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REGIONAL OFFICE VARANASI

SUMMATIVE ASSESSMENT II 2016-17

CLASS: IX MAX. MARKS: 90

SUBJECT: SCIENCE MAX. TIME: 3hrs

General instructions:

(i)The question paper comprises two sections , A and B . You are to attempt both the sections.

(ii)All questions are compulsory.

(iii) There is no choice in any of the questions . However there is an internal choice in question no. 20.You are to attempt any one .

(iv) All questions of section A and all questions of section B 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 to 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) This section has 3 OTBA questions . Question number 22 is two marks, question number 23 is three marks and question number 24 is five marks question . These are to be answered based on the text given by the CBSE.

(X) Question numbers 25 to 33 in Section B are multiple choice questions based on practical skills. Each question is 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 B are two marks questions based on practical skills . These are to be answered in brief.

SECTION (A)

1. If Z = 3, what would be the valency of the element? Also name the element.
2. Give the full form of AIDS.
3. How many joules make one kilowatt hour?
4. Write electronic configuration of—(i) Chloride atom and (ii) Chloride ion.

5. Represent the following graphically by two separate diagrams in each case:
   (i) Low pitched and high pitched sound
   (ii) Soft sound and louder sound
6. In a compound, the elements are always present in definite proportion by mass. Name the law.
   Calculate ratio by mass of components elements in
   i. Ammonia (N=14 g, H=1 g)
   ii. Carbon dioxide (C= 12g, O=16g)
7. If bromine atom is available in the form of, say, two isotopes $^{79}Br_{35}$ (49.7%) and $^{81}Br_{35}$ (50.3%), calculate the average atomic mass of bromine atom.
8. (i)Composition of the nuclei of atomic species X and Y are given as under

	X	Y
Protons =	6	6
Neutrons =	6	8

   Give the mass numbers of X and Y. What is the relation between the two species?
   (ii)Define isobars. Write its one example.
9. Give 3 features of butterfly to justify its classification as Arthropoda.
10. (i)Name the scientists who proposed 5 kingdoms classification.
    (ii)Which division among plants has the simplest organisms? Name one organism from this division.
    (iii) Which division among plants is called the amphibians of the plant kingdom? Name one organism from this division.
11. The number of dengue cases had increased in Pooja's village in the last one year. She has studied that diseases like dengue spread through mosquitoes that breed in stagnant water. She immediately suggested her friends and decided to kill mosquitoes in water bodies in the locality. They also took help of the nearest municipal office.
    Answer the following question based on the above information:
    i. Which preventive measure do you suggest for the prevention of such diseases caused by mosquitoes? Mention any two measures.
    ii. Which values are displayed by Pooja in taking initiative?
    iii. Suggest one school activity to promote such values in school students.
12. (i)What is relative density? Why it has no unit?

    (ii)The volume of a 500g sealed packet is 350 cm^3. Will the packet float or sink in water if the density of water is 1 g cm^{-3}? What will be the mass of water displaced by this packet?

13. (i)State the Archimedes' principle.

    (ii)Name the device used to-

    a) Determine purity of the sample of milk.
    b) Determine density of liquids.
14. (i) When do we say that work is done? A person holds a bundle of hay over his head for 30 minutes and gets tired. Has he done some work or not? Justify your answer.

    (ii) What is the work done by the force of gravity on a satellite moving around the earth? Justify your answer.

15. (i) Define 1 watt of power.
    (ii) A lamp consumes 1000 Joules of electric energy in 10 seconds. What is its power? Calculate the units of energy consumed by this lamp in one day if it is used for 6 hours in a day.
16. Define—(i) Wavelength (ii) Frequency. How are they related to speed of sound wave?
17. (i) State two distinguishing features between an acute and a chronic disease and classify the following diseases into these two groups:
    Elephantiasis, Dysentery, Measles, Tuberculosis.
    (ii) What precautions can you take in your school to reduce the incidence of infectious diseases? List any four.
18. (i) Which has more number of atoms 100 grams of sulphur or 100 grams of carbon (given, atomic mass of S =32u and C = 12u)

    (ii) The molecule of sulphuric acid is H_2SO_4.(atomic mass of H= 1u, S=32u and O= 16u)

    (a) Calculate the molecular mass of sulphuric acid.
    (b) How many moles are there in 9.8g of sulphuric acid.
    (c) How many molecules of sulphuric acid are there in 9.8g of this compound.

