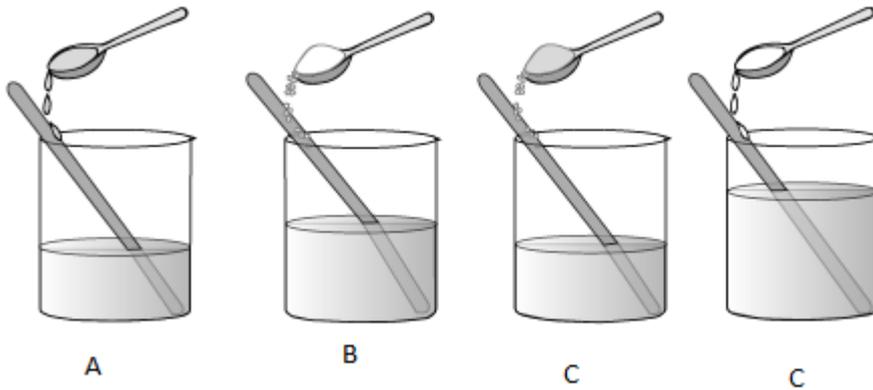


- 25] To determine the melting point of ice a student immersed the thermometer in the crushed ice in a beaker. He then heated the beaker on a low flame and observed that during melting of ice the temperature :
- A. Is decreasing
  - B. First decreases and then continuously increases
  - C. Is increasing
  - D. Remains constant ✓
- 26] In the mixture of iron filings and sulphur powder
- A. both sulphur powder and iron filings gets attracted towards magnet
  - B. only sulphur powder gets attracted towards magnet
  - C. Neither iron filling nor sulphur gets attracted towards magnet.
  - D. only iron filings gets attracted towards magnet ✓
- 27] When a mixture of sulphur powder and iron filings is heated.
- A. iron filings starts melting
  - B. sulphur sublimates leaving iron filling behind
  - C. sulphur melts
  - D. Ferrous sulphide is formed. ✓
- 28] A student added milk, white of an egg, common salt and sand separately to water kept in four separate beakers. He stirred the mixtures well and filtered each of them. On filtering, he obtained solid residue on the filter paper in case of :
- A. Milk
  - B. White of an egg
  - C. Common salt
  - D. Sand ✓
- 29] A student sets up an apparatus for determining the boiling point of water. He records the temperature after regular intervals and finds that water when it begins to boil:
- A. Continuously rises
  - B. First remains constant and then rises

- C. Remains constant
- D. First rises and then becomes constant ✓

30] The following substances are added to water in a beaker as shown below. The mixture is stirred well. A true solution is found in the beaker.



- A. C
- B. D
- C. A
- D. B ✓

31] A mixture of marble powder, common salt and ammonium chloride well shaken in water and then filtered. The residue left on the filter paper will be :

- A. Ammonium chloride
- B. Ammonium chloride and marble powder.
- C. Common salt
- D. Marble powder ✓

32] Mixture of ammonium chloride and salt can be separated by :

- A. Dissolving the mixture in carbon disulphide
- B. Moving a magnet through the mixture
- C. Dissolving in water and evaporation
- D. Heating the solid mixture in a china dish covered with inverted funnel ✓

33] A man pushes on a wall out of frustration with a force of 30 Newton. What force does the wall exert on the man?

- A. 60 N
- B. 15 N
- C. 0 N
- D. 30 N ✓

34] Action and reaction forces are always:

- A. Unequal and in same direction.
- B. Equal and in same direction.
- C. Unequal and in opposite direction
- D. Equal and in opposite direction ✓

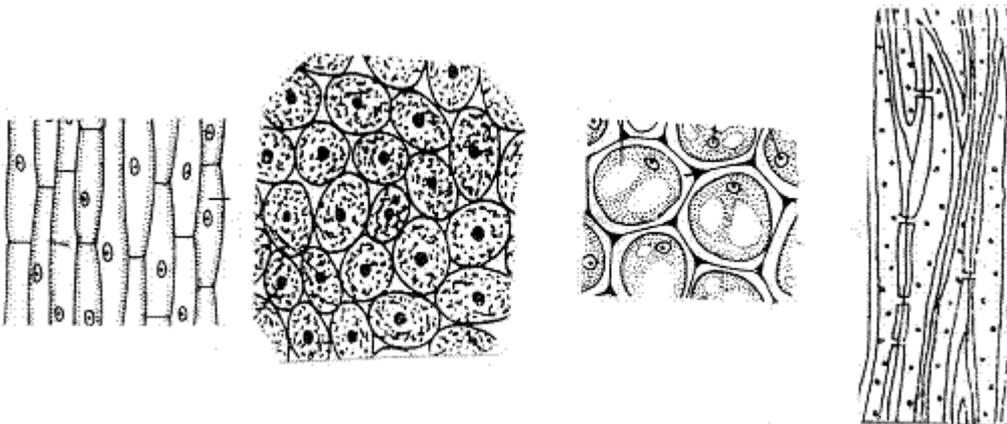
35] To prepare a temporary stained mount of onion peel, a student must take the material from:

