Assessment – March 2024

Class : 9 **Subject : Science** **Marks : 80**

Medium : English **Time : 3 Hrs. 15 Min.**

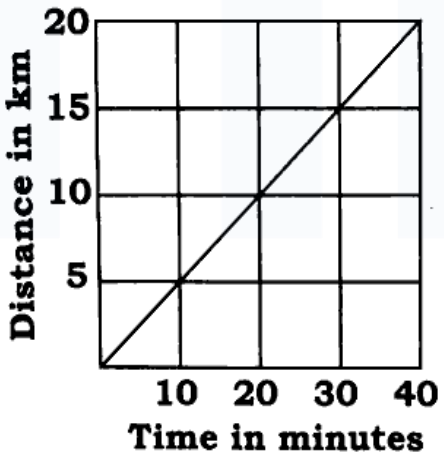
Instructions to the students :

1. **Read the questions carefully and understand them.**
2. **Write the answers neatly and clearly as per the instructions given.**

PART – A (PHYSICS)

I. Four choices are given for each of the following questions/incomplete statements. Choose the correct answer among them and write the correct option along with its letter of alphabet. **(3×1=3)**

1. Observe the distance-time graph of a moving car given here.



Time taken by the car to travel the distance from 10 km to 15 km is

A) 20 min.

B) 30 min.

C) 10 min.

D) 5 min.

2. **Weight of an object is,**

A) Force acting vertically downwards

B) Force acting obliquely upwards

C) Force acting vertically upwards

D) Force acting obliquely downwards

3. **The Energy transformation observed in a working electric heater is**

A) Electric energy → magnetic energy

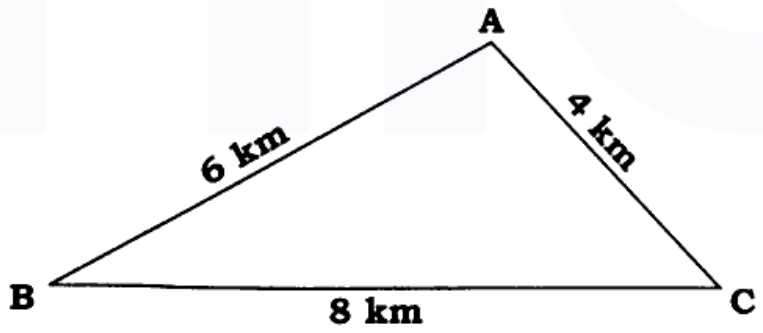
B) Mechanical energy → light energy

C) Electric energy → heat energy

D) Mechanical energy → chemical energy

II. Answer the following questions. **(3×1=3)**

4. **In the morning a person runs 6 km from A to B then runs 8 km from B to C. Finally he reaches A from C by running 4 km. Find the value of displacement.**

