

**HALF-YEARLY EXAMINATION-2020-21**  
**BIOLOGY**  
**CLASS-IX**

**Time:2hrs**

**M.M.80**

Note: You will not be allowed to write first fifteen minutes. This time is to be spent in reading the question paper. The time given at the head of this paper is the time allowed for writing the answers. The intended marks for questions are given in brackets. Answer all the questions from section A and any four from section B.

SECTION-A

(40 MARKS)

Attempt all questions from this section.

1.a) Name the following:

(5)

- i) Plant containing filaments that are united in two bundles.
- ii) Cell organelle hydrolytic in function.
- iii) A chemical used in experiments, which absorbs oxygen.
- iv) The layer of endosperm rich in protein.
- v) The end product of glycolysis.

b) Complete the paragraph given below by filling the correct option from those given in the brackets (ATP, ADP, respiration heat, chemical, glycolysis)

(5)

The energy liberated by the breakdown of glucose molecule is not completely in the form of \_\_\_\_\_ but a part of it is converted into \_\_\_\_\_ energy in the form of \_\_\_\_\_. When this energy is used up, it gets converted into \_\_\_\_\_.

The breakdown of glucose is called \_\_\_\_\_.

c) Find the odd one out:

(5)

- i) style, stigma, anther, ovary
- ii) Golgi bodies, leucoplast, nucleolus, cambium
- iii) cartilage, areolar, adipose, squamous
- iv) Hibiscus, sunflower, Vallisneria, pea
- v) Mitochondria, chloroplast, ribosome, cilia

d) State the main function of the following: (5)

- i) Golgi bodies
- ii) sclerenchyma
- iii) Nectaries
- iv) Micropyle
- v) carbolic acid

e) Mention the exact location of the following: (5)

- i) cambium ii)nectaries      iii)nucellus    iv) squamous epithelium    v) lenticels

f) Differentiate between the following pairs: (5)

- i) plastids & lysosomes
- ii)meristematic tissue & permanent tissue
- iii)polyandrous & polyadelphous
- iv) Dichogamy & herkogamy
- v) Hypogeal & epigeal

g) Choose the correct answer from each of the option given below: (5)

1. Plant cell lacks

- A) Centrosome      B)Mitochondria    C) Plastids    D) nucleus

2. Girth of the stem increases due to

- A) Apical meristem      B)Lateral meristem    C)Intercalary meristem    D) Vertical meristem

3. Which of these is essential part of the flower

- A)Anther      B) calyx      C) petal      D) sepal

4.Maize is pollinated by

- A)Bird      B)wind      C)bees    D) Water

5.The net gain of energy from one gram mole of glucose during aerobic respiration is

- A)2 ATP      B) 4 ATP    C) 38 ATP    D) 40 ATP

h) State whether the following statements are true(T) or false(F) (5)

- a) Plant cells contains large vacuoles.T/F
- b) The cell wall is made up of protein.T/F
- c) centrosome occurs in animal cell.T/F
- d) Genes are located on ribosomes.T/F

e) All animal cells contain a cell wall. T/F

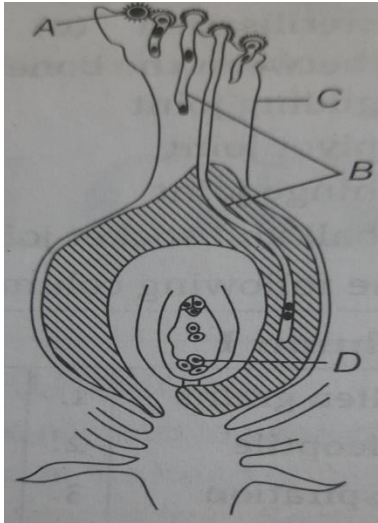
## SECTION-B

(40)

Attempt any four questions from this section

2. a) The figure given below shows germination of pollen grains on the stigma

(5)



i) Label parts A-D.

ii) Describe the event that occurs in the ovule.

iii) What is the fate of the ovary and ovule after fertilization?

b) What are the advantages of the following in a flower to the plant concerned?

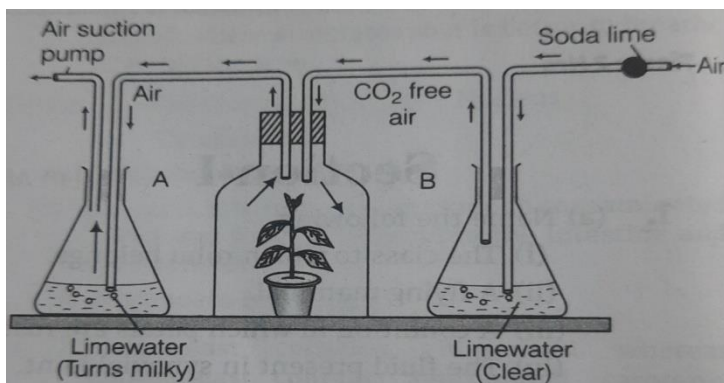
(5)

- i) Long and feathery stigma
- ii) Brightly coloured petals
- iii) Smooth and light pollen
- iv) Fragrant nectar
- v) Protruding and easily movable anthers.

3. a) The given apparatus demonstrates a particular process occurring in plants. Observe it and answer

(5)

The questions that follow:



i)Name the process shown in experiment.

ii)State the objective of experiment.

iii)What is the purpose of soda lime.

iv)Give an overall balanced chemical equation to represent the process.

b) Name the following

(5)

i)A monocotyledonous endospermic seed

ii)A chemical used in experiment which absorb oxygen

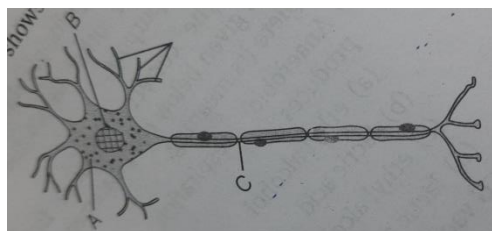
iii)Part of plumule above the embryonic axis of seed

iv)A seed with folded plumule leaves

v)A plant which shows viviparous germination.

