

Diyank
Panchal

QUARTERLY EXAMINATION-2017-2018
BIOLOGY

Time : 2hrs

Class - IX Std

MM. 90

Note - Attempt all the questions from section - I and any 4 questions from section - II. The intended marks for the questions or part of questions are given in brackets.

Section - I [40 - Marks]

Question 1.

A. Name the following:

[8]

- i) The fluid present in the vacuoles.
- ii) Thin, hair like projections present at the free ends of cuboidal epithelium.
- iii) An unorganized, undifferentiated mass of cells.
- iv) Enzyme that helps in cutting and isolating a gene.
- v) The expanded portion at the tip of the stalk that bears the floral parts.
- vi) Stigmas of a flower mature before the anthers of the same flower.
- vii) A fruit that develops without fertilization.
- viii) Fusion of a gamete with two polar nuclei.

B. Fill in the blanks:

[8]

- i) Apple is a _____ fruit.
- ii) _____ refers to pollination in the same flower.
- iii) _____ flower can be divided into two equal parts in one plane only.
- iv) An organism having artificially inserted gene in its DNA is called _____ organism.
- v) _____ is a science of using microorganisms, animals, plants and their products for use of human beings.
- vi) _____ contains the necessary nutrients in the plant tissue culture.
- vii) _____ protects the plants and has Stomata.
- viii) Peroxisomes help in the process of _____ in leaves.

C. State whether the following statements are true or false. If false, rewrite the correct statement.

[6]

- i) Xylem is a type of simple tissue.
- ii) Cytosine and Guanine are the Pyrimidine type of nitrogen bases.
- iii) In grafting, the root system is of scion.
- iv) DNA ligase helps in cutting and isolating a gene.
- v) The condition where the petals are free from one another is polypetalous condition.
- vi) Zygote is the term given to a fertilized egg.

D. Choose the odd one out in each of the following and give reason also.

[6]

- i) Mitochondria, Centrosome, Lysosome, Ribosome.
- ii) Epithelial tissue, Bone, Blood, Ligament.
- iii) Grafting, Layering, micro propagation, cutting.
- iv) Rose, Pisum, Plum, Sun flower.
- v) Vallisneria, maize, grasses, date palm.
- vi) Tracheid, companion cells, vessels, xylem parenchyma.

E. Write the functions of the following:

[4]

- i) Lysosome
- ii) Adipose tissue
- iii) Thalamus
- iv) Stigma

F. Write full form of the following :

[2]

i) GMO

ii) E.coli

G. Differentiate between:

[6]

i) Vegetative propagation and sexual reproduction

ii) Tendons and ligaments

iii) Self-pollination and cross pollination

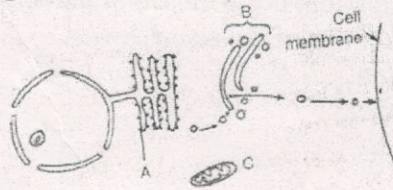
SECTION-II [50-Marks]

(Any four)

Question 2.

A. Given below is a diagram of an animal cell showing the path of protein produced:-

[5]



i) Identify the organelle A

ii) Identify the function of organelle B with reference to part A

iii) Which organelle shown in the above diagram is capable of bringing oxidation of food?

B. The following list contains three cells and five cell organelles:

[7.5]

Name of the cell

Name of organelles

a. cheek cells

A. cell membrane

b. leaf cell

B. Chloroplast

c. Human muscle cells

C. Nucleus

D. cell wall

E. Mitochondria

i) Which of the above cells contains all the cell organelles?

ii) Which of the above cell would have abundance of organelle E?

iii) Name one organelles not common to cell a and b.

iv) List one important function of organelle B and organelle D.

v) Name one organelle not mentioned in the list above that will be present in cell 'a' and not in cell b.

Question 3

A. Study the diagram given below and answer the following question given.

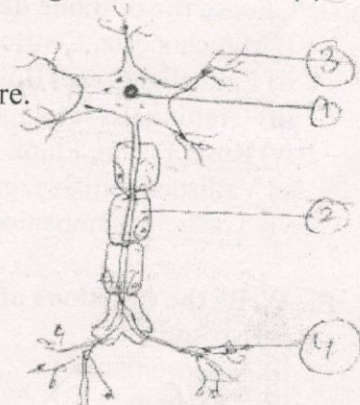
(6)

i) Identify the parts labeled as 1 to 4

ii) Identify the diagram drawn alongside.

iii) Write the function performed by the structure drawn in the figure.

iv) Write the location of the structure in human body.



B. i) Define micro propagation

ii) Write two uses of micro propagation

iii) Name two plants propagated by micro propagation.

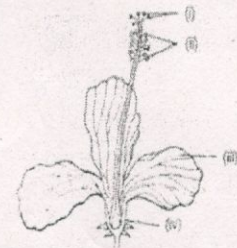
(6)

Question 4.

- A) I. Give the role of the following in DNA technology (3)
i) Restriction enzyme ii) DNA ligase
- II. List three important applications of plant genetic engineering (4)
- B) Put the following events in the correct sequence in genetic engineering. (5)
- Bacteria with the recombinant DNA. - (v)
 - Cutting a segment of gene. - (ii)
 - Plasmid of bacteria taken out. - (iii)
 - Joining the gene with other DNA. - (iv)
 - Bacteria producing desired product. - (i)

Question 5.

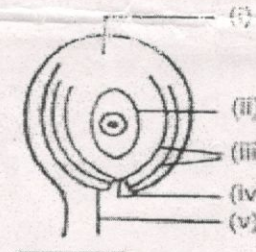
- A) Study the flower given alongside and answer the following questions given. (6)
- Label the parts i to iv.
 - Name the type of i, ii and iii present.
 - Name the flower shown in the diagram.
- B) 1. Differentiate between racemose and cymose inflorescence. (4)
2. Name the following: (2)
i) Layers covering the pollen grain
ii) Non-essential whorls



Flower split open showing the four whorls and epicalyx

Question 6.

- A) Observe the diagram given and answer the following questions. (6)
- Label the parts i to iv.
 - Identify the diagram.
 - Write the role of structure drawn alongside.
 - Give an example of syncarpous flower.
- B) Explain the following terms with example: (6)
- Apocarpous,
 - Gamopetalous,
 - Bracteate,
 - Placentation,
 - Actinomorphic flower.



Question 7.

- A. i) Explain double fertilization. (12)
ii) Write two significances of seeds.
- B. i) Differentiates between true and false fruit with example. in
ii) Write any ~~three modifications~~ two structure present on outer surface of the plant for prevention of water loss.