**CODE : S9SC3**

## KENDRIYA VIDYALAYA SANGATHAN, PATNA REGION

# SESSION ENDING EXAMINATION, 2017–18

### CLASS – IX

**2733**

### SCIENCE

Sl. No. .................

**TIME – 3 HOURS ]**

**[ MAX. MARKS – 80**

General Instructions :

(i) The question paper comprises of two sections – A and B. Attempt both the sections.

(ii) All questions of section A and B are to be attempted separately.

(iii) All questions are compulsory.

(iv) Question numbers 1 to 2 in section A are one mark questions. These are to be answered in one word or in one sentence.

(v) Question numbers 3 to 5 in section A are two marks questions. These are to be answered in about 30 words each.

(vi) Question number 6 to 15 in section A are three marks questions. These are to be answered in about 50 words each.

(vii) Question numbers 16 to 21 in section A are five marks questions. These are to be answered in about 70 words each.

(viii) Question numbers 22 to 27 in section B are two marks questions based on practical skills. These are to be answers in about 30 words each.

### SECTION – A

1. If an atom contains one electron and one proton, will it carry any charge or not ?

2. The frequency of a source of sound is 100 Hz. How many times does it vibrate in a minute ?

3. Define Valency ? Find the valency of Oxygen and Magnesium.

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4.  How are acute diseases different from chronic diseases ?

5.  What factors may be responsible for loses of grain during storage ?

6.  What is Colloid ? What are its various properties ?

7.  (a)  Convert into mole :

    (i)  18g of Oxygen gas    (ii)  34g of Ammonia gas

   (b)  Write the chemical formulae of the following :

    (i)  Aluminum Oxide    (ii)  Potassium Sulphate

8.  How is a Prokaryotic cell different from a Eukaryotic cell ?

9.  State Newton's Second Law of motion and derives it Mathematically ?

10. A stone is thrown vertically upwards with a velocity of 40 m/s.

   (a)  At what height will its kinetic energy and potential energy be equal ?

   (b)  Calculate the potential energy of the body if its mass = 10 kg.

11. Define average power. An electric bulb of 60 W is used for 6 hrs per day. Calculate the 'units' of energy consumed in one day.

12. Establish the relation that velocity = frequency X wavelength for a wave.

**OR**

If Wave of frequency 150 Hz are produced in a string. Find the
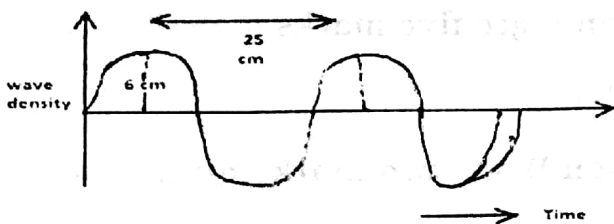


(a)  Wave length

(b)  Amplitude and

(c)  Velocity of wave

In S.I. unit.

13. Rohan was suffering from fever and cold. Doctor has advised blood test to diagnose the disease. In testing center, Rohan asked the laboratory person to wear gloves and sterilize the needle before taking his sample. On the basis of the above example, answer the following questions.

(a)    What could happen if the needle was not sterilized ?

(b)    What other precautionary measures one should take to ensure good health ?

(c)    What values are shown by Rohan ?

14.    What is biogeochemical cycle ? How cycling of nutrients takes place in the atmosphere ?

15.    Why is $CO_2$ gas so important for life on Earth ? What are the two ways by which it is fixed on Earth ?

**OR**

What is greenhouse effect ? What would happen if the level of $CO_2$ in air would increase ?

16.    (a)    Differentiate between Physical and Chemical changes.

(b)    Comment upon the following : Rigidity, compressibility and fluidity.

17.    (a)    What is an octet ? How do elements attain an octet ?

(b)    List three conclusions drawn by Rutherford from his alpha-particle scattering experiment.

18.    (a)    Differentiate between striated, unstriated and cardiac muscle on the basis of their structure and site/location in the body.

(b)    Draw a well labeled diagram of Neuron.

19.    (a)    Name the group of plants known as "Amphibians of plant world" Mention their two important characters.

(b)    What is classification? What is the basis of classification ?

20.    (a)    Distinguish between speed and velocity.

(b)    A car accelerates uniformly from 18 km/h to 36 km/h in 5s. Calculate

(i)    the acceleration

(ii)    the distance covered by car in that time

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OR

(i)    Derive S = ut + ½ at2 by graphical method.

(ii)    A bus decreases its speed from 80 km/h to 60 km/h in 5 seconds. Find the acceleration of the Bus.

1.  (a)    State the universal law of gravitation.

    (b)    What is the importance of Universal law of gravitation ?

    (c)    What do we call the gravitational force between the Earth and an object ?

## SECTION – B

2.  Classify the given substances as true solutions, colloidal solutions or suspension :

    (a)    blood                          (b)    pure milk

    (c)    common salt solution            (d)    syrup

.  A student performed an experiment to verify the conservation of mass. In this experiment he mixed 5.3 g of sodium carbonate with 6 g of ethanoic acid. The products he observed were 2.2 g of $CO_2$, 0.9 g of water and 8.2 g of Sodium ethanoate. Verify the law of conservation of mass.

. Sherya performed the experiment to the pressure exerted by different faces of a cube of side 4 cm on a loose sand. According to you what did she observed ?

. To test the presence of adulterant metanil yellow in ahar-dal, chemical reagent A is added. This results in appearance of colour B in the test-tube. Identify A and B.

. Rahul setup an experiment to determine the mass percentage of water absorbed by raisins. If the mass of dry raisins was 40 g, the mass swollen raisin was 45 g. Calculate the percentage of water absorbed.

. After doing an experiment to verify the law of reflection of sound, the student plotted the graph between angle of incidence and angle of reflection. What type of graph will be obtained ?

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