

ANNUAL EXAMINATION, 2018-19

SCIENCE

Class IX

Time : 3 hrs.

M.M. : 80

Date – 22.02.2019 (Friday)

Name of the student _____ Section _____

General Instructions :

- The question paper comprises **two Sections, A and B**. You are to attempt both the sections.
- **All** questions are **compulsory**.
- **All** questions of **Section-A** and **all** questions of **Section-B** are to be attempted separately.
- Question numbers **1 & 2** in **Section-A** are **one mark** questions. These are to be answered in **one word** or in **one sentence**
- Question numbers **3 to 5** in **Section-A** are **two marks** questions. These are to be answered in about **30 words** each.
- Question numbers **6 to 15** in **Section-A** are **three marks** questions. These are to be answered in about **50 words** each
- Question numbers **16 to 21** in **Section-A** are **five marks** questions. These are to be answered in about **70 words** each.
- Question numbers **22 to 27** in **Section-B** are based on practical skills. Each question is a **two marks** question.

SECTION – A

- Q.1 Name one foreign breed of cow that is selected for long lactation period. (1)
- Q.2 Why is step-farming common in hills ? (1)
- Q.3 State two effects of force. (2)
- Q.4 Define power and give its unit. (2)
- Q.5 What is nitrogen-fixation ? Name one nitrogen fixing bacteria that helps in this process. (2)
- Q.6 Define uniform circular motion and give example of it. Why is it called accelerated motion? (3)

OR

A bus accelerates uniformly from 54 km/h to 72 km/h in 10 seconds Calculate -

(i) acceleration in m/s^2 .

(ii) distance covered by the bus in metres during this interval.

- Q.7 A cricket ball of mass 70 g moving with a velocity of 0.5 m/s is stopped by a player in 0.5 s. What is the force applied by the player to stop the ball? (3)
- Q.8 A ball is projected vertically upwards with an initial velocity of u goes to a maximum height 'h' before coming to ground. What is the value of 'h' ? (3)

OR

What is the effect of shape of earth on value of 'g'?

- Q.9 a) Priyanshu and Soham, In a hot summer day, are wearing cotton and nylon clothes, respectively. Who is likely to feel more comfortable and why? (3)

- b) Name the physical state of matter which can flow but cannot fill the vessels completely.
- c) Name the process involved/ associated when a bottle of perfume, on leaving it uncapped, becomes empty.

- Q.10** a) State the law of constant proportion. **(3)**
b) Write the formula of sodium phosphate, using criss - cross.
c) Find the number of moles of *He* atoms present in 1.2046×10^{25} number of *He* atoms.

OR

- a) When 3 g of Carbon is burnt in 8 g of Oxygen, 11g of CO_2 is produced. What mass of CO_2 will be formed when 3 g of Carbon is burnt in 50 g of Oxygen? Which law of chemical combination will govern your answer?
- b) Calculate the mass of 10 moles of Na_2SO_3 .
- c) An element 'E' has valency 3. Write the formula of the Oxide of element 'E'.

- Q.11** a) An ion has 9 protons, 10 electrons and 10 neutrons. Write the symbol of this ion. **(3)**
Mention the atomic number and mass number also.
b) Find out the valency and number of valence electrons in an atom of Chlorine.
c) Why did Rutherford select gold foil for his experiment?

- Q.12** a) Name the two major components of plasma-membrane. **(3)**
b) What is plasmolysis ?
c) Where are genes located ?

- Q.13** a) How are simple tissues different from complex tissues in plants ? **(3)**
b) Why is the epidermis present with a thick waxy coating of cutin in desert plants ?
c) Differentiate between bone and cartilage in any one point.

- Q.14** a) What are weeds ? **(3)**
b) Differentiate between fertilisers and manures in atleast two points.

OR

- a) How are Pomphrets different from Rohu on the basis of their habitat ?
- b) Name two types of cattle feed and write their functions.

- Q.15** a) What are antibiotics ? Give one example. **(3)**
b) What are vectors ? Name the vector of Malaria.

- Q.16** Explain the Law of conservation of energy with pendulum. **(5)**

OR

Derive the formula for potential energy.

- Q.17** Explain structure of the human ear with the help of diagram. **(5)**

OR

Given that sound travels in air at 340m/sec, find the wavelength of the waves in air produced by 20 kHz sound source. If the some source is put in a water tank, what would be the wavelength of the sound waves in water? Speed of sound in water is 1480m/s.

- Q.18** a) What is the relationship between two elements X and Y whose atomic numbers are 18 and 20 respectively, but their mass numbers are equal to 40. (5)
Would you expect their chemical properties to be same or different? Explain.
- b) Describe any one essential difference between Cathode rays and Canal rays.
- c) Boron occurs in nature in the form of two isotopes having atomic masses $10 u$ and $11 u$, respectively. Calculate the percentage abundances of two isotopes in a sample if average atomic mass of Boron is $10.80 u$.
- Q.19** a) A solution of sugar in water is 5% by mass. How much sugar is present in 250 g of the solution? (5)
- b) Name the type of colloidal solution that comprises a liquid as dispersed phase and a solid as dispersion medium.
- c) How will you separate the mixture of kerosene and water?
- d) Burning of petrol is a chemical change but boiling of water into steam is a physical change. Justify.
- Q.20** a) Name the branch of science that deals with classification of living organisms. (1)
- b) 'Bat is a mammal'. Write any two points to justify / support the statement. (2)
- c) Write any two characteristic features of kingdom plantae. (2)
- Q.21** a) What do you mean by deficiency disease ? (1)
- b) What is immunisation ? (1)
- c) Classify the following diseases into the categories of – viral disease, bacterial disease and protozoan disease. (3)
Malaria, Pneumonia, Dengue, AIDS, Kala-azar, Tuberculosis.

SECTION – B

- Q.22** Reverberation of sound is used in - (2)
a) Stethoscope b) Trumpets c) Megaphone d) All of these
- Q.23** The distance between two bodies becomes 6 times more than the usual distance. The 'F' becomes - (2)
a) 36 times b) 6 times c) 12 times d) 1/36 times
- Q.24** Write any one observation when aqueous sodium sulphate is mixed with aqueous barium chloride solution? Write the chemical equation for probable reaction. (2)
- Q.25** In an experiment 18.5 g of copper sulphate reacted with 11 g of sodium hydroxide to form 10 g of copper hydroxide and 19.5 g of sodium sulphate. (2)
Which law of chemical combination is illustrated by this data? Justify.
- Q.26** Draw striated muscle and label its various parts as seen under high power magnification of a microscope. (2)
- Q.27** Write any two adaptive features in fishes which help them to survive in aquatic habitat. (2)

