IDEAL INDIAN SCHOOL, DOHA-QATAR

SUMMATIVE ASSESSMENT – II (2014-15)
SCIENCE Class –IX

Date:- 11/3/2015

Time allowed: 3 hours   **Maximum Marks: 90**

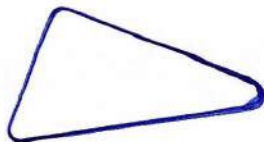**General Instructions :**

(i) The question paper comprises of **three Sections, A, B and C**. You are to attempt all the sections.
(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 in **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 about **50 words** each.
(viii) Question numbers **17 to 21** in **Section-A** are **five marks** questions. These are to be answered in about **70 words** each.
(ix) Section B has 3 OTBA questions. Question number 22 is **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 response 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 about **30 words** each.

SECTION-A

1	What is amu ? Which quantity is measured in terms of amu ?	1
2	Which scientist concluded that size of nucleus is very small as compared to size of an atom ?	1
3	Differentiate between cryptogamae and phanerogamae.	1
4	A boy heard a sound of frequency 100 Hz at a distance of 500 m from the source of sound. What is the time period of oscillating particles of the medium ?	2
5	Radius of an iron sphere is 0.21 cm. If density of iron is 7.80 g/cc, calculate its mass.	2
6	Name the elements present in the following compounds : (i) Water (ii) Lead nitrate (iii) Copper chloride	3

7   Define atomic number and mass number. Which one of them is a more fundamental attribute   3
    of element ? State the reason.

8   Write the electronic configuration of magnesium atom and magnesium ion. How do these   3
    configurations differ ? Support your answer in the form of atomic structures.

9   An organism 'A' has a notochord, a dorsal nerve cord and is triploblastic, coelomate.   3
    (i)   State the phylum of animal 'A'.
    (ii)   State the class of 'A', if it is warm blooded and gives birth to young ones.
    (iii) How many chambers are there in its heart ?

10 With diagram only, depict the common methods of transmission of diseases.   3

11 According to a newspaper report, some areas in Delhi received grey coloured water in their   3
    taps. It was reportedly due to mixing of contents at some points due to leakage in sewer and
    water supply pipes. Which kind of diseases are likely to spread due to such problems and why ?
    Give two specific names of diseases that can thus be spread.

12 In a house 5 bulbs of 25 W each are used for 6 hours a day. Calculate the units of electricity   3
    consumed in a month of 30 days. Also find the total expenditure if 1 unit electricity costs ₹ 1.50.

13 (a)   Define relative density.   3
    (b)   Find the relative density of mercury, if its density is $13.6 \times 10^3 kg/m^3$.

14 ((a)   State the principle of working of SONAR.   3
    (b)   A radar signal is reflected by an aeroplane and is received 2×10^{-5} s after it was sent. If
            the speed of these waves is 3×10^8 m/s. How far is the aeroplane from radar?

15 (a)   Name the type of energy possessed by a moving object. Write its SI unit.   3
    (b)   Derive the expression for this energy for an object moving with velocity v and having
            mass m.

16 Simmi takes an open pan to cook vegetable at a hill station while Anu cooks same vegetable in a   3
    pressure cooker at the same place.

    (i)   Explain with reason who will cook vegetable faster.

    (ii)   Mention the reason for delay in cooking.

(iii) Which value is learnt by the student in the process of cooking food in pressure cooker ?

17 (a) Calculate the number of oxygen atoms in 0.10 mole of $Na_2CO_3 . 10H_2O$. 5

(b) If one mole of sulphur weighs 32 grams, what is the mass (in grams) of 1 atom of sulphur ?

(c) Identify the correct formula for ammonium sulphate from the following formula : $(NH_4)_2(SO_4)_3 ,(NH_4)_2SO_4, NH_4(SO_4)_2$

18 In the hierarchy of classification, there are different groups. Out of the groups mentioned below 5
answer the following questions :
Sub –groups : Genus, Order, Division, Class, Family.
(a) Name the group that has maximum number of organisms.
(b) Name the group that has maximum number of common   characters.
(c) Division : Plants : : _____ : Animals
(d) Which group form is part of the scientific name ?
(e) Arrange the above sub groups from highest to lowest levels in   hierarchy.

19 ((a) What kind of food is advised when we fall sick and why ? 5

(b) Mention any three basic conditions required for good health.

