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Section B

Roll No. 8

CRPF PUBLIC SCHOOL, ROHINI
FINAL TERM EXAMINATION 2019-20
Class- IX (SCIENCE) Set - 1

Time: 3 Hrs

M.M.80

GENERAL INSTRUCTIONS:

1. The question paper comprises three sections – A, B and C. Attempt all the sections.
2. All questions are compulsory.
3. Internal choice is given in each section.
4. All questions in Section A are one-mark questions comprising MCQ, VSA type and assertion-reason type questions. They are to be answered in one word or in one sentence.
5. All questions in Section B are three-mark, short-answer type questions. These are to be answered in about 50 - 60 words each.
6. All questions in Section C are five-mark, long-answer type questions. These are to be answered in about 80 – 90 words each.
7. This question paper consists of a total of 30 questions.

SECTION A

1. The correct condition to liquefy a gas into liquid is
 - a) Low temperature, low pressure
 - b) low temperature, high pressure
 - c) High temperature, high pressure
 - d) high temperature, low pressure.
2. State whether the given statement is true or false: Milk is a homogeneous mixture.
3. A bus moves at a uniform speed v_1 for some time and then with a uniform speed v_2 . The distance – time observation table is given below :

Time (minutes)	Distance (km)
0	0
20	20
40	40
60	65
80	95
100	125
120	155

- a) Plot the corresponding distance – time graph.
 - b) Find the values v_1 and v_2
 - c) When did the bus change its speed ?
 - d) What is the distance covered in the first hour?
4. Answer to questions numbered 4-a to 4-d is based upon the given paragraph and related concepts

“Different ways of growing crops can be used to give maximum benefit. Weeds are unwanted plants in the cultivated field, removal of weeds from cultivated fields during the early stages of crop growth is essential for a good harvest. Generally, insect pests attack the plants, they affect the health of the crop and reduce yields.”

- a) Which cropping pattern gives maximum yield and why?
- b) What is organic farming? Why people prefer to buy organic products.
- c) How do weeds affect crop?
- d) Suggest two ways to protect crop from pests.

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P.T.O.

(2)

5. A submarine emits a SONAR pulse which returns from an underwater cliff in 1.05 seconds. If speed of sound in salt water is 1531 m/s. How far away is the cliff?
a) 1568 m b) 803.7 m c) 1607.4 m d) 765.5 m
6. According to Newton's third law of motion, action and reaction
a) always act on the same body
b) always act on the different bodies in opposite direction
c) have same magnitude and direction
d) act on either body at normal to each other.
7. The acceleration of a body has to be doubled without any change in force. Then we have to
a) increase the mass b) decrease the mass to half.
c) double the mass d) can not be made.
8. Which of the following diseases are classified as chronic disease?
i) Food poisoning ii) Cancer iii) Tuberculosis iv) common cold
a) (i) and (ii) b) (ii) and (iii) c) (ii) and (iv) d) (i) and (iv)
9. A cell will swell if placed in
a) Isotonic solution b) Hypotonic solution
c) Hypertonic solution d) In concentrated sugar solution
10. Which of the following phrases would be incorrect to use:
a) A mole of an element b) a mole of a compound
c) an atom of an element d) an atom of a compound.
11. How is the atmosphere of earth heated?
12. Which of the following is the correct representation of naturally existing nitrogen gas:
A) N_2 b) N c) N_3 d) Ni

The following questions consist of two statements - Assertion(A) and Reason (R). Answer these questions selecting the appropriate option given below:

- A) Both A and R are true and R is the correct explanation of A.
- B) Both A and R are true but R is not the correct explanation of A.
- C) A is true but R is false.
- D) A is false but R is true.

13. **ASSERTION** : A feather and a stone dropped from a height in presence of air reach the ground at different times.

REASON : Acceleration due to gravity acting on a body is directly proportional to its mass.

14. **ASSERTION**: Wind blows from a high pressure area to a low pressure area.
REASON: The difference in temperature results in difference in air pressure.

SECTION B

15. Define power. Five 100 Watt bulbs are used for 10 hours everyday for 30 days. Find the cost of electricity if the rate is Rs. 4 per unit.

OR

- a) State the law of conservation of mechanical energy.
- b) A ball of mass 1kg is dropped from a height of 5 m. Find the kinetic energy of this ball just before it reaches the ground. What is its speed at this instant?

16. Give reasons:

- A. Naphthalene balls disappear after sometime without leaving any residue.
- B. We are able to sip hot tea or milk faster from a saucer rather than a cup.
- C. Gases exert pressure on the walls of the container.

17. Calculate the number of particles in each of the following cases:

- A. 46 g of sodium atoms (Na-23u)
- B. 16 g of oxygen molecules (O-16u)

Ans

(3)

✓ C. 0.5 moles of iron atoms.

OR

Calculate the mass of the following :

- A. 0.5 moles of N₂ gas (N-14u)
- B. 0.5 moles of N atoms.
- C. 6.022 X 10²³ number of nitrogen molecules.

✓ 18. Write three main conclusions drawn by Rutherford from his alpha scattering experiment.

✓ 19. a) Name any two vaccines which save the life of babies from diseases.

b) How principle of immunization is implemented for eliminating polio?

