

Summative-II

March

Class-IX

Time allowed: 3 hours

Maximum Marks: 90

General Instructions:

- The question paper comprises of two sections, A and B. You are to attempt both the sections.
- All questions are compulsory.
- There is no overall choice. However, internal choice has been provided in all the five questions of five marks category. Only one option in such questions is to be attempted.
- All questions of section A and all questions of section B are to be attempted separately.
- Questions 1 to 3 in section A are one mark questions. These are to be answered in one word or in one sentence.
- Questions 4 to 7 in section A are two marks questions. These are to be answered in about 30 words each.
- Questions 8 to 19 in section A are three marks questions. These are to be answered in about 50 words each.
- Questions 20 to 24 in section A are five marks questions. These are to be answered in about 70 words each.
- Questions 25 to 42 in section B are multiple choice questions based on practical skills. You are to select one most appropriate response out of the four provided to you.

Section A

1. Which animal tissue is commonly known as packaging tissue?
2. Calculate the formula unit mass of CaCO_3 (given at masses: Ca = 40.0 u, C=12 u, O = 16.0 u).
3. An ion M^{3+} has 10 electrons and 14 neutrons. What is the atomic number and mass number of M ?
4. Distinguish between the pitch of sound and loudness of sound.
5. How does the speed of sound change on increasing the temperature?
6. What do you mean by photoperiod? Name two processes that are dependent on photoperiod.
7. What will happen if:
 - i) The skin epithelium is not stratified.
 - ii) Stratified squamous epithelium lines blood vessels.

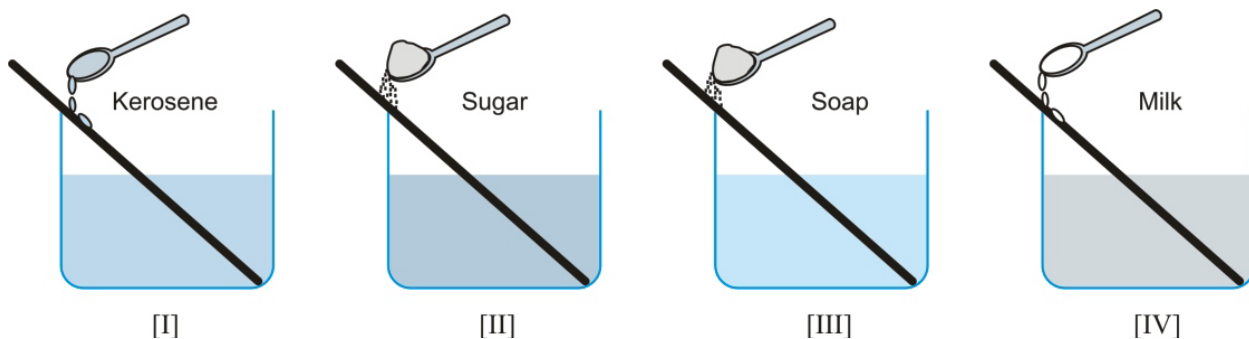
8. Name the target organ/organ system of AIDS virus. What is the cause of death in case of people suffering from AIDS? How can prevent ?
9. (a) What is meant by (i) a solute and (ii) a solvent in a solution? Identify the solute and the solvent in a homogenous mixture of iodine and alcohol.
(b) How does iodine separate from common salts?
10. A housewife churned full cream milk with a milk churner.
(i) What did she observe after churning milk?
(ii) What could be the possible reason for this observation?
11. The average atomic mass of a sample of an element 'X' is 16.2μ . What is the percentage of each isotope ^{16}X and ^{18}X in the sample?
12. Why does a wooden block float and an iron block sinks when both are placed on the surface of water? Explain in details.
13. The gravitational force of attraction between two masses is 16 N. What would be the force of attraction between them if each mass and the distance between them are doubled?
14. A child winds his toy car by moving its key. Name the type of energy -
i) used up in the process
ii) energy transformation taking place in it
The car then runs on the floor of the room. Give the transformation of energy taking place in it now.
15. To increase productivity per unit area ,the farmers grow two different types of crops on the same field in definite rows. What is this practice called? What care is required to be taken before selecting two crops for such practice and why? Give any two reasons
16. Draw a neat diagram of the leaf epidermis showing pores through which exchange of gases takes place. Label any two parts giving one function of each.
17. i) Which of the following diseases are protozoan in origin?
a)Dengue b)Malaria c)Kalaazar d)AIDS
ii) Suggest any two ways you would like to adopt, to prevent being infected by them.
18. Write two properties each of a solution, suspension and a colloid with respect to stability and filterability.
19. (i) State 'Law of constant proportions'.

(ii) Taking the example of water, explain the law of constant proportions.