- A. Green leaf of spring onion
- B. Crushed pulp of onion
- C. Dry scale leaf of onion
- D. Thin layer of fleshy leaf base of onion ✓

36] A student was asked to mix the white of an egg with water and stir well. The student observed that

- A. a transparent solution is formed.
- B. a translucent mixture is formed.
- C. egg white settles down at the bottom.
- D. egg white floats on the surface.

37] The correct figure of Sclerenchyma tissue is



- A. (ii)
- B. (iii)
- C. (i)
- D. (iv) ✓

38] In the preparation of a temporary mount of onion peel the commonly used stain is:

- A. Methylene blue
- B. glycerine
- C. Iodine solution
- D. Safranin ✓

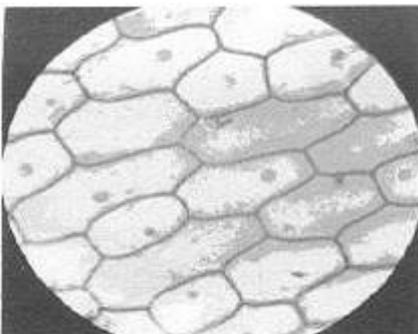
39] The characteristic features to identify a nerve cell are:

- A. Red colored, biconcave disc shaped enucleated cells.
- B. Spindle shaped cell with a big central nucleus.
- C. Round or oval cells with blobbed nucleus and cytoplasmic granules.
- D. Cell body with branched cytoplasmic extensions at one ends and a long projection at the other end. ✓

40] Human cheek cells stained in methylene blue and mounted in glycerin were observed with the help of a compound microscope. The components of the cell which would be seen are"

- A. Plasma membrane, cytoplasm, nucleus, mitochondria
- B. Cell wall, plasma membrane, cytoplasm, nucleus
- C. Cell wall, cytoplasm, nucleus
- D. Plasma membrane cytoplasm , nucleus ✓

41] A teacher focused the slide given below under a compound microscope. Which of the following students identified it correctly?



- A. Madhu identified it as squamous epithelium.
- B. Sheela identified it as cheek cells.
- C. Balaji identified it as parenchyma.
- D. Shanti identified it as onion peel. ✓

42] Animal cells are commonly stained with :

- A. acetocarmine
- B. iodine solution
- C. safranin
- D. methylene blue ✓

### Solution & Explanation

- 25] The temperature remains constant since the heat is used up in overcoming the forces of attraction between the particles.
- 26] Only iron filings gets attracted towards magnet because of the magnetic properties of iron.
- 27] Ferrous sulphide is formed
- 28] Sand since it is immiscible with water and is separated by filtration.
- 29] First rises and then becomes constant. As soon as the boiling point is reached; the temperature becomes constant and doesn't rise as now the heat is used up in converting the liquid to vapour.
- 30] B since sugar dissolves completely in water to form a true solution.
- 31] Marble powder since common salt dissolves in water and ammonium chloride being volatile in nature gets evaporated to vapours.
- 32] Heating the solid mixture in a china dish covered with inverted funnel since ammonium chloride being a volatile compound sublimes leaving behind the salt.
- 33] In accordance with newton's 3rd law of motion, the wall also exerts an equal and opposite force on the man i.e. 30 N
- 34] Action and reaction forces are always equal and opposite.
- 35] To prepare a temporary stained mount of onion peel, a student must take the material from thin layer

of fleshy leaf base of onion.

**36]** B;

Because collenchyma tissues have cells thickened at the corners and have little intercellular space.

**37]** Sclerenchyma tissues are long with thickened cell walls due to the deposition of lignin.

**38]** Safranin; Because it stains the plant cell nucleus.

**39]** Cell body with branched cytoplasmic extensions at one end and long projection at the other end; The branched cytoplasmic extensions at one end are called dendrites and a long projection at the other end is called axon.

**40]** Plasma membrane, cytoplasm, nucleus. Human cheek cell is an animal cell which shows clearly plasma membrane, cytoplasm and nucleus when mounted on a slide.

**41]** Shanti identified it as onion peel.

Because the dark stained nucleus and cell wall is seen.

