



# GYANODAYA GURUKUL

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## Half Yearly Examination – (2019-20)

**Class: - 9<sup>th</sup>**  
**Subject: - Science**

**F.M.: - 80**  
**Duration: - 3 hrs**

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### General Instructions:-

- All questions are compulsory.
- Read the questions carefully and write the answers in the answer sheets provided.
- Do not answer the questions randomly. Attempt all the questions of one section before moving on to another section.
- Do not write anything on the question paper.
- Q.No. 1 to 7 carry 1 mark.
- Q. No. 8,9,10 carry 3 marks.
- Q.No. 11 and 12 carry 5 marks
- Q. No. 13 to 18 carry 1 mark
- Q. No. 19,20,21,22 carry 3 marks
- Q. No. 23 and 24 carry 5 marks
- Q. No. 25 to 31 carry 1 mark.
- Q. No. 32,33,34 carry 3 marks .
- Q. No. 35 and 36 carry 5 marks.

## Section –A (Physics)

1. What the slope of v-t graph gives

- (a) acceleration                      (b) velocity                      (c) speed                      (d) momentum

2. Gravitational force is

- (a) always attractive                      (b) always repulsive                      (c) both attractive and repulsive                      (d) none of these

3. The value of acceleration due to gravity on Earth's surface is maximum on

- (a) equator                      (b) pole                      (c) center of Earth                      (d) none of these

4. Acceleration is a ..... quantity.

5. Velocity of an object in uniform circular motion is constant .(True/ False)

6. Is value of 'g ' is same everywhere ?

Or

What is the value of universal gravitational constant .

7. What is balanced force ?

Or

State two effect of force .

8. A car travel from point A to B with a speed of 30 km/h and return with a speed of 50 km/h .Find

- (i) displacement of the car  
(ii) distance traveled by the car .  
(iii) average speed of the car .

9. A stone and feather are thrown from a tower , both the object should reach the ground at same time but it does not .Why?

10. What do you mean by the principle of conservation of linear momentum ?

Or

From the rifle of mass 4kg, a bullet of mass 50 gram is fired with an initial velocity of 150 m/s ,calculate the initial recoil velocity of the rifle.

11. (i) Derive the equation of motion  $S = ut + \frac{1}{2} at^2$  , using graphical method .

(ii) A train starting from rest attains a velocity of 72 km/h in 5 minutes. Assuming the acceleration is uniform, find

(a) the acceleration

(b) the distance travelled by the train for attaining this velocity .

12.(a) Calculate the value of 'g' on moon .

(b) Show that the weight of the moon body on moon =  $\frac{1}{6}$  of weight of the body in earth.

Or

(a) Write the Newton's third law of motion . Give any one consequence of it.

(b) Why is it difficult for a fireman to hold the hose, which ejects large amount of water at a high velocity?

## Section – B (Biology)

13.. The name suicidal bag has been given to .

a) ribosome    b) Golgi body

c) lysosome    d) mitochondria

14.. A plastid shows two distinct region ..... and .....

15. Chloroplasts are colorless plastids. (true/false)

16. The cells of the cartilage known as.....

17. Name the tissue found in the buckle cavity.

18. Define tissue.

19. Mention the characteristics of connective tissue.

Or

Name the various part of neuron. What is the function of neuron.

20. How does simple tissue differ from complex tissue.

21. What is the role of Golgi body?

Or

What is osmosis? What happens to the cell if it is kept in a hypotonic solution.

22. What would happen if plasma membrane ruptures? Why plasma membrane is called semi-permeable membrane?

23. Describe the ultrastructure of animal cell with the help of diagram.

Or

Describe the structure and function of the mitochondria. Also state that why it is called semi-autonomous cell organelles.

24. Differentiate between:

- (a) bone and cartilage
- (b) striated and non striated muscle

### Section-C (Chemistry)

25. During summer, water kept in an earthen pot becomes cool because of the phenomenon of

- (a) diffusion
- (b) transpiration
- (c) osmosis
- (d) evaporation

Or

Which condition out of the following will increase the evaporation of water?