- (iii) Which postulate of Daltons' atomic theory explains this law?
20. A stone is dropped from the edge of the roof.
- How long does it take to fall 4.9 m?
 - How fast does it move at the end of the fall?
 - What is its acceleration after 1s and 2s?
(given that $g = 9.8 \text{ m/s}^2$)
- (i) Write the names of the compounds represented by the following formulae:
 a) Na_2S b) KNO_3
- (ii) Write the chemical formulae of :
 a) Aluminum Chloride
 b) Magnesium oxide
- (iii) Find out the mass of 12.044×10^{23} atoms of magnesium (Given at mass of $\text{Mg} = 24.0\text{u}$)
21. i) In a tug of war, one team (team A) wins and the other team (team B) loses. Which of these two teams does?
 a) positive work b) negative work
 ii) What is the work done in case of a satellite moving around the earth?
 A boy weighing 50 kg climbs up a vertical height of 100 m in 200 seconds. Calculate the -
 a) amount of work done by him
 b) potential energy gained by him
 c) Power of the boy
 (given that $g = 10 \text{ m/s}^2$)
22. i) Write any three differences between Prokaryotic and Eucaryotic cell.
 ii) Draw a neat diagram of a typical prokaryotic cell and label any two parts.
23. Give reason for the following
 a) Isotopes of an element are chemically similar
 b) An atom is electrically neutral
 c) Noble gases show least reactivity
 d) Nucleus of an atom is heavy and positively charged.
 e) Ions are more stable than atoms.
24. i) What is meant by the statement - "Frequency of a source of sound is 200 Hz"
 ii) Give the audible range of frequency of sound for human beings
 iii) Give the range of frequencies associated with infrasound and ultrasound'.
 iv) Explain, how defects in a metal block can be detected using ultrasound.

Section B

25. The mixture will appear translucent in case of:
- a) CuSO_4 + water
 - b) alum + water
 - c) sugar + water
 - d) starch + water
26. On heating a mixture of iron filings and sulphur, it is observed that:
- a) the mixture sublimes
 - b) brown fumes are evolved
 - c) a grey mass is formed
 - d) no change occurs
27. When solutions of sodium sulphate and barium chloride are mixed, an insoluble solid settles at the bottom of the test tube. Its colour is :
- a) blue
 - b) yellow
 - c) white
 - d) green
28. After heating salt, common salt and ammonium chloride for a few minutes, we observe the following on the upper part of the inverted funnel:
- a) a reddish brown deposit
 - b) a white solid deposit
 - c) water droplets
 - d) a yellow gas
29. At 0°C or 273 K, the physical state of water is observed as :
- a) solid
 - b) liquid
 - c) vapour
 - d) both solid and liquid
30. The following substances are added to water in a beaker as given below. The mixture is stirred well. A true solution is found in a beaker



- a) I
- b) II
- c) III
- d) IV

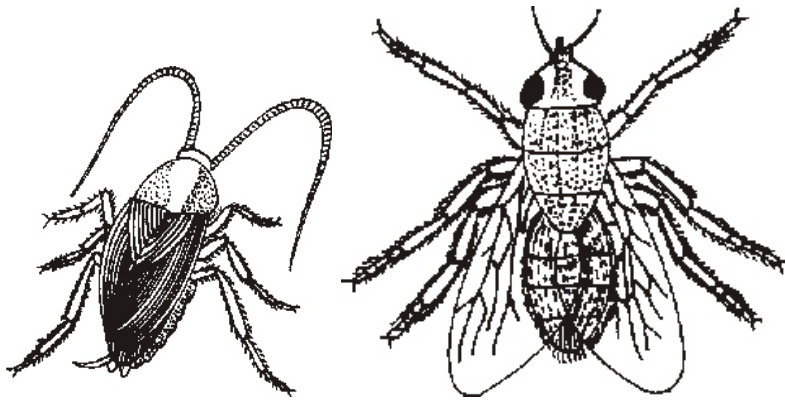
31. While determining the density of a copper piece using a spring balance and a measuring cylinder, Rama carried out the following procedure:
1. Noted the water level in the measuring cylinder without the copper piece.
 2. Immersed the copper piece in water.
 3. Noted the water level in the measuring cylinder with the copper piece inside it.
 4. Removed the copper piece from the water and immediately weighed it using a spring balance

The wrong step in the procedure is :

- a) Step '1'
 - b) Step '2'
 - c) Step '3'
 - d) Step '4'
- 1
32. In the experiment for determining the velocity of propagation of a pulse in a slinky, we prefer a long slinky/string
- a) because pulse cannot be formed in a short slinky/string
 - b) because slinky/string is cheap
 - c) so that pulse may move through it easily
 - d) so that time taken by pulse to move from one end of slinky/string to other is more

