

Science Sample Paper

CBSE SA2

Class IX - 2017

Time allowed : 3 hours

General Instructions:

- (ii) All Questions are compulsory
- (iii) There is no choice in any of the questions
- (iv) All questions of Section-A, Section-B and Section-C are to be attempted separately
- (v) Question numbers 1 to 3 in Section-A are one mark questions . These are to be answered in one word or one sentence
- (vi) Question numbers 4 and 5 in Section-A are two marks questions. These are to be answered in about 30 words each.
- (vii) Question numbers 6 to 16 in Section-A are three marks questions. These are to be answered in 50 words each.
- (viii) Question numbers 17 to 21 in Section-A are five marks questions. These are to be answered in 70 words each.

- (ix) Section —B has 3 OTBA questions . Question number 22 in two marks. Question number 23 is three marks and Question number 24 is five marks question.
- (x) Question numbers 25 to 33 in Section- C are multiple choice questions based on practical skills. Each question is a one mark question. You are to select one most appropriate reasons out of the four provided to you.
- (xi) Question numbers 34 to 36 in section C are two marks questions based on practical skills. These are to be answered in 30 words each.

SECTION - A

Q.1. Who gave the laws of chemical combination ?

Q.2. Who discovered the neutron ?

Q.3. Homo sapiens is the scientific name of human beings. What do these two terms imply ?

Q.4. Define:

(a) Fluid

(b) Buoyant force

Q.5. An object of mass 40 kg is pulled upto a height of 0.5 m. Calculate the work done. (Given $g = 9.8 \text{ ms}^{-2}$)

Q.6. Verify by calculating that:

(a) 5 moles of CO_2 has higher mass than 5 moles of H_2

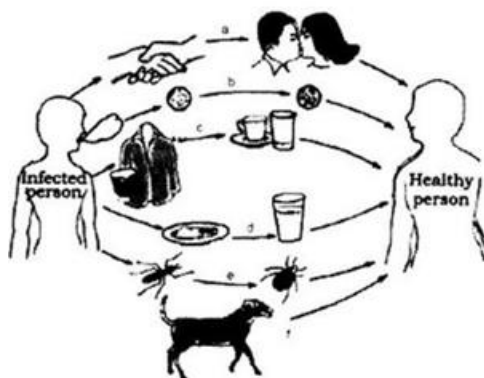
(b) 120 g of calcium and 120 g magnesium elements have a mole ratio of 3 : 5.

Q.7. List applications of any three isotopes in various fields.

Q.8. State three rules for writing the chemical formulae.

Q.9. Mention the problem which is associated with using local names of organisms. How was this resolved ? Name the scientist who had introduced the above solution.

Q.10. Label in the following picture (a) to (f) to show the common mode of disease



Q.11. Given below are few situations:

- (i) Geeta of Class IX was having common cold. She sits with Sarika who also develops the diseases.
- (ii) Animesh of Class IX shifted to a new residence, with his family, where water purification system has not been installed yet. He develops cholera and dysentery.
- (iii) Associate these situations with their mode of transmission and assign appropriate category to them.

(2.12. A rocket of mass m is moving with a velocity v . If its velocity becomes three times, calculate the change in its kinetic energy.

(2.13. The pressure exerted by a cube of side 0.03 m on a surface is 10 Pa. Calculate the thrust exerted by the cube.

Q.14. Explain with the help of a bell jar experiment that sound cannot travel in vacuum.

Q.15. Define echo. Can we hear echo in a small room ? State reason. Differentiate between echo and reverberation.

Q.16. The milkman in our society started carrying lactometer. His move was well appreciated by the society members.

(a) What is the use of lactometer ? On what principle it works ? (b) What values of milkman is shown by the move ?

Q.17. (a) Write the rules followed for filling the electrons in various energy shells of any atom, as proposed by Bohr and Bury.

(b) Write the electronic configuration of an atom of sulphur. Also draw a schematic diagram of its atom showing the distribution of electrons in its shells.

Q.18. Give the outline of the classification of plants on the basis of various features.

(2.19. "Educating parents would help a lot in reducing the incidences of diseases in children". Justify the statement with five reasons.

Q.20. (a) Draw a longitudinal wave in a slinky. Show it on a graph between density variation and time. Mark on it region of maximum and minimum variation in density.