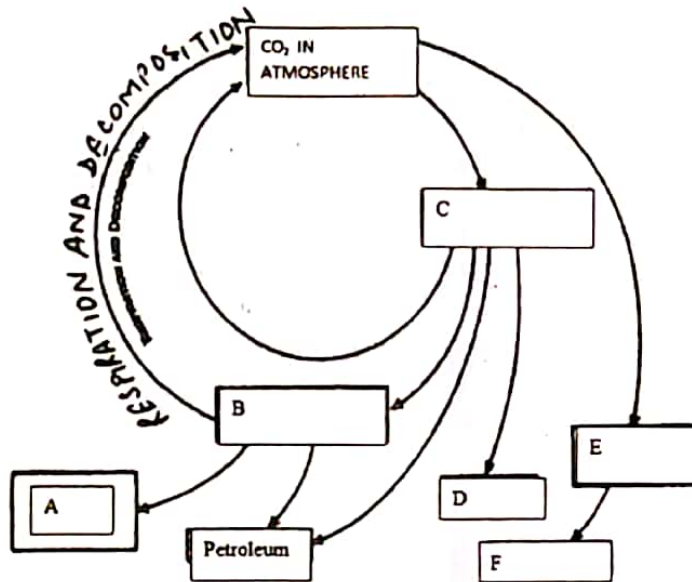
✓ c) Name two diseases which are caused in due course of time and last life-long i.e., they can be kept in control but cannot be cured permanently.

✓ 20. Identify the type of work (positive , negative or zero). Give reason to support your answer.

a) Work done by the force of gravity on a suitcase as the suitcase falls down from a porter's head.

b) Work done by a person on a book held in his hand while walking with uniform speed on a horizontal road.

✓ 21. Fill in the missing entries in the given diagram of carbon cycle:



OR

Draw a labeled diagram of Nitrogen cycle in nature.

22. Rajeev studied three organisms A, B and C under a microscope. He found all of them are bilaterally symmetrical and triploblastic. A has long and cylindrical body, B has dorsiventrally flattened body whereas body of C was soft with ring like segments. Identify their phylums and write one example of each.

23. Write names of three types of muscular tissues, draw labeled diagram of each. Write the location of any two types.

Q4. Give reason :

a) When you jump on a concrete surface , your feet hurt more than when you jump on sand.

b) We tend to fall forward when a moving bus stops suddenly.

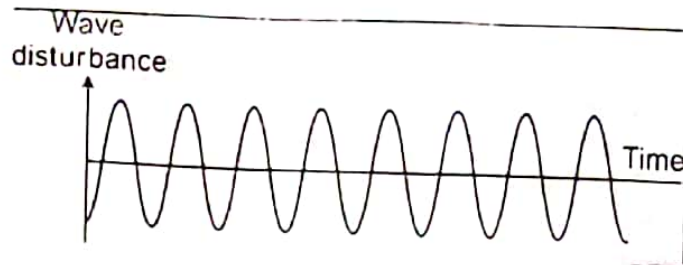
c) A gun recoils after firing, with much less velocity than a bullet.

SECTION C

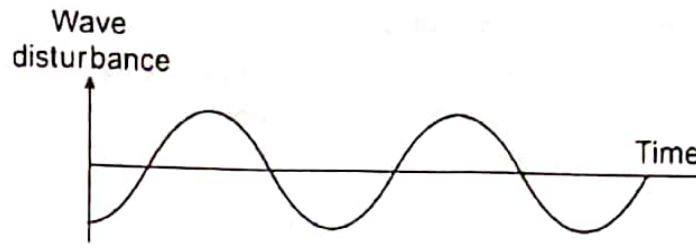
Q23 write functions of following cell organelles:
(i) Mitochondria, (ii) Lysosome, (iii) Ribosome

25. i)

(+)



ii)



- a) Two sound waves are shown above. Which of the two waves, corresponds to a high pitched sound. Name the physical quantity that determines the shrillness or pitch of sound.
- b) Which property of sound leads to the formation of an echo? State two conditions for an echo to be heard. Name any instrument that is based on multiple reflection of sound.
- c) What is reverberation of sound? Suggest any two methods to reduce reverberation of sound in big halls.
26. A) A solution contains 40g of common salt in 320 g of water. Calculate the concentration in terms of mass by mass percentage of the solution.
- B) Write three main differences between mixtures and compounds.
27. Write names of three types of muscular tissues, draw labeled diagram of each. Write the location of any two types.
28. a) Define classification. Who proposed binomial nomenclature?
- b) Write any one difference between monocots and dicots with example of each.
- c) Identify the phylums having following features
- Body segmented and jointed legs with compound eyes
 - body Porous with no symmetry.
 - Body having a shell and foot for locomotion
 - spiny skinned organisms.

OR

Write one important feature and one example of each of the following divisions of plant kingdom:

- a) Thallophyta b) Bryophyta c) Pteridophyta d) Gymnosperms e) Angiosperms
29. a) State Archimedes' Principle. Explain the reason that a wooden cork floats in water whereas an iron nail sinks.
- b) Define the term Density. A body of mass 2 Kg and density 8000 Kg/m^3 is completely immersed in a liquid of density 800 Kg/m^3 . Find the force of buoyancy on this body.

OR

- a) State the universal law of gravitation. Write its mathematical form.
- b) Consider a planet whose mass is twice that of earth and whose radius is thrice that of earth. What will be the weight of a book on this planet if its mass on earth is 90 kg.
30. A) Differentiate and compare between isotopes and isobars.
- B) The average atomic masses of a sample of an element X is 16.2u. What are the percentages of isotopes ^{16}X and ^{18}X in the sample?

OR

- A. What do you understand by the term valency of an element? Find the valency of an element with $Z=18$.
- B. Write two main postulates of Bohr's model of atom. Write the electronic configuration of an atom with $Z = 12$.