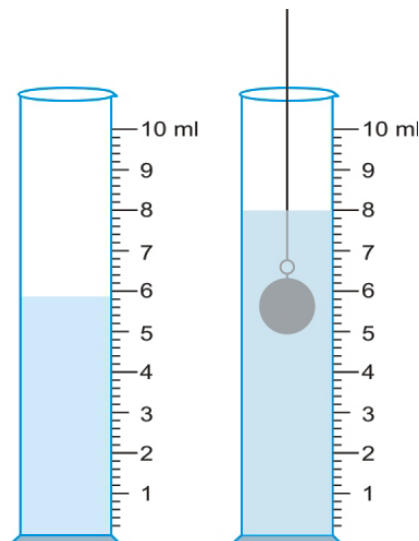
33. During the experiment on measurement of loss in weight of solid in tap water and salty solution, the maximum loss in weight of the body is observed when -
- a) it just touches the surface of the liquid
 - b) it is completely immersed in the liquid
 - c) it is partially immersed in the liquid
 - d) no difference in loss in weight in above three cases.
34. Temporary mount of a tissue is made in :
- a) Glycerin
 - b) Alcohol
 - c) Wax
 - d) Formalin
35. The following is a typical identifying character of sclerenchyma
- a) sufficient inter cellular spaces
 - b) Thick lignified cell wall
 - c) Presence of chlorophyll
 - d) Presence of stored food
36. A student was observing a sample of adulterated Dal with Metanil yellow. What colour appears when HCl is added to the sample?
- a) Yellow
 - b) Red
 - c) Pink
 - d) Brown
37. Rohit observed the posterior part of a male cockroach in the laboratory. He made the following diagram. The missing part/parts in this diagram is
- a) Antennae
 - b) Brood Pouch
 - c) Anal Cerci
 - d) Anal styles
38. A boy brought a free floating, bright green, silky mass from the surface of a fresh water pond. He observed it under a microscope. Identify the specimen
- a) Nostoc
 - b) Spirogyra
 - c) Sargarsum
 - d) Sphagnum

39. Observe the pictures of honey bee and cockroach . The common features that assigns to same phylum is



- a) Wings
- b) three pair of legs
- c) jointed appendages
- d) antenna

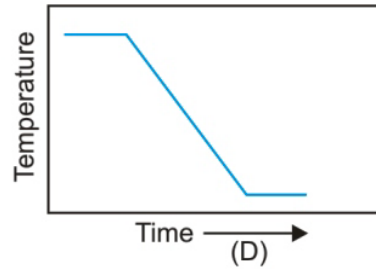
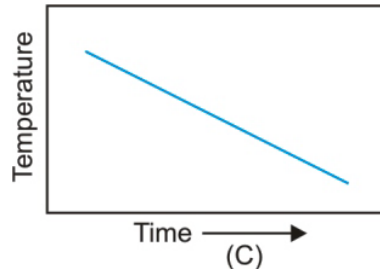
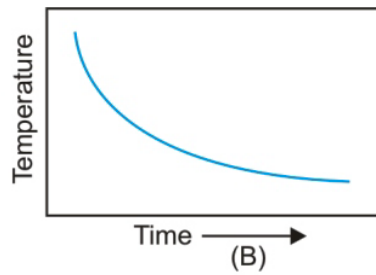
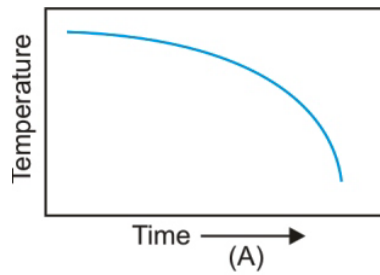
40. The water level in a measuring cylinder, before and after immersing a solid in it as show below.



The volume of given solid in cc is

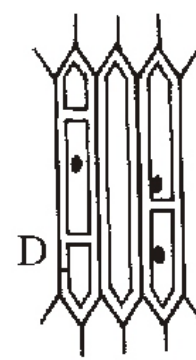
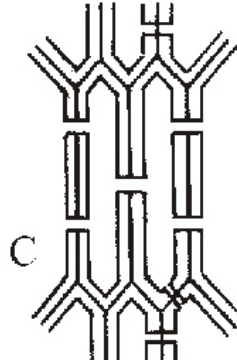
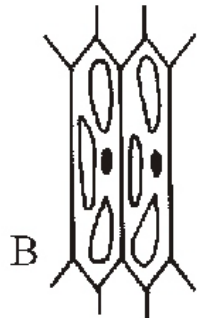
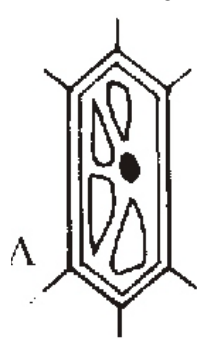
- a) 1.8
- b) 2.0
- c) 2.2
- d) 2.4

41. The temperature and time graph obtained when a hot liquid is allowed to cool, is likely to resemble graph



- a) 1.8
- b) 2.0
- c) 2.2
- d) 2.4

42. While the observing a thin section of a plant stem, four students sketched sclerenchyma as below:



The correct diagram is

- a) A
- b) B
- c) C
- d) D