(b) Define the amplitude of a wave. Show it graphically. Identify the characteristic of wave which is affected by the amplitude of a wave ?

Q.21. (a) Name two forms of energy involved while a pendulum oscillates.. (b) Show with the help of a diagram that when does each type of energy attain its maximum value.

(c)How do these energies vary while the pendulum oscillates. (d) Name and state the law involved.

SECTION - B Q.22-Q.24. OTBA Questions of

10 marks.

SECTION - C

Q.25. The sound waves always need a material medium for their propagation. The physical quantity which is transported through the medium is : (a)velocity (b) mass (c)energy (d) force

(2.26. Rama takes an iron cuboid of dimensions 30 cm x 20 cm x 10 cm and mass 5 kg. She places it on the loose sand filled in a rectangular tray. On the basis of her observations she would conclude that the depression obtained on the loose sand would be:

(a)maximum when it lies on its face of dimensions 20 cm x 10 cm.

(b)maximum when it lies on its face of dimensions 30 cm x 10 cm.

(c)maximum when it lies on its face of dimensions 30 cm x 20 cm.

(d)same when it lies on any of the three faces.

Q.27. For producing a transverse wave along a slinky:

(a)free end is jerked at right angle to its length.

(b)the free end is compressed.

(c)the free end is pulled along its length.

(d)the free end is compressed and pulled.

Q.28. Spirogyra, mosses and ferns belong to the sub-kingdom :

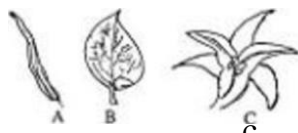
- (a) Cryptogamae (b) Phanerogamae
 (c) Angiospermae (d) Gymnospermae

Q.29. Sodium chloride reacts with silver nitrate to form silver chloride and sodium nitrate, then :

- (a) mass of sodium chloride is equal to mass of sodium nitrate.
 (b) mass of silver nitrate is equal to mass of silver chloride.
 (c) total mass of sodium chloride and sodium nitrate is equal to the total mass of silver nitrate and silver chloride.
 (d) total mass of sodium chloride and silver nitrate is equal to the total mass of silver chloride and sodium nitrate.

Q -30. Which of the following combinations of chemicals can a student select to prove the law of conservation of mass ?

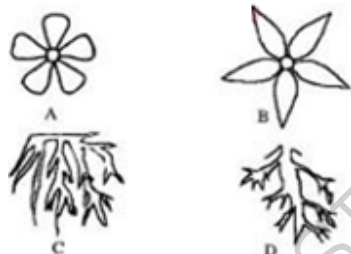
- (a) $\text{Na}_2\text{SO}_4(\text{s})$ and $\text{BaCl}_2(\text{s})$ (6) $\text{BaCl}_2(\text{aq})$ and $\text{Na}_2\text{SO}_4(\text{s})$
 (c) $\text{Na}_2\text{SO}_4(\text{aq})$ and $\text{BaCl}_2(\text{aq})$ (d) $\text{BaCl}_2(\text{s})$ and $\text{Na}_2\text{SO}_4(\text{aq})$



Q.31. What do the following figures A, B, C and D indicate:

- (a) A - Reticulate venation B - Parallel venation C - Pentamerous flower D - Trimerous flower
 (b) A - Parallel venation B - Reticulate venation C - Pentamerous flower D - Trimerous flower
 (c) A - Reticulate venation B - Parallel venation C - Trimerous flower D - Pentamerous flower
 (d) A - Parallel venation B - Reticulate venation C - Trimerous flower D - Pentamerous flower

Q.32. The correct identification of dicotyledonous plant from the following figures is:



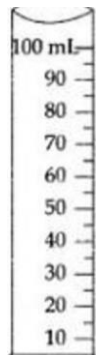
- (a) both A and C (b) A, B and D
 (c) both B and C (d) both C and D

Q.33. Identify the incorrect statement of the stages in the life cycle of a mosquito.

- (a) eggs are deposited on or near water. (b) larva does not feed.
(c) from pupa an adult mosquito emerges. (d) pupa undergoes metamorphose.

Q.34. Look at the figure of a graduated cylinder given below and answer the question that follows:

- (a) What is the range of the device ?
(b) Calculate the least count of the device.



Q.35. In which of the two, glycerine or kerosene, the loss in weight of a solid when fully immersed in them will be more and why ?