- (d) [A] is wrong [R] is correct

3. Assertion [A]: Cell division of two types Meiosis and Mitosis

Reason [R]: Meiosis leads to the formation of 2 daughter cells and Mitosis leads to the formation of 4 daughter cells

- (a) Both A and R are true
- (b) A is true R is false
- (c) A is false R is true
- (d) Both A and R are false

II. Fill in the blanks: 7x1=7

- 4. Force of friction always opposes motion of _____
- 5. The acceleration of an object is the change in velocity per unit _____.
- 6. _____ is a system of membrane bounded vesicles arranged parallel to each other in stacks called cisterns.
- 7. _____ helps in the conduction of food or soluble substances.
- 8. Both elements and compounds are _____ substances
- 9. Liquefaction of gases is done by reducing _____ and increasing _____.
- 10. Birds and mammals are _____ blooded animals.

III. Answer in one word:

7x1=7

- 11. What does the odometer of an automobile measure?
- 12. Define the following:
 - a) Latent heat of Fusion
 - b) Latent heat of vapourisation
- 13. What is Megadiversity?
- 14. The raisins added to porridge swell up after sometimes. Name the process involved?
- 15. What can you say about the motion of an object whose distance – time graph is a straight line parallel to the time axis?
- 16. Both fog and smoke are Aerosol. What is the difference between them?
- 17. Name the different components of Xylem.

SECTION-B

IV. Answer in brief :

7x3=21

18. A train starting from a railway station moving with uniform acceleration attains a speed 40km/h in 10mins. Find its acceleration.

(Or)

ii) Which would required greater force accelerating 2kg mass at 5m/s² (or) 4kg mass at 2m/s².

19. A solution of alcohol in water has been prepared by mixing 150ml of alcohol in 600ml of water. Calculate the volume percentage of the solution.

(Or)

Write the differences between Mixtures and compounds

- 20. a) Who coined the term protoplasm?
- b) Explain about Endomosis and Exosmosis with the help of a diagram

(Or)

- a) Which type of the cell contains all the cell organelles?
- b) Write any two functions of the Rough endoplasmic reticulum?
- 21. i) Derive the mathematical formulation of Newton's II law of motion

(Or)

ii) An object of mass 100kg is accelerated uniformly from a velocity of 5ms⁻¹ to 8ms⁻¹ in 6s. Calculate the initial and final momentum of the object. Also find the magnitude of the force exerted on the object.

22. Give reasons for the following:

- (i) The smell of hot sizzling food reaches you several metres away, but to get the smell from cold food you have to go close.
- (ii) A gas exerts pressure on the walls of the container
- (iii) A wooden table should be called a solid.

(Or)

(i) Define density. Give its SI unit.

(ii) Convert the following temperature into Celsius scale:

- a) 500K
- b) 373K

(iii) What is meant by sublimation?

23. a) Which cell organelle is related to the energy currency?

b) What is the energy currency of the cell?

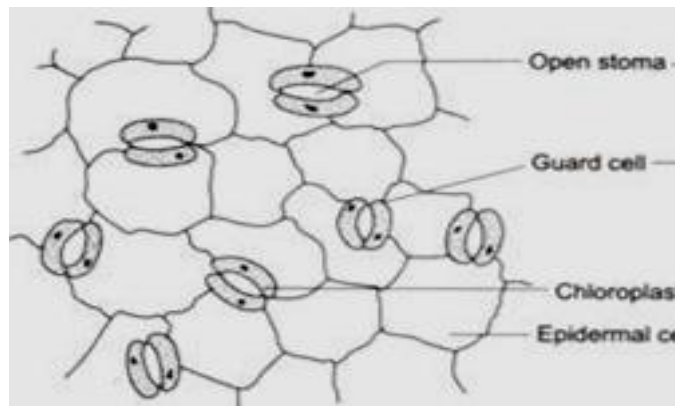
c) Why lysosomes are called suicidal bags?

(Or)

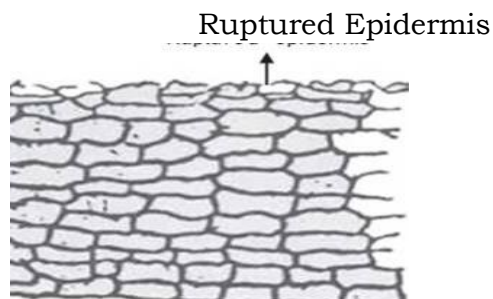
State a characteristics features of thallophytes? Name two thallophytes which are predominantly aquatic

24. a) Identify the given figures:

i)



ii)



b) Describe the role performed by them.

(Or)

a) Identify the class of animals having the following characteristics features

(i) The warm blooded animals that lay eggs and have four chambered heart and a covering of feathers.

(ii) The cold blood animals having scales and they breath through gills (or) lungs.

b) Give one example of an animal belonging to each of these classes.

SECTION-C

V. Answer in detail:

6x5=30

25. What is Meristamatic tissue? Draw the meristamatic tissue and explain about it.

(Or)

(a) Draw the flow chart for the five kingdom classification

(b) Write any three characteristics about the Aves

26. a) When will you say a body is in

(i) Uniform acceleration (ii) Non-uniform acceleration

b) A bus decreases its speed from 80km/h to 60km/h in 5s. Find the acceleration of the bus.

(Or)

a) Explain circular motion with examples

b) A artificial satellite moving in a circular orbit of radius 42250 km, calculate its speed if it takes 24 hrs to revolve around the earth.

27. Derive Mathematical formulation of law of conservation of momentum.

(Or)

a) Two objects each of mass 1.5kg are moving in the same straight line but in opposite direction. The velocity of each object is 2.5ms^{-1} before the collision they stick together. What will be the velocity of the combined object after collision?

b) State Newton's III law of motion.

28. a) Write the differences between Evaporation and Boiling
(Any 3 points)

b) Give reasons:

(i) Doctors advice to put wet strips on the forehead of patient

(ii) Wet clothes dry quickly during sunny days.

(Or)

a) Differentiate between Simple and fractional distillation.

b) How will you separate the mixture of ammonium chloride and salt? Explain with a neat labelled diagram

29. a) Draw a neat labelled diagram to explain the separation of two immiscible liquids.

b) With the help of flow chart, explain the fractional distillation of air.

(Or)

a) Write the differences between mixtures and compounds (Any 3 points)

b) Write the properties of True solution, colloidal solution and suspension (Any 4 points).

30. i) Which plant tissue will you associate the conduction of water in plants?

ii) Write its four components.

(Or)

i) Differentiate between Eukaryotic cell and prokaryotic cells?

ii) Which cell organelle is called as control centre of the cell?

iii) Write the role of SER?

SECTION-D

VI. MCQ

3x1=3

31. Which of the following helps in the exchange of gases:

a) Parenchyma b) cork c) Sclerenchyma d) Stomata

32. Which of the following shows tyndall's effect?

a) Sugar solution b) Muddy water

c) Starch solution d) Soda water

33. Spring balance is used to measure ____ of the object.

a) mass b) weight c) both mass and weight d) none.

VII. Answer in Brief:

3x3=9

34. What type of solution is obtained when the mixture of sand and water is filtered?

35. Write any three differences between cheek cells and onion peel cells?

36. a) Find the density of the object of mass 10kg has volume 25m³.

b) Write the SI unit of weight.