- (a) Increase in temperature of water
- (b) Decrease in temperature of water
- (c) Less exposed surface area of water
- (d) Adding common salt to water

26. The property to flow is unique to fluids. Which one of the following statements is correct?

- (a) Only gases behave like fluids
- (b) Gases and solids behave like fluids
- (c) Gases and liquids behave like fluids
- (d) Only liquids are fluids

27. On converting  $25^{\circ}\text{C}$ ,  $38^{\circ}\text{C}$  and  $66^{\circ}\text{C}$  to Kelvin scale, the correct sequence of temperature will be

- (a) 298 K, 311K and 339K
- (b) 298K, 300K and 338K
- (c) 273K, 278K and 543K
- (d) 298K, 310K and 338K

28. Which of the following statements are true for pure substances?

- (i) Pure substances contain only one kind of particles
- (ii) Pure substances may be compounds or mixtures

- (iii) Pure substances have the same composition throughout
- (iv) Pure substances can be exemplified by all elements other than nickel
- (a) (i) and (ii)
- (b) (i) and (iii)
- (c) (iii) and (iv)
- (d) (ii) and (iii)

OR

Tincture of iodine has antiseptic properties. This solution is made by dissolving

- (a) iodine in potassium iodide
- (b) iodine in Vaseline
- (c) iodine in water
- (d) iodine in alcohol

29. At room temperature the forces of attraction between the particles of solid substances are greater than those which exist in the gaseous state.

30. Burning of wood is an example of physical change.

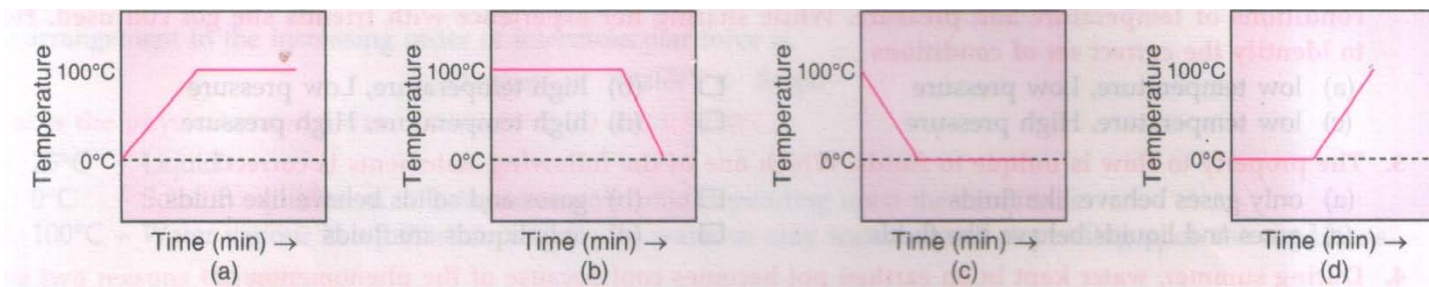
31. Define mixture.

32. (i) What is the chemical formula of Dry ice?

1

(ii) A student heats a beaker containing ice and water. He measures the temperature of the content of the beaker as a function of time. Which of the following would correctly represent the result? Justify your choice.

2



OR

Name the factors which affect the rate of Evaporation and explain briefly.

33. A solution contains 60g of NaCl in 400g of water. Calculate the concentration in terms of mass by mass percentage of the solution.

34. How colloid, solution and suspension different from each other? Write three points of difference.

35.(i) How does applying pressure ( or compression) help in the liquefaction of a gas ? 2  
(ii) Draw a labelled diagram of the experimental set-up to demonstrate the sublimation of ammonium chloride 3

36.(i) Mention two applications of colloids. 2

(ii) Draw a flow diagram of the processes involved in obtaining gases like nitrogen, oxygen and argon from air.

Or

Write three differences between physical change and chemical change. 3

Classify the following physical or chemical change : 2

Cutting of vegetables, Rusting of Almirah, Melting of ice, Spoiling of food