**42]** methylene blue; Methylene blue is used to stain animal cells to make nuclei more visible.

SET-2

**25]** Which of the following compounds when dissolved in water gives colored solution?

- A. barium chloride
- B. sugar solution
- C. sodium chloride
- D. copper sulphate ✓

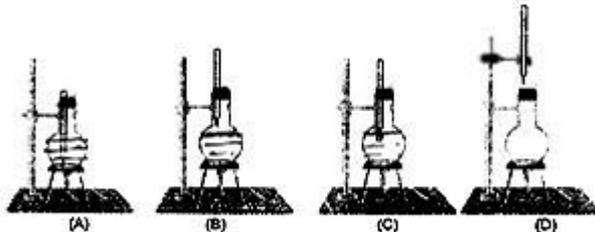
**26]** A student was asked to mix the white of an egg with water and stir well. The student observed that

- A. A transparent solution is formed.
- B. Egg white settles down at the bottom.
- C. Egg white floats on the surface.
- D. A translucent mixture is formed. ✓

**27]** The mixture of sand and water when filtered gives.

- A. pale brown solution
- B. brown solution
- C. grey solution
- D. transparent solution ✓

28] Observe the diagram carefully. Which is the correct setup of the thermometer for measuring the boiling point of water?



- A. A
- B. B
- C. D
- D. C ✓

29] Which of the following pass through filter paper unchanged?

- A. soil and water
- B. both (a) and (b)
- C. none of them
- D. common salt and water ✓

30] Sublimation can be used to separate :

- A. volatile liquids from non - volatile liquids solids
- B. Volatile liquids from non - volatile solid.
- C. all of these
- D. volatile solids from non – volatile liquid ✓

31] Colloidal solution is where both the dispersed phase and the dispersion medium are liquid.

Its example is:

- A. Butter

- B. Shaving cream
- C. Starch solution in water
- D. Milk churned with water ✓

**32]** Ferrous sulphide is formed :

- A. by heating iron filings with sulphuric acid
- B. by the reaction of mixture of iron filings and sulphur with dilute hydrochloric acid
- C. by the reaction of iron with hydrogen sulphide gas
- D. by heating iron filings with sulphur

**33]** If the action is of 6 N, then the reaction will be:

- A. 6 N in the same direction.
- B. 12 N in the opposite direction.
- C. 12 N in the same direction.
- D. 6 N in the opposite direction. ✓

**34]** Rockets work on the principle of which of Newton's Laws?

- A. First Law of Motion
- B. Second Law of Motion
- C. None of these.
- D. Third Law of Motion ✓

**35]** The main function of sclerenchyma is:

- A. Storage of food
- B. To provide buoyancy in water
- C. Photosynthesis
- D. To provide mechanical strength ✓

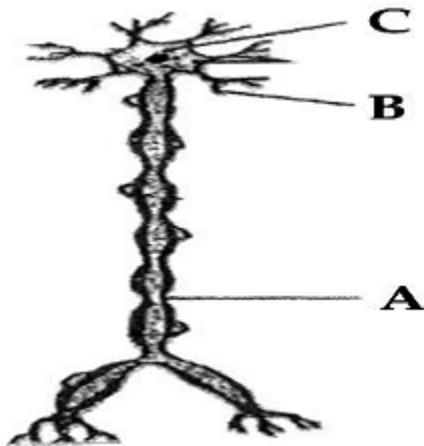
**36]** While observing an onion peel slide under the microscope. Rita noted the following characteristics :

- A. Presence of single nucleus in a cell
- B. Cells attached edge to edge without intercellular spaces

# JSUNIL TUTORIAL

- C. Presence of cell wall around each rectangular cell
- D. All of these ✓

37] The following diagram given the structure of a cell. Identify respectively the part labeled as A, B and C.



- A. Axon, Nucleus, Cytoplasm
- B. Nucleus, Axon, Cytoplasm
- C. Dendrites, Axon, Cytoplasm
- D. Axon, Dendrite, Cytoplasm ✓

38] Which of the following will turn black when iodine solution is poured over it?

- A. Boiled egg white
- B. Butter
- C. Sugar
- D. Potato extract ✓

39] Cells are stained to :

- A. Help in cell multiplication
- B. Nourish the cell
- C. Make the cell turgid
- D. Highlight the cell organelle ✓

40] Aditi observed following observations while looking into a permanent slide.

- (i) Cells are long and cylindrical
- (ii) Light and dark bands are present.

It could be a slide of :

- A. neuron
- B. parenchyma cells
- C. smooth muscle fibre
- D. striated muscle fibre ✓

**41]** Cells with evenly thickened, hard, lignified walls are :

- A. parenchyma
- B. collenchyma
- C. striated muscle cells
- D. Sclerenchyma ✓

**42]** Meena purchased a packet of arhar dal from a store. For testing the presence of metanil yellow in dal she should use :

- A. NaCl
- B. iodine solution
- C. safranin
- D. HCl ✓

Explanation and Solution for SET-2

**25]** Copper sulphate gives a blue coloured solution since it is a coloured salt whereas barium chloride and sodium chloride are white salts and sugar solution is transparent.