4. a)The figure shows a kind of cell

(5)



i)Name the cell .

ii)To which system does it belong.

iii) Label the part A-C.

iv) State one function of it.

b) Name the kind of tissue found.

(5)

i)At the tip of plant roots.

ii) In the inner lining of intestine.

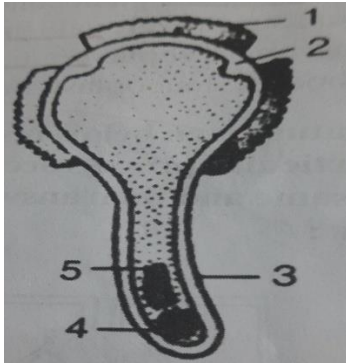
iii) At the joints between the two long bones.

iv) As gritty masses in the skin of pears.

v) In the cortex and pith of stem.

5. a) Study the given diagram and answer the question that follows :

(5)



i) Identify the diagram . Where does this process take places?

ii) Label the part 1 to 4.

iii) What is the function of the part labelled 4 ?

iv) What happens to the part labelled 5 during the process .

b) Give the example of the following ?

(5)

i) A fibrous connective tissue.

ii) A dicot exalbuminous seed.

iii) A neuter flower.

iv) A largest cell .

v) Conducting tissue in plant.

vi) A plant with prominent nectaries .

vii) An elephophilic plant.

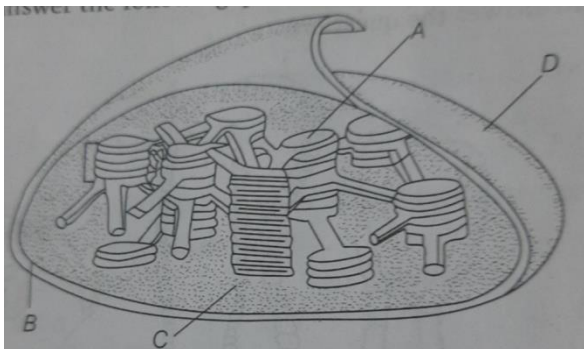
viii) A chemical which absorb  $\text{CO}_2$ .

ix) End product of anaerobic respiration .

x) A chemical used as food preservative.

6. a) Study the figure and answer the following questions.

(5)



i) Identify the cell organelle .

ii) Label the parts A-D.

iii) State one function and location of this organelle.

b) i) Draw a neat and labelled diagram of a plant cell.

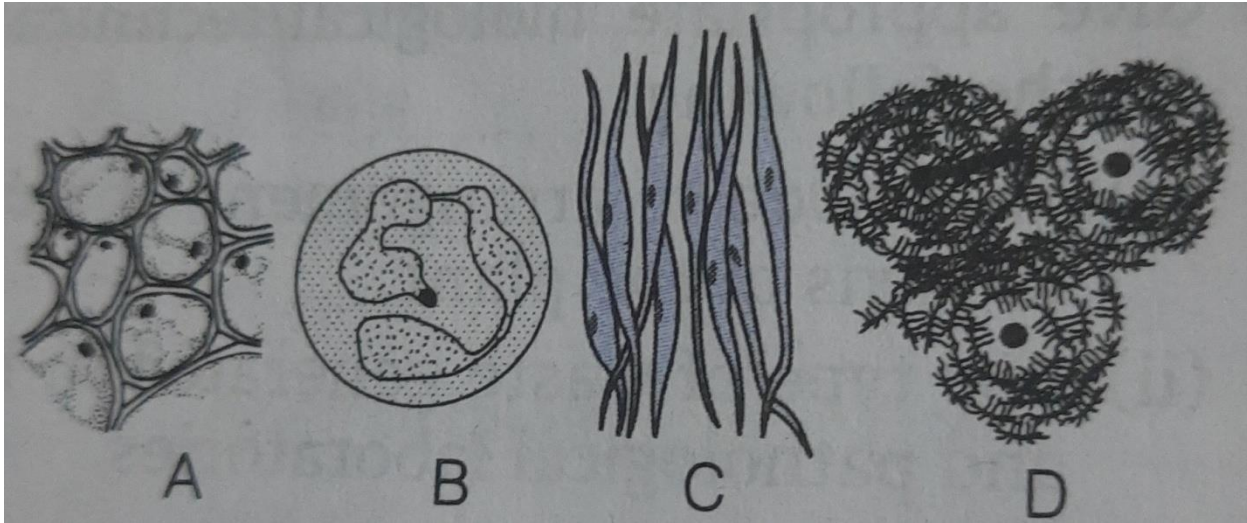
(5)

ii) Based on the diagram drawn above (i) , give a suitable term for each of the following descriptions.

- 1) Site of protein synthesis .
- 2) Cell organelle that is absent in plant cell.
- 3) The supporting framework of the cell.

7. a) Given below are four living structures . Study the same and answer the question given below.

(5)



i) Name the structures A, B, C & D.

ii) State the living cells in structure 'D'.

iii) Name the fluid in which the structure 'B' is found.

iv) What is the function of structure 'C'.

b) Differentiate between :

(5)

i) RBC and WBC.

ii) Plant cell and animal cell.

iii) Hermogamy and heterostyly.

iv) Toxoids and antitoxin.

v) Tendon and ligament.

