

2021
CLASS – IX (Phase-2)
SCIENCE

Total marks : 40

Time : 1½ hrs

General instructions:

- i) *Approximately 10 minutes is allotted to read the question paper and revise the answers.*
- ii) *The question paper consists of 16 questions in 5 categories.*
- iii) *Internal choice has been provided in some questions.*
- iv) *Alternate question for the visually impaired students are provided in some questions. **Only the visually impaired students have to attempt such alternate questions.***
- v) *Marks allocated to every question are indicated against it.*

N.B: *Check to ensure that all pages of the question paper are complete as indicated on the top left side.*

1. Choose the correct answer from the given alternatives:

- (a) Rutherford's alpha-particles scattering experiment was responsible for the discovery of **1**
 - (i) atomic nucleus
 - (ii) electron
 - (iii) proton
 - (iv) neutron
- (b) The longest cells in the human body is **1**
 - (i) muscle cells
 - (ii) bone cells
 - (iii) nerve cells
 - (iv) blood cells
- (c) Impulse is measured in **1**
 - (i) newton
 - (ii) newton minute
 - (iii) newton kilogram
 - (iv) newton second
- (d) Which of these is not a medium for propagation of sound? **1**
 - (i) Vacuum
 - (ii) Water
 - (iii) Air
 - (iv) Steel
- (e) The variety of bees which have high honey collection capacity are the **1**
 - (i) Indian bees
 - (ii) Italian bees
 - (iii) Rock bees
 - (iv) Little bees

Answer the following questions in one word or one sentence:

2. Define crystallization. **1**

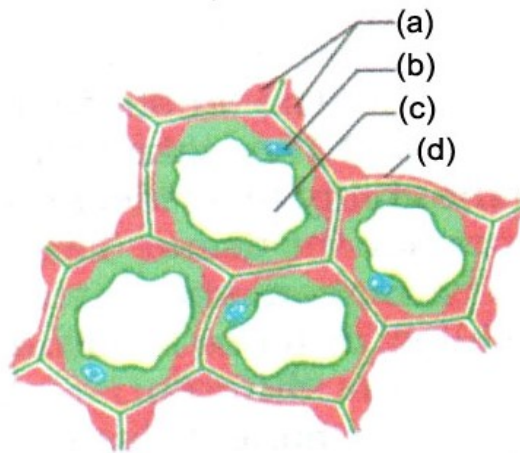
- 3. Where are fats stored in the human body? 1
- 4. State Newton's First Law of Motion. 1
- 5. Why are sound waves called mechanical waves? 1
- 6. What is greenhouse effect? 1

Answer the following questions in about 20-30 words:

- 7. What are alloys? Give an example. 2
- 8. List two differences between mass of object and its weight. 2
- 9. What are longitudinal waves and transverse waves? 2
- 10. Write two benefits of cattle farming. 2

Answer the following questions in about 40-60 words:

- 11. a. Differentiate between mixtures and compounds giving any three points. 3
Or
b. What is a suspension? Give two properties of suspension.
- 12. Identify the plant tissue given in the figure below and label the parts marked – **a to d**. 3



Alternate question for the visually impaired students:

Explain three roles of epidermis in plants.

(3)

13. a. An object is thrown vertically upwards and rises to a height of 10m. Calculate
(i) the velocity with which the object was thrown upwards and
(ii) the time taken by the object to reach the highest point.

Or

3

b. Calculate the force of gravitation between the earth and the sun, given that the mass of the earth= 6×10^{24} kg and of the sun= 2×10^{30} kg. The average distance between the two is 1.5×10^{11} m. ($G=6.7 \times 10^{-11}$ Nm²kg⁻²)

Alternate question for the visually impaired students:

What is buoyancy? Why does an object float or sink when placed on the surface of water? (1+2=3)

14. What is meant by organic farming? Write two advantages of organic farming. **3**

Answer the following questions in about 70-100 words:

15. Draw a sketch of Bohr's model of an atom with three shells. Write two features of Bohr's model of atom. Show the distribution of electrons in carbon. **1+2+2=5**

Alternate question for the visually impaired students:

What are isotopes and isobars? Write three applications of isotopes. (2+3=5)

16. a. What is water pollution? Explain three effects of water pollution. Give two major pollutants of water.

Or

1+3+1=5

b. What is air pollution? Explain three human activities that lead to air pollution. Give two major pollutants of air.