    (iii)Name the following compounds:

    $Al_2(SO_4)_3$ and $Ca(HCO_3)_2$

19. (i) State the Law of Conservation of Energy.
    (ii) Illustrate the law of conservation of energy by discussing the energy changes which occur when an object of mass 'm' is made to fall freely from a height 'h'with the help of diagram.
20. (i) Draw well labelled diagram of a Human Ear.

    (ii) What is Ultrasound ? Give any two applications of ultrasound.

    OR

    (i) What is reverberation ? How it is reduced in an auditorium ?
    (ii) An echo returned in 3 s. What is distance of the reflecting surface from the source, given that the speed of sound is 342m/s.
21. Distinguish between the five classes of vertebrates on the basis of following features:
    (i) Habitat (ii) Skin/Body covering/Exoskeleton (iii) Heart chambers
    (iv) Organs of respiration (v) Body temperature

    Name two animals belonging to each class.

OTBA

SOLID WASTE MANAGEMENT

22. Name four types of solid wastes.
23. Write full forms of--- SWM , MSW , TSP
24. In waste hierarchy what are the 5R's? Give one example of each ' R' which will help in solid waste management .

OR

HEALTHY ENVIRONMENT, HEALTHY PEOPLE

22. Name four physical factors of environment which influence health.
23. Write full forms of--- EPA, ETS, MIC
24. Discuss five examples where the chemicals are affecting human health.

SECTION (B)

25. The density of an object is 7.8 g/ml. Its value in SI unit will be-
    a) 7.8×10^3 kg/m^3 b) 7.8×10^{-3} kg/m^3
    c) 7.8 kg m^3 d) 7.8 kg/m^3
26. For doing his experiment on verifying the laws of reflection of sound, a student sets-up his apparatus. The experiment that is more likely get performed successfully in which the reflecting surface is a:
    a) Well polished plane surface.
    b) Wooden board with many holes in it.
    c) A foam padded board.
    d) A sheet of pure white cloth.
27. On adding salt to water, its density:
    a) Decreases b) Increases
    c) Is not affected d) may increase or decrease
28. A series of changes that lead to the formation of imago(adult) from larva is called:
    a) Histolysis b) Histogenesis
    c) Metamorphosis d) Histology
29. For the reaction:

    $A + B \rightarrow C + D$

    If m_1 and m_2 are the masses of the reactants A and B respectively, m_3 and m_4 are the masses of the products C and D, the n which one of the following statements is correct?
    a) $m_1 + m_2 > m_3 + m_4$
    b) $m_1 + m_2 = m_3 + m_4$
    c) $m_1 + m_2 < m_3 + m_4$
    d) $m_1 + m_2 + m_3 = m_4$
30. A student was asked to study a slide and report its three characteristics. After observing the slide he noted the following characteristics in the given slide.
    I. Filamentous structure.
    II. Presence of pyrenoid.

III. Ribbon like chloroplast.

The observed slide is of:

a) Moss b) Fern
c) Pinus d) Spirogyra

31. Two slinkies A and B are of the same length and made up of two different materials. The time taken by 10 pulses to travel the same distance in both of them is 60 seconds and 40 seconds respectively. It means that:
    a) The pulse travelled faster in A.
    b) The pulse travelled faster in B.
    c) The velocity of the pulse cannot be decided from the observation taken.
    d) The velocity of the pulse in both slinkies is same.
32. Pupa of mosquito is:
    a) Spherical b) Coma sphere.
    c) Rod shaped d) Spiral
33. Tap root system, prominent nodes and internodes reticulate venation, tetramerous flower and enclosed seeds with two cotyledons as observed in the laboratory are characteristic feature of:
    a) Monocots b) Dicots
    c) Gymnosperms d) Cryptogams
34. List any 4 precautions which you will take while determining the density of a solid denser than water by using a spring balance and a measuring cylinder.
35. Name the phyla and one adaptive feature of each of the following:
    a) Earthworms
    b) Cockroach
    c) Fish
    d) Bird
36. A student uses an iron cuboid (10cm X 6cm X 4cm) to observe the depression in sand when the cuboid is placed on different faces. Calculate the pressure exerted by each face if cuboid weighs 120 N. Which face will cause maximum depression?

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