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PRINCIPLES OF EVALUATION  
SUMMATIVE ASSESSMENT - I - 2016-2017.  
GENERAL SCIENCE - PAPER - II  
BIOLOGY - ENGLISH VERSION  
PART A & B - KEY SHEET.

CLASS: IX

MAX MARKS: 40.

PART-A  
SECTION - I.

NOTE :  $\otimes$  SECTION I CONTAINS 4 ANSWERS.  
 $\otimes$  EACH ANSWER 1 MARK.  
 $\otimes$  ANY RELEVANT ANSWER MAY BE AWARDED MARKS, AS PER THE LEVEL OF UNDERSTANDING.

- (1) a) MITOCHONDRIA -  $\langle \frac{1}{2} m \rangle$   $(4 \times 1 = 4)$   
b) CHLOROPLAST -  $\langle \frac{1}{2} m \rangle$
- (2)  $\otimes$  In blood, Platelets helps in the formation of blood clot.  $\langle \frac{1}{2} m \rangle$   
 $\otimes$  The clot seals the wound in blood vessels and Prevents blood loss.  $\langle \frac{1}{2} m \rangle$ .
- (3) We can observe the Onion peel under Microscope.  
i) cell wall ii) Nucleus iii) Cytoplasm. (ANY 2 ANSWERS CARRIES 1 MARK)
- (4) The Thumb impression and iris differs person to person, Hence both patterns are used in identity cards.  $\langle 1 m \rangle$

## SECTION-II

(5x2=10)

NOTE :- Section II contains 5 answers, each carries 2 marks.

- (5) a) chlorophyll. - <1m>  
 b) Beta carotene - <1m>

- (6) a) DIFFUSION : The process of movement of substances from the region of higher concentration to lower concentration is called diffusion. <1m>

- b) Osmosis : Osmosis occurs when two solutions of different concentrations are separated by a semi-permeable membrane. <1m>

- (7) QUIZ QUESTIONS ON CLASSIFICATIONS: QUESTIONS 2 MARKS
- i) Who introduced the classification for the first time? <1m>  
 ii) According to Whittaker, the living organisms are divided into how many kingdoms? <1m>

- (8) DERMAL TISSUE: <ANY 2 POINTS 2 MARKS>

- i) Dermal tissue have lost the capacity of cell division  
 ii) They do not have intercellular spaces.  
 iii) It covers the outside of the plant and protect the plant from injury and water loss.

(3)

(9) SLOGANS:

&lt;ANY 2 SLOGANS 2 marks&gt;

- i) Want nature's resources FREE?  
Grow more and more TREES.
- ii) Waste water today,  
Live in desert tomorrow.
- iii) A tree that stay,  
keeps floods away.
- iv) Think Green and Live Green.

## SECTION- III.

NOTE: INTERNAL CHOICE ANSWERS 4.

(\*) EACH ANSWER CARRIES 4 MARKS.

(10) DIFFERENCES: (a) XYLUM and PHLOEM.

2 marks

## XYLUM

1. Transports water and mineral from roots to the other parts of the plant.

2. It is composed of tracheides, vessels, xylem parenchyma and xylem fibers.

## PHLOEM

1. Transports food from leaves to the other parts of the plant.

2. It is composed of Sieve tube sieve plates, phloem parenchyma and phloem fibers.

(b) MERISTEMATIC TISSUE

- ① Meristematic tissue have the capacity to divide. (cell division).
- ② They do not have intercellular spaces.
- ③ They are responsible for the primary and secondary growth of the plants.

< ANY 2 POINTS CARRIES 2 marks >

DERMAL TISSUE:-

- ① Dermal tissue lost the capacity of division. (cell division).
- ② Do not have intercellular spaces.
- ③ It covers the outside of the plant and protect ita the plants.

< OR >

PROPERTIES OF PLASMA MEMBRANE: (Each point carries 1 mark)

- (\*) Plasma membrane is made up of lipids and proteins.
- (\*) It is outermost delicate elastic membrane of the cell which separates the external environment from the protoplasm is known as plasma membrane.
- (\*) It provides a definite shape to semi-fluid contents of the cell.
- (\*) Plasma membrane allows certain materials to pass through it and it will not allow certain materials to pass through. It is called Semi permeable membrane.

MATERIALS REQUIRED:- 1 mark  
PROCEDURE WITH DIAGRAM:- 2 marks  
RESULT :- 1 mark  
TOTAL :- 4 marks

(5)

(ii) To CONDUCT THE EXPERIMENT IN CLASS ROOM:-

MATERIALS REQUIRED:- One Raw Potato, One boiled potato,  
2 small Beakers/Bowls, two pins, water, Sharp knife,  
Saturated Solution (Sugar) → (-1 mark).

