## Model Question -8 <br> (Biology XII)

Time: 3 hrs
F.M. :75

## Part - I (Botany)

## Group A

Multiple choice questions

## Attempt all questions

1. Which meristem helps in increasing the girth of dicot stems?
a. Primary meristem
b. Intercalary meristem
c. Apical meristem
d. Lateral meristem
2. ------- pairs of contrasting traits were studied by Mendel in pea plants.
a. 9
b. 8
c. 7
d. 6
3. Onion propagates by
a. rhizome
b. bulb
c. tuber
d. corm
4. Which of the following is known as Hatch - slack Pathway
a.
C2
b. C3
c. C4
d. C5
5. Which of the following chemicals are widely used for protoplast fusion
a.
Mannitol
c. Sorbitol
b. Polyethylene glycol
d. Mannol

## Group 'B'

## Give short answers to the following questions.

1. How does collenchyma differ from chlorenchyma? Discuss with diagrams.
2. What do you mean by stock and scion? List any two advantages of this method. $\quad(3+1=4)$
3. State law of segregation. Does incomplete dominance follow the law of segregation?(1+3=4)
4. What are explants? Explain the types of tissue culture on the basis of explants.

Discuss different stages of development of microgametogenesis with necessary diagrams.(2+2=4)

## Group C

## Give long answers to the following questions.

(2.8=16)
5. Define genetic material. Describe the process involved in the semi-conservative mode of replication of DNA with necessary neat and clean diagrams.

Or
Who is the father of Genetics? What does it mean by dihybrid cross? Explain the Law of Independent Assortment.
6. What is photosynthesis? Describe the light dependent steps of photosynthesis. How are they linked to the dark reaction? Discuss.

## Part - II (Zoology)

Group A
Circle the correct answer from the given alternatives ( $6 \times 1=6$ )

1. Which of the following is the most abundant leukocyte?
a. acidophil
b. neutrophil
c. monocyte
d. lymphocyte
2. Blastopore is present during
a. cleavage
b. morula
c. blastula
d. gastrula
3. Ceruminous glands are present in
a. skin
b. eye-lids
c. external auditory meatus
d. Vagina of female
4. Reasoning power is maximum in human due to the development of
a. cerebral cortex
b. midbrain
c. cerebellum
d. medulla
5. All the mentioned drugs are Hallucinogens except for
a. bhang
b. heroin
c. LSD
d. charas
6. The principal microorganism for yogurt is
a. Streptococcus thermophilus
b. Streptococcus lactis
c. Lactobacillus acidophilus
d. Saccharomyces

## Group B

Give short answers to the following questions
(4.4 = 16)

1. Bone is a hard skeletal connective tissue. Describe the structure of compact bone in detail with necessary diagram.
2. Explain the process of spermatogenesis in frog with required diagram.

Or
Write down the advantages of fish farming. Also mention two examples, one each of endemic and exotic fishes.
3. Explain the changes that occur in ovaries and uterus of females during the menstrual cycle.
4. Write a short note on some respiratory disorders.

## Group C

## Give long answers to the following questions.

5. Describe the anatomy of the human heart with diagram.

Or
Explain the physiology of respiration in human.
6. What are communicable diseases? Describe the causative agent, symptoms, effects and control measures of any one communicable disease you have studied. $(1+1+2+2+2)$

