47JJIPQ

SUMMATIVE ASSESSMENT – II (2015-16)
SCIENCE
Class – IX

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) **All** questions of **Section-A, Section-B and Section-C** are to be attempted separately.

(iv) Question numbers **1** to **3** in **Section-A** are **one mark** questions. These are to be answered in **one word** or in **one sentence**.

(v) Question numbers **4** and **5** in **Section-A** are **two marks** questions. These are to be answered in about **30 words** each.

(vi) Question numbers **6** to **16** in **Section-A** are **three marks** questions. These are to be answered in about **50 words** each.

(vii) Question numbers **17** to **21** in **Section-A** are **five marks** questions. These are to be answered in about **70 words** each.

(viii) 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.

(ix) 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.

(x) 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 A non-metal 'X' is polyatomic and has atomicity 4. Identify 'X'. 1

2 According to Bohr and Bury scheme what is the maximum number of electrons present in M-shell of an atom ? 1

3 State what happens in the body during inflammation. 1

4 Identify and state the type of transformation of energy in the following cases : 1
(a) when a dry cell discharges.
(b) in a hydroelectric power plant.

Sound of explosions taking place on other planets is not heard by a person on the earth. Explain why ?

(a) Compare relative molar mass and relative formula unit mass.

(b) Calculate the molar mass of HNO_3, and compare it with its formula unit mass. (Atomic mass H = 1 u, N = 14 u, O = 16 u) 3

7 (a) Define isotope. Give one example
(b) Mention two uses of isotopes in the field of medicine

8 Write the chemical formulae for the compounds formed by the calcium ion with phosphate, sulphate and hydrogen carbonate ions. 3

9 Write four convention which are followed while writing the scientific names of organisms. 3
Write scientific name of human being

10 Name the two types of diseases one caused by some external agents and other due to some internal disorder of the body. 3
Mention various causative agents. How these types of disease can be prevented.

11 Classify the following organisms on the basis of absence or presence of true coelom (i.e. Coelomate, Acoelomate and pseudocoelomate): 3
Ascaris , Herdmania, Earthworm, Planaria, Fishes, Humans

12 (a) State Archimedes' principle. Give its two applications ? 3
(b) When an object is immersed in the fluid, name the two forces acting on it ?

13 State three characteristics of a sound. List the factors on which they depend. 3

14 When a rubber band is stretched it acquires some energy while stretching. 3
(a) Name the type of energy gained by the stretched rubber band.
(b) How it gained this energy ? Explain.

15 (a) State the SI units of Thrust and Pressure. 3
(b) In which situation we exert more pressure on ground-when we stand or when we lie down ? Justify your answer.

16 David while watching 'National Geographic' channel on television in which it was shown that Bats were easily flying during the night. He did not understand the concept and for this he surfed on internet, and finally found the answer that bats use ultrasound to fly and search their prey at night. 3
(a) What is ultrasound ? State its one application.
(b) State the principle used by bats.
(c) What value of David's Nature is depicted by the way he collected information ?

17 (a) Calculate the number of electrons, protons and neutrons in an atom of an element with atomic number 20 and mass number 40. Write the electronic configuration and draw the structure of the atom. 5

(b) An atom has complete K and L shells. Is this an atom of a metal, non-metal or noble gas ? Justify.

18 Draw a diagram of Euglena and label the following parts : 5
Flagellum, photoreceptor, eyespot, chloroplast, nucleus, contractile vacuole.

19 (a) Mention any four steps of precautions you would suggest to the local authorities to bring down the incidence of most common diseases namely ; dysentery, malaria and jaundice. 5

(b) Why would you advise the people suffering from the above diseases, to take blend and nourishing food ?

20 Define relative density. Give its mathematical formula 5
Define density. Give its SI unit.
A solid weighs 80 g in air, 64 g in water. Calculate the relative density of solid.
When kept in water, state if the object would float or sink ?

21 Calculate the electricity bill amount for a month of 31 days, if the following devices are used as specified . 5
(a) 3 bulbs of 40 W for 6 hours
(b) 4 tubelights of 50 W for 8 hours.
(c) A refrigerator of 300 W for 24 hours
Given the rate of electricity is ₹ 2.00 per unit

SECTION – B (OTBA)

(* Please ensure that open text of the given theme is supplied with this question paper.)

Handling Drought in our Country

It is indeed a very happy news to share with everyone that people of Ralegan, Siddhi and Alwar solved drought condition so bravely that they could not only able to increase per capita income ten times but the best part is No world Bank funding, no government grants –only people's enterprise was involved. How this magic was created?

With the help of a flow chart show the effects of drought?(any three)

Discuss the approaches of Drought Risk Management Process to ensure decrease in deaths and availability of food due to drought in future

Section – C

25 During wave motion x is transferred from one place to another, x is :

(a) mass (b) velocity
(c) energy (d) wavelength

26 A doctor applies a force of 50N to the syringe's piston of area 1.5m^2. The increase in pressure of the fluid in the syringe is 1

(a) 33.3 Pa (b) 50 Pa (c) 35.5 Pa (d) 30 Pa

27 Milly, Krishna, Vinayak and Vasundhra were asked to select the apparatus required to determine the speed of the pulse propagated through a stretched slinky, which is as given below : 1

(A) thin silk string
(B) thick cotton string
(C) thin cotton thread
(D) a stop clock
(E) a table clock
(F) thick silk string
(G) a metre scale

The apparatus selected by them is :

(a) Milly : B, G and D (b) Krishan : D, G and F
(c) Vinayak : C, G and E (d) Vasundhara : A, G and F

Who has selected correct apparatus ?

28 1

Label A, B, C and D in the following diagram :-

(a) A – young leaf, B – sorus, C – rhizome, D – adventitious roots.
(b) A – rhizome, B – sporophyll, C – stem, D – roots.
(c) A – young leaf, B – rachis, C – rhizome, D – rhizoids.
(d) A – young leaf, B – leaflet, C – underground stem, D – fibrous roots.

29 28g nitrogen combines with 6g hydrogen to form ammonia gas. If the law of conservation is true, the mass of ammonia gas will be : 1

(a) 28 g (b) 6 g
(c) 22 g (d) 34 g

30. While verifying the law of conservation of mass a student carried out the reaction between sodium chloride and silver nitrate in a conical flask. Which of the following will appear as a precipitate ? 1

(a) Silver Chloride (b) Sodium Chloride
(c) Sodium Nitrate (d) Barium Chloride

31 Which of the following statement is correct in respect of dicotyledonous plant ? 1

(a) Reticulate venation, one cotyledon and tetramerous flower.
(b) Reticulate venation, two cotyledons and pentamerous flower.
(c) Parallel venation, two cotyledons and dimerous flower.
(d) Parallel venation, one cotyledon and trimerous flower.

32 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.

33 Seema observed a stage in the life cycle of a mosquito where the head and thorax were fused. She identified the stage as : 1

(a) egg (b) larva
(c) pupa (d) adult

34 Write two main precautions to be taken to read the water level in the graduated cylinder. 2

35 An object weighing 10 N in air, weighs 8N in a liquid A and 9N in liquid B. In which liquid the buoyant force experienced by the liquid is more and why ? 2

36 The body of an organism is streamlined and is found in fresh water as well as marine water. Identify the organism and write its one specific feature. 2

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