DELHI PUBLIC SCHOOL, RANCHI

Practice Test – II (2016-17)

Class:-IX   Subject:-General Science
Time- 3 Hrs.   M.M- 90

SECTION - A

[C]1.   Write the chemical formula of aluminiumsulphate.   [1]

[C]2.   Write the correct representation of an element 'X' which contains 15 electrons and 16 neutrons.   [1]

[B]3.   Differentiate between cryptogamae and phanerogamae   [1]

[P] 4. Explain how flaws can be detected in a forgins.   [2]

[P] 5. Establish the relation between linear momentum and kinetic energy. [2]

[C]6.   (a) In the atom of an element 'Z' 5 electrons are present in the outermost shell. It acquires noble gas configuration by accepting requisite number of electrons , then what would be the charge on the ion so formed?
        (b) Write the formula of the compound which will be formed when 'Z' reacts with Na atom.
        (c) Write one word for the following:
          (i)Positively charged ion
          (ii)A group of atoms carrying a charge   [1+1+½+½=3]

[C]7.   List three conclusions drawn by Rutherford from his alpha –particle scattering experiment. State three features of nuclear model of an atom put forward by Rutherford.   [1½+1½=3]

[C] 8. The description of atomic particles of two elements X and Y is given below.

	X	Y
Protons	8	8
Neutrons	8	9
Electrons	8	8

        (a)What is the atomic number of Y?
        (b)What is the mass number of X?
        (c)What is the relation between X and Y?
        (d)Which element/elements do they represent?
        (e)Write the electronic configuration of X.
        (f)Write the cation /anion formed by the element.   [½x6=3]

[B]9.   Write appropriate terms for the following :   [3]

        (a) Animals that are able to maintain a certain body temperature over a wide range of temperature in the environment.
        (b) Plants which bear naked seeds.
         (c) Animals which have pseudocoelom.

[B]10. Classify the following disease as infectious or non-infectious diseases and also mention the cause of the non- infectious diseases. **[3]**

        (a) AIDS
        (b) Cholera
        (c) Tuberculosis
        (d) Pneumonia
        (e) Colour blindness
        (g) Diabetes

[B]11. Why some animals are called flatworms? To which group of kingdom animalia do these organisms belong? Write two examples. **[3]**

[P]12. A force of 100 N acts on a surface of area 25 cm². Calculate thrust and pressure. Calculate the new pressure if the force is reduced by 25N. **[3]**

[P]13. Mention the characteristics in which the following sounds differ. Also draw their wave shapes.

(a) Soft sound and loud sound

(b) Low pitched sound and high pitched sound **[3]**

[P]14. An object of mass m when raised to height h possesses a potential energy of 1500 J. Find the new potential energy: **[3]**
(a) if the same object is raised to height h/4

(b) if the same object is raised to height 4h

[P]15. Kavita visited Kanyakumari with her schoolmates on a study tour. There, she also went to see the memorial of Swami Vivekanand. When Kavita and other students were boarding the motorboat for going to rock memorial , they were asked to wear loosely fitted life jackets. Kavita was hesitant to wear the jacket but her friend Nidhi advised her to do so. She also told her the significance of the life jacket.
(a) On which principle does a life jacket work? Can you explain, how it helps?

(b) What values are shown by Nidhi? **[3]**

[P]16. (a) Define specific gravity. Give its mathematical formula. **[3]**

(b) Calculate the work done in raising a stone of mass 5kg and specific gravity 3, lying at the bed of a lake through a height of 5m.

[C]17. (i) A flask contains 4.4 gmof CO_2.Calculate **[1+1+1+2=5]**
(a)How many moles of CO_2 does it contain?
(b)How many molecules of CO_2gas are present in the sample?
(c) How many atoms of oxygen are present in the sample?(atomic mass of c=12u, o=16u)
(ii)Daltons atomic theory is contradicted by the formula of sucrose($C_{12}H_{22}O_{11}$).Justify this statement.

[B]18. Differentiate between Pisces, Amphibian, Reptilia, Aves and Mammalia based on: **[5]**
(a) exoskeleton
(b) Organ of respiration
(c) Laying of eggs
(d) Number of chambers in heart
(e) Body temperature

[B]19. Differentiate between the following. [5]

(a) Acute disease and chronic disease

(b) Infectious disease and Non-infectious disease

(c) Symptom based treatment and Microbe based treatment

(d) Antibiotics and vaccines

(e) Congenital disease and Acquired disease

[P]20. (a) What is SONAR? Explain echo- ranging. Write its two applications.