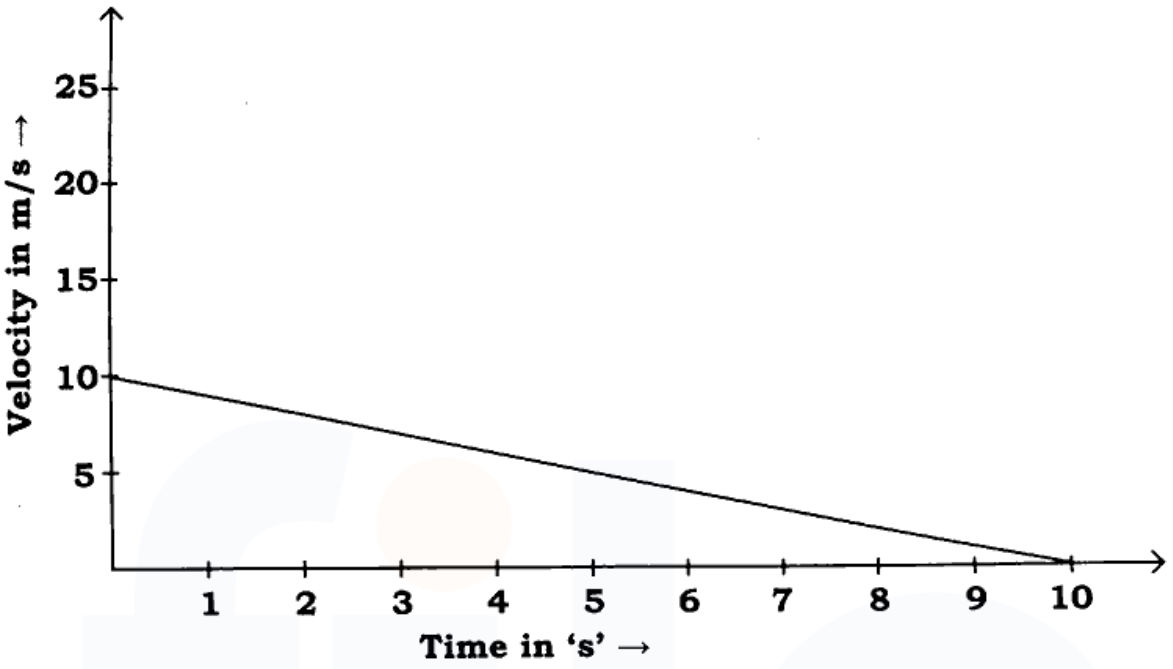


5. **A domestic electric bill of ₹ 700 is shown after a discount of ₹ 200. If the cost per unit is ₹15, then find the total units of energy consumed.**

6. **What should be the minimum distance between the obstacle and the source of the sound to hear the echo ?**

III. Answer the following questions. (2×2=4)

7. **The velocity-time graph of a ball of mass 10 kg moving along a straight line on a long table is given.**



How much force does the table exerts on the ball to bring it to rest ?

8. **A feather of a bird and a rubber ball are dropped at the same time from the top of a building. Which one will reach the earth first and why ?**

IV. Answer the following questions. (3×3=9)

9. **State the Newton's third law of motion and give two examples to it.**

10. **State the universal law of gravitation and write its importances.**

11. **Write the difference between potential energy and kinetic energy. An object increases its energy when raised through a height. Why ?**

V. Answer the following question. (1×4=4)

12. a) **Write the formula to find the rate of change of velocity of an object.**

    b) **Write three equations of motion.**

(1×5=5)

VI. Answer the following question.

13. Expand the acronym SONAR. How sonar can be used to determine the distance of the under water objects ? Explain.

PART – B (CHEMISTRY)

VII. Four choices are given for each of the following questions or incomplete statements. Choose the correct answer among them and write the correct option along with its letter of alphabet. (2×1=2)

14. Boiling point of water in Kelvin scale is

A) 273 K

B) 373 K

C) 100 K

D) 323 K

15. Right statement related to properties of colloid among the following is

A) Makes the path visible by scattering the beam of light

B) Particles can be seen by naked eye

C) It is a homogeneous mixture

D) Particles can be separated by filtration

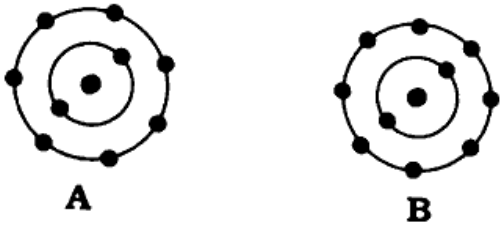
VIII. Answer the following questions. (2×1=2)

16. Our palm feels cold when some petrol is put on it. Why ?

17. What is the reason for classifying Germanium as a metalloid ?

IX. Answer the following questions. (2×2=4)

18. Observe the schematic atomic structures of two elements given here. Answer the questions that follow.



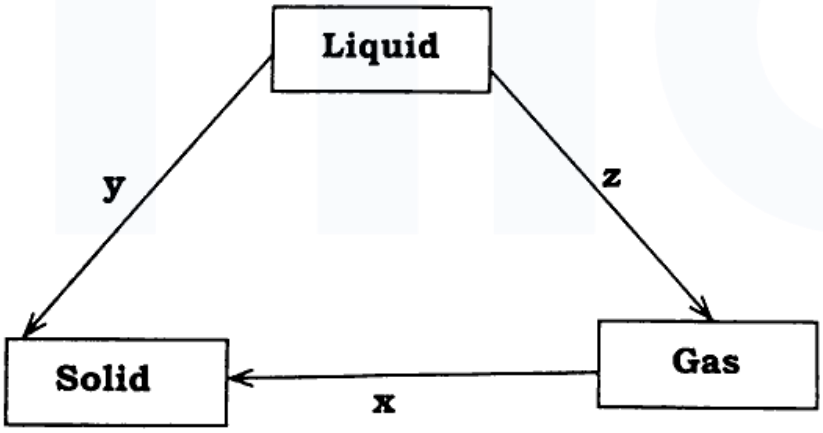
a) How does the element 'A' attain a fully filled outer most shell ?

b) Element 'B' shows little chemical reactivity. Why ?

