

SUMMETIVE ASSESSMENT – II (SAMPLE PAPER) SCIENCE CLASS – IX - 2

SECTION-A

1. What is amu ? Which quantity is measured in terms of amu ?
2. Which scientist concluded that size of nucleus is very small as compared to size of an atom ?
3. Differentiate between cryptogamae and phanerogamae.
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 ?
5. Radius of an iron sphere is 0.21 em. If density of iron is 7.80 g/ cc, calculate its mass.
6. Name the elements present in the following compounds : (i) Water (ii) Lead nitrate (iii) Copper chloride
7. Define atomic number and mass number. Which one of them is a more fundamental attribute of element ? State the reason.
8. Write the electronic configuration of magnesium atom and magnesium ion. How do these 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.
(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.
- 11 According to a newspaper report, some areas in Delhi received grey coloured water in their 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 consumed in a month of 30 days. Also find the total expenditure if 1 unit electricity costs Rs. 1.50.
13. (a) Define relative density. (b) Find the relative density of mercury, if its density is $13.6 \times 10^3 \text{kg/ m}^3$
14. ((a) State the principle of working of SONAR. (b) A radar signal is reflected by an aeroplane and is received 2 x 10⁻⁵ s after it was sent. If the speed of these waves is $3 \times 10^8 \text{ m/ s}$. How far is the aeroplane from radar?
15. (a) Name the type of energy possessed by a moving object. Write its SI unit. (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 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 $5 \text{ Na}_2 \text{ CO}_3 \cdot 10 \text{ H}_2 \text{ O}$. (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: $(\text{NH}_4)_2(\text{SO}_4)_3$, $(\text{NH}_4)_2\text{SO}_4$, $\text{NH}_4(\text{SO}_4)_2$

18. In the hierarchy of classification, there are different groups. Out of the groups mentioned below 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 ? (b) Mention any three basic conditions required for good health.

20. (a) Give two applications of reflection of sound. (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. (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 2.5 cm^2

Section- B

22. While doing an experiment to verify the laws of reflection of sound if the reflecting surface is 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

23 Choose the correct statement:

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

24. Four students determine velocity of a pulse on slinky. They found that the pulse took 75 seconds to complete three times the length of the slinky which is 15m. 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

25. While locating the stem of fern, the students found that it is:

(a) underground rhizome (b) coiled like spring (c) totally absent (d) branched and filamentous

26. A student noted down the following precautions for the experiment "To verify the law of 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

27. The precaution which needs to be corrected is: (a) (i) (b) (ii) (c) (iii) (d) (iv)

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

- (a) 5.6g (b) 9.8g (c) 10g (d) 14.4g

29. Which one of the following is the correct statement:

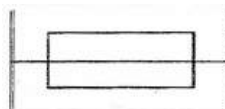
- (a) Plants with parallel venation have tap root system and trimerous flowers.
 (b) Plants with parallel venation have fibrous root system and penta-merous flowers.
 (c) Plants with reticulate venation have fibrous root system and tetra-merous flowers.
 (d) Plants with reticulate venation have tap root system and pentamerous flowers.

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

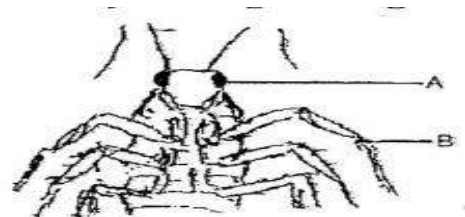
Name of Student	Root type	Flowers	Leaf Venation
(a) Parul	Fibrous	Tetramerous	Reticulate
(b) Apurva	Tap	Pentamerous	Parallel
(c) Diya	Fibrous	Trimerous	Parallel
(d) Shruti	Tap	Dimerous	Reticulate

31. The process of changing of a Pupa into an adult mosquito is known as : (a)
 Metamorphosis (b) moulting (c) laying (d) embryology

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



33. An object of volume 200 cm^3 is floating on a fluid with half of its portion inside own below. Find the volume and weight of the fluid displaced by the object.



34. Identify the organism given below and label the parts A and B