Total number of printed pages: 4 *NB-N/SC/1*

2020
CLASS - IX
SCIENCE

Total marks : 80 Time : 3 hours

General instructions:

i) *The question paper consists of 35 questions in 5 categories.*

ii) *Internal choice has been provided in some questions.*

iii) *Alternate question for the visually impaired students are provided in some questions.* ***Only the visually impaired students has to attempt such alternate questions****.*

iv) *Marks allocated to every question are indicated against it.*

N.B: Check that all pages of the question paper is complete as indicated on the top left side.

1. **Choose the correct answer from the given alternatives:**

(a) The chemical formula of calcium oxide is **1**

(i) $CaCl_2$ (ii) $CaCO_3$
(iii) $Ca(OH)_2$ (iv) CaO

(b) The symbol of Gold is **1**

(i) Ar (ii) Al
(iii) Au (iv) Ag

(c) The valency of carbon is **1**

(i) 2 (ii) 4
(iii) 6 (iv) 12

(d) Flexibility in plants is due to **1**

(i) parenchyma (ii) collenchyma
(iii) sclerenchyma (iv) chlorenchyma

(e) The word ‘arthropod’ means **1**

(i) bony legs (ii) cartilaginous legs
(iii) largest legs (iv) jointed legs

(f) The S.I. unit of momentum is **1**

(i) kgms (ii) $kgms^{-1}$
(iii) $kgms^{-2}$ (iv) $kgcms^{-1}$

(g) Which of the following do not possess kinetic energy? **1**

(i) Blowing wind (ii) A stretched rubber band
(iii) A speeding car (iv) Flowing water

(h) Loudness is a sensation depending upon **1**

(i) time period (ii) phase
(iii) frequency (iv) intensity

(i) Most skin infection is commonly caused by **1**

(i) virus (ii) protozoans
(iii) fungi (iv) bacteria

(j) Which of the following is a rich source of protein? **1**

(i) Pea (ii) Carrot
(iii) Rice (iv) Soya bean

Answer the following questions in one word or one sentence:

2. State the Law of Conservation of Mass. **1**

3. Name the Scientist who discovered electrons. **1**

4. What is a Eukaryotic cell? **1**

5. Define 1 Joule of work. **1**

6. What is vermi-composting? **1**

Answer the following questions in about 20-30 words:

7. Calculate the molecular mass of HNO_3. **2**

8. Write any two meristematic tissues and give their locations. **2**

9. What is the function of ligaments and tendons? **2**

10. Give two conditions needed for work to be done. **2**

11. What is potential energy? Give its mathematical expression. **2**

Answer the following questions in about 40-60 words:

12. What is a molecule? Give one example each of monoatomic and diatomic molecule. **1+2=3**

13. Write three applications of Isotopes. **3**

14. Draw and label the structure of a neuron. **3**

Alternate question for the visually impaired students:
Explain any three types of epithelial tissues. (3×1=3)

15. **a**. Draw and label the structure of *Paramecium*.

Or **3**

b. Draw and label the structure of *Neries*.

Alternate question for the visually impaired students:
Differentiate between Gymnosperms and Angiosperms giving one example each. (1½+1½=3)

16. **a**. Explain why a cricket player lowers his hand while catching a ball.

Or **3**

b. Explain why a gun recoil when it is fired.

17. **a**. An electric bulb of 60W is used for 6 hours per day. Calculate the units of energy consumed in one day by the bulb.

Or **3**

b. An electric heater is rated 1500W. How much energy does it use in 10 hours?

18. Write three uses of multiple reflection of sound. **3**

19. **a**. Differentiate between acute and chronic diseases with one example each.

Or **3**

b. Differentiate between infectious and non-infectious diseases with one example each.

20. Explain the three types of cropping pattern. **3**

21. Mention three ways to keep the cattle healthy and to increase its production. **3**

Answer the following questions in about 70-100 words:

22. **a**. How are electrons distributed in different orbits or shells? Explain with one example. **5**

Or

b. Define atomic number and mass number of an element. Explain $^{14}_{7}N$. (2+3=5)

23. **a**. Write any five characteristics of *Aves*.

Or **5**

b. Write any five characteristics of *Mammalia*.

24. State Newton's First Law of Motion. Explain why:
(i) We jerk wet clothes before spreading them on the clothes line.
(ii) The fruits fall off the branches when a strong wind blows. **1+2+2=5**

25. **a**. Explain with a diagram the auditory aspects of the human ear.

Or **3+2=5**

b. Explain the characteristics of a sound wave. Draw a graph to show that soft sound has small amplitude and louder sound has large amplitude.

Alternate question for the visually impaired students:
Explain the auditory aspects of the human ear. Write the difference between compression and rarefactions. (3+2=5)

26. **a**. Write any two limitations in dealing with a person with infectious diseases. Explain three ways of prevention of infectious diseases.

Or **2+3=5**

b. Write the two principles of prevention. Explain any three modes of spread of communicable diseases.

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