**MODEL QUESTION SET 2076**

Class: 12 Full Marks: 75
Subject: Biology Time: 3 hours

***Note: Answer Botany and Zoology in separate answer sheets. Attempt Botany first followed by Zoology.***

**(Botany)**

**1. Answer in very short (any seven):** $(1 \times 7 = 7)$

a. Define meristematic tissue and permanent tissue.
b. What is Ascent of sap?
c. Define anemophily and mention two examples of anemophilous plants.
d. What is grafting?
e. Define megasporogenesis.
f. Define genetic engineering.
g. What do you understand by multiple allelism?
h. What is regulator gene?
i. What do you mean by synapsis?
j. Give one example of co-dominance.

**2. Answer in brief (any five):** $(3\,x\,5 = 15)$

a. Discuss the structural and functional aspects of stomata with figure.
b. Mention the differences between collenchyma and sclerenchyma.
c. Discuss the physiological effects of auxins.
d. Elaborate the development of dicot embryo.
e. Write short notes on green manure.
f. Write short note on criss-cross inheritance.
g. Describe Mendel's law of independent assortment.

**3.** Define Secondary growth and discuss the role of meristems for increase in thickness of dicot stem. **(7.5)**

**OR**

Describe various steps of light dependent reaction of photosynthesis.

**4.** What is mutation? Describe its types and mention significance of mutation. **(8)**

**(Zoology)**

1. Answer any seven in very brief: $(1 \times 7 = 7)$

a. State the function of Sertoli cells.
b. Define neurulation.
c. What is the meaning of cholinergic synapse?
d. Define poultry.
e. What is meant by amniocentesis?
f. Which vitamin's deficiency causes beri beri?
g. State one role of manganese in living organisms.
h. Name the process by which gas exchange takes place between air in alveoli and blood.
i. Define carrying capacity.
j. Name any two oncoviruses.

2. Answer any five in brief: $(3 \times 5 = 15)$

a. Illustrate the phenomenon "Bohr's effect".
b. Define tidal volume, vital capacity and residual volume.
c. Write a note on S-shaped and J-shaped growth curves.
d. Write a note on various types of vaccines.
e. Describe the structure of cerebrum of a mammalian brain.
f. Describe the process of notogenesis in frog.
g. Write a note on menstrual cycle.

3. Describe how urine is produced in a mammal.

OR

Discuss in detail about the origin and conduction of a nerve impulse in a myelinated neuron. **(7.5)**

4. Write down on the causative agent, mode of transmission, signs and symptoms, and control measures of typhoid. **(8)**

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