(b) A SONAR emits pulses on the surface of water which are detected after reflection from the bottom. If the time interval between the emission and detection of the pulse is 2 sec, find the depth of water. The velocity of sound in water is 1531 m/s. [5]

[P]21. Calculate the electricity bill amount for a month of 30 days, if the following devices are used as specified :

(a) 3 bulbs of 40 W each for 6 hours

(b) 4 tubelights of 50 W each for 6 hours

(c) A T.V. of 320 W for 4 hours

Given the rate of electricity is @ 2.50 per unit. [5]

SECTION - B

[C]22. How is CO_2 fixed? [2]

[C]23. List any three human activities which would lead to an increase in the carbon dioxide content of the air. [3]

[C]24. (a)Why are oceans salty. [2+3=5]

(b)What will be the consequences of global warming.(write any three consequences.)

SECTION-C

[P]25. The distance between initial and final position of the pulse produced in a slinky is 6m and the velocity is 7.2 m/s. The time taken by pulse to propagate is: [1]

(a)1.2 Sec.   (b) 0.83 Sec.   (c) 10.8 Sec.   (d) 1.6 Sec.

[P]26. If two cuboids A and B are placed in two different position on the sand, which one will exert more pressure? [1]

(a) A will exert more pressure than B.

(b) B will exert more pressure than A.

(c) Both will exert same pressure

(d) No pressure will be exerted by either.

[P]27. Kinetic energy (K.E) of a body depends upon its mass (m) and velocity) (v). If a graph is drawn b/w K.E. and velocity then which of the following is correct. **[1]**

(a) K.E ↑ → V
(b) K.E ↑ → V
(c) K.E ↑ → V
(d) K.E ↑ → V
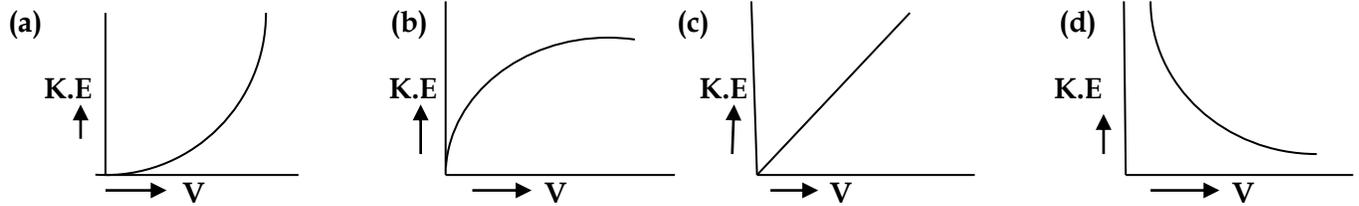
[B]28. Which of the following character is identifying feature of gymnosperms? **[1]**

(a) Naked seeds

(b) Rhizoids present

© Chlorophyll absent

(d) Does not possess vascular bundle **[1]**

[C]29. Study the chemical reaction given and identify the value of X (mass of CO_2 formed in gm).

$CH_4(g)$ $+ 2O_2(g) \rightarrow CO_2(g)$ $+2H_2O(l)$

16g   64g   X(g)   36g
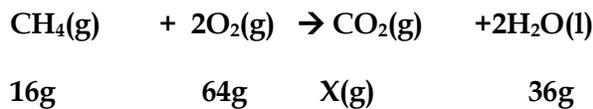
(a)28g   (b)32g

(c)44g   (d)40g

[C]30. The laboratory apparatus that is required to conduct the experiment to verify the law of conservation of mass in a chemical reaction is **[1]**

(a)conical flask,cork,ignition tube, thread.

(b)beaker,U-tube ,thread,cork

(c) round bottomed flask, ignition tube, thread, petridish

(d)beaker ,ignition tube, thread , cork.

[B]31. Seeds of pea have

(a) One cotyledon   (b) many cotyledons

(c) two cotyledons   (d) no cotyledons **[1]**

[B]32. Which of the following statement is correct with respect to dicotyledonous plants? **[1]**

(a) Reticulate venation, tap root, pentamerous flowers.

(b) Parallel venation, tap root and pentamerous flowers.

(c) Parallel venation, fibrous root and trimerous flowers.

(d) Trimerous flower, reticulate venation and tap root

[B]33. The stage in the life cycle of a mosquito which appears like a comma (,) is: **[1]**

(a) Adult   (b) Pupa   (c) Egg   (d) Larva

[P]34. Answer the following questions: **[2]**
(a) What is the difference b/w intensity of Sound and Loudness?
(b) Define persistence of hearing.

[P]35. A block of gold and a block of wood of same volume. If they are submerged in water, then what will be the difference in buoyant force experienced by each block? Give reason for your answer. **[2]**

[B]36. Mention two adaptive features of fishes to aquatic mode of life. **[2]**

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