19. Carbon-12 and Carbon-14 are isotopes. Why ? Mention one application of isotopes of uranium and iodine.

X. Answer the following questions. (3×3=9)

20. Observe the flow chart related to inter conversion of three states of matter. Answer the questions that follows.



a) Name the Processes 'x' and 'y'.

b) What is the name of the process if 'z' takes place before liquid reaches the boiling point ? Mention any two factors which affect this process.

21. Write the molecular formula of the following compounds.

a) Common salt

b) Sodium oxide

c) Aluminium sulphate

22. **Define the following.**

    a) **Molecule**

    b) **Atomicity**

    c) **Ions**

XI. Answer the following questions. **(2×4=8)**

23. **Draw the diagram showing the process of fractional distillation and label the following parts.**

    a) **Fractionating column**

    b) **Water condenser**

24. **Write a schematic representation of nitrogen cycle.**

PART – C (BIOLOGY)

XII. Four choices are given for each of the following questions or incomplete statements. Choose the correct answer among them and write the correct option along with its letter of alphabet. **(3×1=3)**

25. **A student identifies it as collenchyma when he observes a chart of tissue in the classroom. Because**

    A) intercellular spaces are present

    B) have very thick cell wall

    C) large air cavities are present

    D) cells are thickened at the corners

26. **Correct pair related to the disease/symptoms and the target organs in the following :**

    A) Cough and breathlessness – lungs

    B) Jaundice – stomach

    C) Unconsciousness – throat

    D) Typhoid – Heart

27. **An advantage of using fertilizer is**

A) Avoids water logging

B) Advantageous to the microbes in the soil

C) Supplies large quantities of nutrients to the soil

D) Increases the water holding capacity of sandy soil

XIII. Answer the following questions. (3×1=3)

28. **An animal with three chambered heart has mucous glands in skin. To which class do you add this animal ? How do they respire ?**

29. **What are chronic diseases ?**

30. **What is inter cropping ?**

XIV. Answer the following questions. (4×2=8)

31. **Write any two differences between striated and unstriated muscles.**

32. **"Plant cell is placed in concentrated salt solution". What change do you observe ? Name this phenomenon.**

33. **"Personal and social health can be maintained by preventing the infectious diseases". Justify this statement.**

34. **Write any two desirable traits observed during variety improvement in poultry farming by crossing Indian and foreign breeds.**

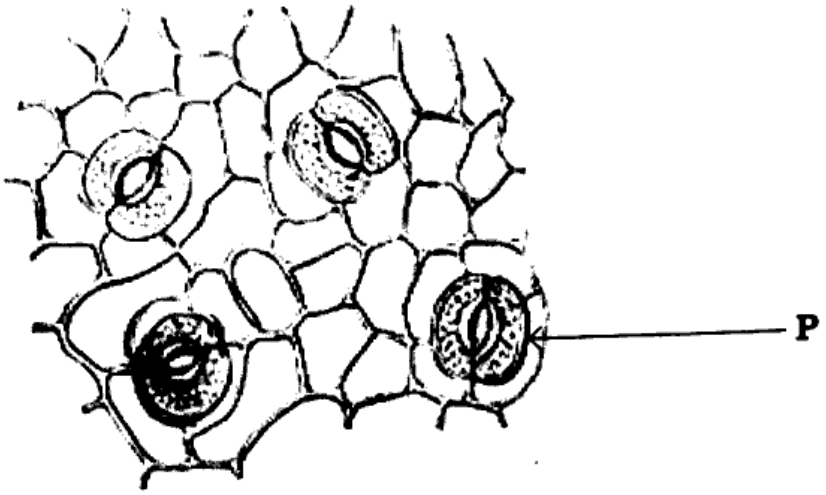
XV. Answer the following questions. (3×3=9)

35. **Draw the diagram of animal cell and label the following parts.**

a) **Power house**

b) **Nucleus**

36. Observe the cross sectional diagram of a leaf. Answer the questions.



a) Identify the part 'P'. Explain its structure.

b) What is its role in photosynthesis ?

37. a) What is hybridisation of plants ?

b) Write any four factors which are considered during the variety improvement of crop yields.

XVI. Answer the following question. (1×4=4)

38. a) Write any two characteristics of pisces and reptiles.

b) Identify the phylum of the organisms with the following characteristics.

i) Spiny skinned animals.

ii) Animals with jointed legs.