PROCEDURE:- (With Diagram) → (2 marks)  
~~~~~ The raw and boiled potato were taken, the skin

\* The raw and boiled potato were taken, the skin  
is peeled off.

\* The cube shaped cubes made from both the  
potatoes.

\* Saturated sugar solution was prepared, and poured  
in both the cubes and the level of the solution is  
marked with pins.

\* The arrangement is kept in a glass bowls separately,  
water is poured into the bowls till the half of the  
height of the potato cubes.

\* Ensured, that potato cubes does not float or  
submerged in water.

\* The arrangement was left for half an hour, then  
the observation of level of sugar solution inside the  
cubes were noted. → (1 mark)

RESULT:-

\* water moves towards sugar solution is called 'osmosis'  
\* i.e. from less solute concentrated to more solute  
concentration.

(6)

(II) To OBSERVE MERISTEMATIC TISSUE:-

THINGS REQUIRED:- Transparent plastic glass, filled with water, and Onion bulb - Slightly larger than the mouth of the glass. (- 1 mark)

PROCEDURE :- (- 2 marks)

④ Transparent plastic glass is taken and the bulb of the onion is fixed to the mouth of the glass, care is taken that to touch the water to the roots of the onion bulb.

④ The growth of the roots observed for few days, till they grow an inch.

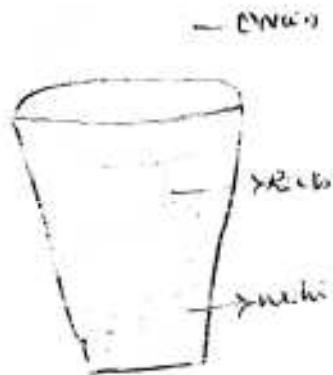
④ Roots are cut from the onion, section cutting is done and placed on the slide.

④ Observed under the microscope.

OBSERVATION :-

④ OBSERVED THE CELLS IN ROOT - Cells are present in groups and similar in structure, they are in the tip of the root. (- 1 mark)

④ The tissue that brings about overall growth and repair one called MERISTEMATIC TISSUE.



(7)

(12)

$$4 \times 1 = 4$$

- (a) SHIRISHA, KAVITHA
- (b) SHIRISHA, SRAVANI
- (c) KAVITHA, <She belongs to AB<sup>+</sup> group blood>
- (d) O<sup>-</sup> blood group.

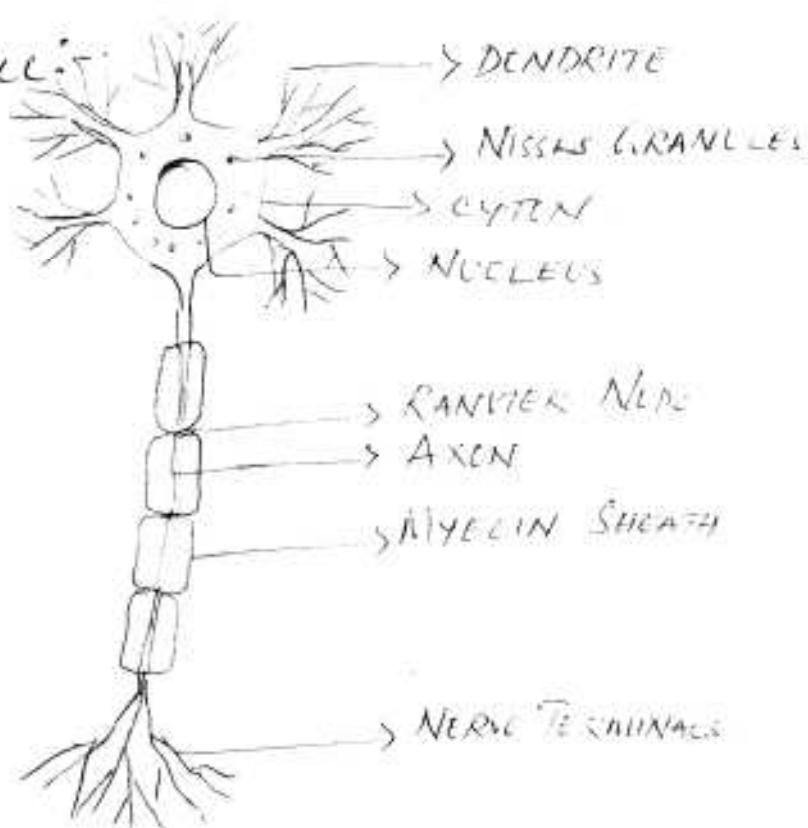
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$$4 \times 1 = 4$$

| NAME OF THE<br>SEED | DIVIDED IN TO TWO | MENOCOT | DICOT. |
|---------------------|-------------------|---------|--------|
|                     | Not Possible      |         |        |
| Black Gram          | Divided into two  |         | ✓      |
| WHEAT               | Not Possible      | ✓       |        |
| MAIZE               | Not Possible      | ✓       |        |
| TAMARIND            | Divided into two  |         | ✓      |

(13)

NERVE Cell:

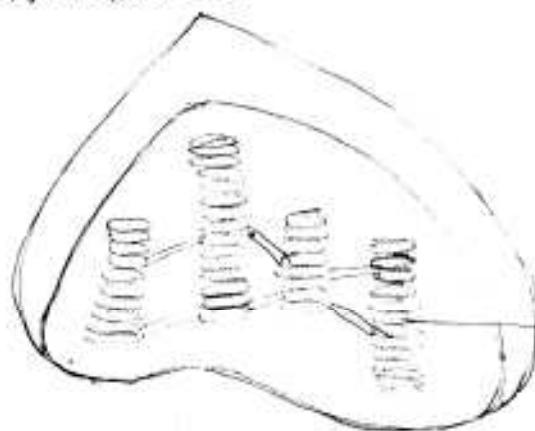


(3)

(OR)

(5)

### CHLOROPLAST



A THYLAKOID

< EACH ANSWER CARRIES  
1 mark >

$$4 \times 1 = 4.$$

① CHLOROPLAST

② In plant cells

③ Grana Thylakoid, Stroma

④ With the help Chloroplast, plants transform light energy into chemical energy and carry out photosynthesis.

### PART B

EACH ANSWER  $\frac{1}{2}$  MARK

$$20 \times \frac{1}{2} = 10 \text{ MARKS}$$

11) B

24) C

12) B

25) B

13) B

26) B

14) A

27) C

15) C

28) A

16) TENDON - B

29) D

17) Basophil, C

30) C

18) A

31) B

19) L

32) D/C

20) A

33) A