**26]** Egg white forms a colloid.

**27]** The mixture gives a transparent solution since sand being insoluble in water separates out giving a clear solution of water.

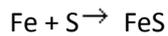
**28]** C; the thermometer must be dipped in the water level and should be close to the middle of the water level.

**29]** Common salt and water since common salt completely dissolves in water to form a true solution.

**30]** volatile solids from non - volatile solids since on heating the volatile solid will sublime and get converted to gaseous state leaving behind the non-volatile solid.

**31]** Milk churned with water since milk and water both are in liquid state.

**32]** by heating iron filings with sulphur



**33]** 6 N in the opposite direction.

**34]** Third Law of Motion

**35]** The dead sclerenchyma provides mechanical strength to the plant.

**36]** All of these;

All these are the characteristics of plant cells.

**37]** Axon, Dendrite, Cytoplasm

A is axon which is long, single, tube like structure.

B is dendrite which is hair like structure arising from the cell body.

C is cytoplasm which is filled in the cell body.

**38]** Potato extract;

Because potato extract is starch which turns black when iodine solution is poured over it.

**39]** Highlight the cell organelle; Different stains are used to stain the cells to highlight the cell organelles.

**40]** striated muscle fibre;

Striated muscle fibres have long, cylindrical cells with striations i.e. light and dark bands.

**41]** Sclerenchyma;

Sclerenchyma cells have thickened, hard and lignified walls.

**42]** HCl;

Because HCl reacts with metanil yellow to produce pink colour.

**SET-3 [9<sup>th</sup> Biology only]**

**1. Which reagent gives blue colour with starch?**

- a. safranin
- b. methylene blue
- c. iodine
- d. eosin

**2. starch solution gives blue colour with iodine solution. What will happen if the blue colour starch solution is boiled?**

- a. blue colour disappears
- b. no change
- c. a brick red colour appears

d. blue colour becomes dark

**3. Which food sample you will select to test the presence of starch?**

- a. grape
- b. coconut
- c. gram seed
- d. potato

**4. Which of the following gives blue colour with iodine?**

- a. sago powder
- b. powdered sugar
- c. common salt
- d. chalk powder

**5. What colour appears if HCl is added to adulterated arhar dal with metanil yellow?**

- a. Yellow
- b. pink
- c. blue
- d. red

**6. X washed small amount of arhar dal in small amount of water. The water became yellow. He put a few drops of HCl in a test tube containing yellow water. The sample turned pink. This shows that**

- a. dal is not adulterated
- b. dal contains protein
- c. dal is adulterated with metanil yellow
- d. dal is coloured with turmeric

**7. Iodine gives blue-black colour with**

- a. protein
- b. oil
- c. starch
- d. sucrose

**8. The colour of arhar dal which is adulterated with metanil yellow, is**

- a. plain yellow
- b. sunshine yellow
- c. chrome yellow
- d. brilliant yellow

**9. Adulterant arhar dal is plain yellow in colour due to**

- a. turmeric

- b. sulphur powder
- c. metanil yellow
- d. chrome yellow

10. when iodine is added to starch solution, following colour appears

- a. brick red
- b. magenta
- c. blue-black
- d. green

11. Metanil yellow, an adulterant used in arhar dal is basically

- a. an acid
- b. a detergent
- c. a dye
- d. none of the above

12 Following are the 4 operations for testing presence of starch in rice (i) put few rice grains in a test tube (ii) add few drops of iodine solution (iii) add water in the test tube (iv) boil the test tube and filter the content. The correct sequence is

- a. i ii iii iv
- b. i iii iv ii
- c. i ii iv iii
- d. i iii ii iv

13 Given below are 4 operations for testing metanil yellow in arhar dal. (i) make powder of 5g of dal and put it in a test tube. (ii) add 2-4 drops of conc. HCl. (iii) Filter the content and keep the filtrate separately. (iv) add 10 ml of water and shake well. The correct sequence is

- a. i iii ii iv
- b. i iv iii ii
- c. i ii iii iv
- d. i ii iv iii

14. X was rushing with a bottle of iodine solution. Some iodine solution splashed on his yellow coloured cotton shirt and also on the white table cloth. The stain on the table cloth was yellowish brown while that on his shirt was blue black. The most plausible scientific reason for this is that the

- a. shirt was dyed with metanil yellow
- b. shirt was starched after washing
- c. table cloth was starched but not shirt
- d. shirt had absorbed sweat

**Answers:-**

## EXPERIMENT NO - 3

1	2	3	4	5	6	7
c	a	d	a	c	c	c
8	9	10	11	12	13	14
a	c	c	c	b	b	b