

General Instructions

- (i) The question paper comprises of two Sections, A and B. You are to attempt both the sections.
- (ii) All questions are compulsory.
- (iii) Question numbers 1 to 3 in Section-A are one mark questions. These are to be answered in one word or in one sentence.
- (iv) Question numbers 4 to 6 in Sections-A are two marks questions. These are to be answered in about 30 words each.
- (v) Question numbers 7 to 18 in Section-A are three marks questions. These are to be answered in about 50 words each.
- (vi) Question numbers 19 to 24 in Section-A are five marks questions. These are to be answered in about 70 words each.
- (vii) Question numbers 25 to 33 in Section-B are multiple choice questions based on practical skills. Each question is a one mark question. You are to select one most appropriate response out of the four provided to you.
- (viii) Question numbers 34 to 36 in Section-B are two marks questions are to be answered in about 30 words each based on practical skills.

Section - A

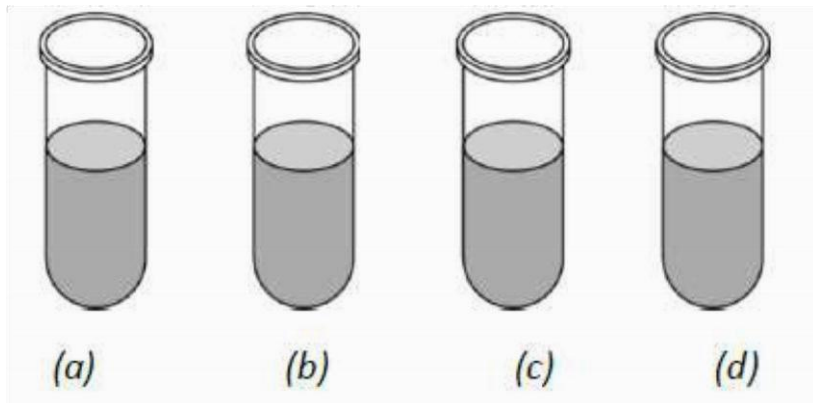
1. A substance has a definite volume but no definite shape. State whether this substance is a solid, liquid or a gas.
 2. Name the plastids which have chlorophyll.
 3. What is the resultant force of a number of balanced forces acting on body?
 4. What is the relation between the mass and the weight of the body? What are the differences between the two?
 5. State two differences between a mitochondria and plastid.
6. State the difference between homogeneous & heterogeneous mixture. Give one example of each.
7. Mention the significance of meristems in plants.

8. What is meant by concentration of a solution? Calculate the concentration of a solution which contains 12 g of urea in 160 g of solution.
9. Give reasons:
 - a) A sponge can be pressed easily; still it is called a solid.
 - b) Water vapour have more energy than water at same temperature.
 - c) Naphthalene balls disappear with time without leaving any solid.
10. Which of the following has more inertia & Why?
 - a) A rubber ball and a stone of the same size.
 - b) A bicycle and a train.
11. Two similar trucks are moving with a same velocity on a road. One of them is loaded while the other is empty. Which of the two will require a larger force to stop it?
12. State the ways in which phloem is functionally different from Xylem.
13. Two similar trucks are moving with a same velocity on a road. One of them is loaded while the other is empty. Which of the two will require a larger force to stop it?
14. Consider two bodies A and B. The body B is heavier than A. Which of the bodies is attracted with a greater force by earth? Which of the two will fall with greater acceleration? Explain.
15. Show that if a body is taken to a height H above the earth's surface acceleration due to gravity is decreased by the factor $R^2 / (R+H)^2$, Where R is the radius of the earth.
16. Give one important functional difference amongst the muscle tissues and draw a labeled diagram of the muscle tissue which never shows fatigue.
17. Which cell organelle would you associate with elimination of old and worn out cells & Why?
18. Which two factors bring about loss of food grains during storage? Give one example each. State any two control measures to be taken before grains are stored.

19. a) Account for the following:
- i) Hydrogen is considered an element.
 - ii) Water is regarded as compound.
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- b) What is the physical state of water at
- i) 250°C
 - ii) ii) 100°C ?
20. a) What is meant by evaporation? What are the factors on which the rate of evaporation depends upon?
- b) How does evaporation cause cooling?
21. Which of the following will show “Tyndal Effect” &why ?
- i) Salt Solution
 - ii) Milk
 - iii) Copper Sulphate Solution
 - iv) Starch Solution
22. a) Name the process you would use to :
- i) Recover sugar from an aqueous sugar solution.
 - ii) Separate mixture of salt solution and sand.
23. Define uniform acceleration. Derive the following equations considering uniform acceleration:
- a) $s = ut + \frac{1}{2} at^2$
 - b) $v^2 = u^2 + 2as$
24. How crop variety improvement methods come to the rescue of farmers facing repeated crop failure? Describe three factors for which they could do crop improvement.

Section B

25 Pick out a colloid from the following:



Sugar

Salt

Muddy

Milk

Solution

solution

solution

26. Which of the following has the largest inertia?

a) A pin

b) An ink pot

c) Your physics text book

d) Your body

27. Girt is formed in some fruits due to

a) Sclereids b) Parenchyma

c) Fibres d) Collenchyma

28. While preparing a temporary mount of the Cheek cells, the reason behind staining the cells is

a) To prevent the cells from dying quickly

b) To preserve them

c) To distinct them

d) To make them the organelles clearly visible.

29. In circular motion the

a) Direction of motion is fixed

b) Direction of motion changes continuously

c) Acceleration is zero

d) Velocity is constant.

30. At what temperature ice and water both exist together under normal atmospheric pressure?

a) Below 273.16 K

b) Above 273.16 K

c) At 273.16 K

d) None of these.

31. What happens when iron nails are added to copper sulphate solution:

a) The solution becomes pale green and reddish brown copper metal gets deposited.

b) The solution becomes colourless.

c) There is no reaction.

d) Copper displaces iron.

32. Which of the following substances sublimes on heating :

a) Iodine

b) Camphor

c) Naphthalene

d) All of these.

33. Shyam added two drops of iodine solution to potato extract. Which of the following represents the correct observation made by Shyam?

a) Colour of extract change to black

b) Colour of extract change to brown

c) Colour of extract change to brown black

d) Colour of extract change to blue black

34. Radha had a function at her home. It was to start with Hawan. Her father told her to bring the materials that they had bought from the market two days ago. She brought all the materials to the Hawan site. It also contained a packet of camphor.

To her surprise the camphor packet was empty.

a) Why did the camphor disappear? What is this property known as?

b) Define this property.

c) Explain with the help of diagram how we purify the substance showing this property.

35. Mention the type of thermometer that should be used to determine the melting point of ice in laboratory. What should be the position of bulb of thermometer?
36. A student added water to sand and starch in different test tube. How will you differentiate between the two on the basis of transparency?

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