20 ((a) Give two applications of reflection of sound. 5
(b) What is meant by reverberation ? Suggest two ways to reduce it in a hall.
(c) A ship sends out ultrasound that returns from the sea-bed and is detected after 3.22 sec. If the speed of ultrasound in sea water is 1531 m/s, calculate the distance of the sea-bed from the ship.

21 a)Define thrust and pressure. 5
b)Give the mathematical formula that relates thrust and pressure.
c)Define 1 Pascal.
d)Calculate the pressure exerted by a block of weight 500 N if the surface area in contact is $2.5cm^2$

SECTION – B (OTBA)

(* Please ensure that open text of the given theme is supplied with this question paper.)
Theme : Clean India – We mean it !

22   How can a bio gas plant in a school be helpful to the students?   2

23   With the help of the given picture prepare an article to inform people about the use of various   3
      types of dustbins as per the type of garbage.

24   Community sanitary complexes and Sulabh Shauchalayas have reduced the practice of   5
      defecation in the open. Do you agree with this statement? Give reasons.

Section – C

25   While doing an experiment to verify the laws of reflection of sound if the reflecting surface is   1
      covered with loose woollen cloth, the reflected sound heard through pipe B will:
      (a)   be more loud   (b)   be of same loudness
      (c)   be less loud   (d)   not be heard

26   Choose the correct statement :   1
      (a)   For a given value of force, the pressure varies inversely with density of the substance on
             which it is placed.
      (b)   For a given value of force, the pressure varies inversely with area of contact.
      (c)   For a given value of force, the pressure varies directly with density of the substance on
             which it is placed.

(d) For a given value of force, the pressure varies directly with area of contact.

27 Four students determined velocity of a pulse in a slinky. They found that the pulse took 7.5   1
seconds to complete three times the length of the slinky which is 15 m. The velocity of the pulse
calculated by them is :
(a) 6.5 m/s   (b) 6.0 m/s
(c) 7.5 m/s   (d) 3.5 m/s

28 While locating the stem of fern, the students found that it is :   1
(a) underground rhizome   (b) coiled like spring
(c) totally absent   (d) branched and filamentous

29 A student noted down the following precautions for the experiment "To verify the law of   1
conservation of mass in a chemical reaction"
(i) Weighing should be done carefully.
(ii) Flask should be corked tightly.
(iii) Solutions should not get mixed before the reaction.
(iv) Mixing of two solutions must be done quickly
The precaution which needs to be corrected is :
(a) (i)   (b) (ii)   (c) (iii)   (d) (iv)

30 When 10g of calcium carbonate is heated, 4.4g of carbon dioxide escapes out. The amount of   1
residue left is:

(a) 5.6g

(b) 9.8g

(c) 10g

(d) 14.4g

31 Which one of the following is the correct statement :   1
(a) Plants with parallel venation have tap root system and trimerous flowers.
(b) Plants with parallel venation have fibrous root system and penta-merous flowers.
(c) Plants with reticulate venation have fibrous root system and tetra-merous flowers.
(d) Plants with reticulate venation have tap root system and pentamerous flowers.

32 Parul, Apurva, Diya and Shruti were given a specimen of lily plant for recognizing the main   1
characters of monocotyledonous plant. Each one wrote three characters in favour of answer.
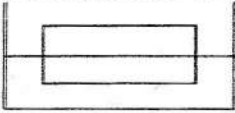Who gave the right answer :

Name of Student	Root type	Flowers	Leaf Venation
Parul	Fibrous	Tetramerous	Reticulate
Apurva	Tap	Pentamerous	Parallel
Diya	Fibrous	Trimerous	Parallel
Shruti	Tap	Dimerous	Reticulate

(a) Parul (b) Apurva
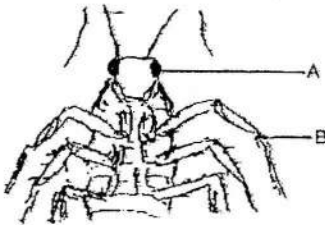(c) Diya (d) Shruti

33 The process of changing of a Pupa into an adult mosquito is known as. 1
(a)   metamorphosis (b)   moulting
(c)   laying (d)   embryology

34 A student is determining the density of a solid by using spring balance and measuring cylinder. 2
What law is applied by him? State the law.

35 An object of volume 200 cm³ is floating on a fluid with half of its portion inside the fluid as 2
shown below. Find the volume and weight of the fluid displaced by the object.

36 Identify the organism given below and label the parts A and B : 2

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