

Model Question -1
(Biology XII)

Time: 3 hrs

F.M. :75

Part 1 (Botany)

Group A

Circle the correct one from given alternatives. **(5 × 1 = 5)**

1. The current sequence of nitrogen base pairing of DNA is
a. A = C b. A = G c. A = U d. A = T
2. Some plants vegetatively reproduce through underground modified stems. Which of the following plants do not reproduce through underground modified stems?
a. Potato b. Colocasia c. Sweet potato d. Ginger
3. Conjoint, collateral and open vascular bundles are characteristics of
a. dicot root b. monocot root c. dicot stem d. monocot stem
4. Kranz anatomy is characteristics of C₄ plants. Which of the following is a C₄ plant?
a. Rice b. Maize c. Wheat d. Pea
5. Which of the following plants is used as green manure?
a. Rice b. Maize c. Wheat d. Pea

Group B

Give short answers to the following questions. **(4×4=16)**

1. What are annual rings? How are they formed? (1+3=4)
2. Double fertilization is the characteristic of angiospermic plants. How does it take place? Discuss it with relevant diagram. (3+1=4)
3. Define biotechnology. Discuss its application in the field of industry. (1+3=4)
4. How the phenotypic ratio of F₂ generation is obtained as 3:1? Discuss with necessary cross and relevant laws. (2+2=4)

Or

Where are auxins synthesized? Discuss their physiological effects. (1+3=4)

Group C

Give long answers to the following questions. **(2×8=16)**

5. What is criss cross inheritance? Discuss with reference to eye color in fruit fly with necessary crosses. (1+4+1.5+1.5=8)

Or

What are the characteristics of genetic materials? How is it proved that DNA is a genetic material? Discuss. (2+6=8)

6. Define respiration. What are its types? Discuss the factors affecting respiration. (1+2+5=8)

Part II (Zoology)

Group A

Circle the correct answer from the given alternatives. **(6×1=6)**

1. In which of the following organs, stratified epithelium is present?
a. buccal cavity b. ovary c. kidney d. urethra
2. Animal pole lies upward in frog egg because
a. it receives sperm. b. it is yolk free .
c. it absorbs light for development. d. it attracts the bacteria.

3. Which is the common passage for food and air?
a. pharynx b. larynx c. glottis d. gullet
4. The blood platelets are the source of
a. fibrinogen b. calcium c. thromboplastin d. hemoglobin
5. Which of the following is not a stimulant?
a. Caffeine b. Cocaine c. Amphetamines d. Tranquilisers
6. In Nepal amniocentesis is banned due to
a. genetic disease b. chromosomal abnormalities
c. knowing of the foetal sex d. finding genetic disorder

Group 'B'

Short answer question:

(4×4 = 16)

1. Give an account of the adipose tissue.
2. Give an account of the blastulation of frog.

OR

List various factors controlling population growth.

3. Draw a well labeled diagram of T.S. of testis human .
4. Give a short note on poultry farming in Nepal.

Group C

Long answer questions.

(8×2 = 16)

5. Describe the causes and symptoms of the disease hepatitis & cholera.
6. Describe the physiology of digestion in humans.

OR

Discuss the transmission of nerve impulse with a well labeled diagram.