

Model Questions – 2078 (2022)

Subject: Biology (2021)

Full Marks: 75

Time: 3 hrs.

SET A

Attempt all questions.

PART I (BOTANY)

GROUP – A

Circle the correct one from given alternatives.

[5×1=5]

1. The age of the tree can be determined by
 - a) Measuring its diameter
 - b) Counting the number of annual rings
 - c) Counting the number of leaves
 - d) Finding out the number of branches
2. Green manure plants are
 - a) Poaceae
 - b) Solanaceae
 - c) Leguminosae
 - d) Compositae
3. Where does the light reaction take place?
 - a) Grana
 - b) Stroma
 - c) Cytoplasm
 - d) Endoplasmic reticulum
4. The other name for gynoecium is
 - a) Pistil
 - b) Stigma
 - c) Androecium
 - d) Style
5. Who is known as the Father of Genetics?
 - a) Erich Tschemark
 - b) Carl Correns
 - c) Gregor Johann Mendel
 - d) Hugo de Vries

GROUP – B

Give short answer to the following questions.

[4×4=16]

11. What is vascular bundle? Mention its type in brief. [1+3]
12. What is light reaction? Explain cyclic photophosphorylation in brief. [1+3]
13. What is green manure? Mention the advantage of green manure over the chemical fertilizer. [1+3]
14. What is crossing over? Explain its mechanism in brief. [1+3]

OR

What is dihybrid cross? Explain the law of independent assortment with its reference. [1+3]

GROUP – C

Give long answer to the following questions.

[2×8=16]

15. Response to the following questions:
 - a. "Transpiration is a necessary evil." Justify the statement. [4]
 - b. How can you evaluate glycolysis as anaerobic part of respiration? [4]
16. What is mutation? Explain polyploidy with suitable example and mention its significance as well. [1+4+3]

OR

What is semi-conservative DNA replication? Explain the mechanism with suitable diagram. [1+5+2]

PART II (ZOOLOGY)

GROUP – A

Circle the correct one from given alternatives.

[6×1=6]

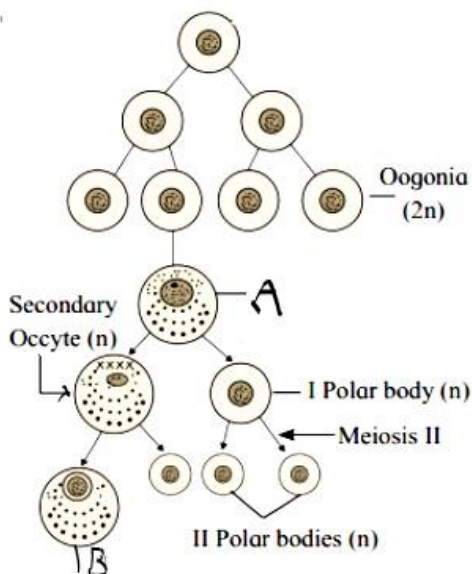
1. Urinary bladder is stretchable because it is lined with
 - a) stratified epithelium
 - b) pseudo stratified epithelium
 - c) simple epithelium
 - d) transitional epithelium
2. Gastrulation in frog involves:
 - a) Epiboly
 - b) Emboly
 - c) Invagination
 - d) All of these
3. Find the best reason why the SA node acts as heart's natural pacemaker.
 - a) Because it has a poor cholinergic innervations.
 - b) Because it has a rich sympathetic innervations.
 - c) Because of its capability of generating impulses for heart beat.
 - d) Because it stops impulses.
4. Identify the form by which most of the carbon dioxide produced in the tissues is transported to the lungs.
 - a) carbonates
 - b) bicarbonates
 - c) dissolved in the blood
 - d) attached to hemoglobin
5. Which of the following structure at a synapse has the neurotransmitter?
 - a) Schwan cells
 - b) Synaptic cleft
 - c) Synaptic knobs
 - d) Synaptic vesicles
6. Judge an incorrect statement
 - a) Rhodopsin is the purplish-red protein situated in rods only
 - b) Retinal is a derivative of Vitamin C
 - c) Retinal is the light-absorbing part of visual photo pigments
 - d) The rods in the retina have rhodopsin, a photo pigment while cones have three different photo pigments.

GROUP – B

Give short answer to the following questions.

[4×4=16]

7. Differentiate between smooth muscles and skeletal muscles. [2+2]
8. Study the figure and answer the questions.
- a) Label A & B [1]
- b) Which event stimulates the formation of B? [1]
- c) This figure shows the detail process of oogenesis. Describe this process in brief. [2]



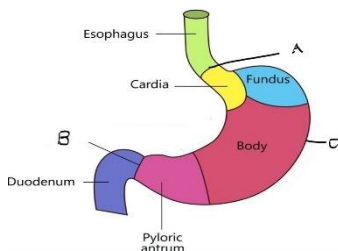
9. Develop the biological reasons why *Cannabis* (Hemp plant) should not be legalized? Also give another example of psychedelic drug that can cause psychosis, a severe mental effect. [1+1+2]

OR

How can you interpret that vaccines are important methods to combat with diseases? Demonstrate it with the help of different types of vaccines.

10. Answer the questions based on the figure.

- a) What kind of sphincters are present in A & B? [1]
- b) What happens when HCl is not secreted in the lumen of C? [1]
- c) Construct the steps how curdling of milk takes place inside the C. [2]



GROUP – C

Give long answer to the following questions.

[2×8=16]

11. What are the primary sex organs of male? Make a list of other male reproductive organs. Describe the structure and function of these organs with the help of diagram.

Or

What is double circulation? Demonstrate the working of human heart along with course of blood circulation with well labeled diagram. [1+2+2+3]

12. When the ELISA test was conducted on an immune-suppressed person, he tested positive for a pathogen. [1+1+1+3+2]
- a) Identify the disease the patient is suffering from.
 - b) Name the causative entity.
 - c) Mention the cells of the body that are attacked by the pathogen.
 - d) **Exposit its symptoms**
 - e) Elucidate why "Prevention is better than cure"?



Attempt all questions.

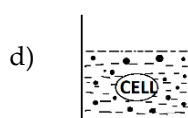
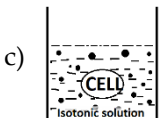
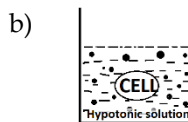
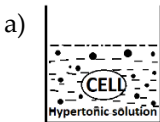
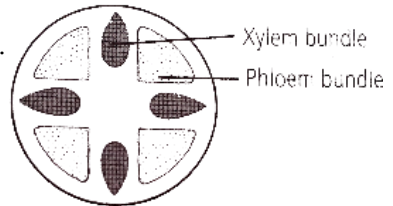
PART I (BOTANY)

GROUP – A

Circle the correct one from given alternatives.

[5×1=5]

- In which of the following case does phenotypic ratio and genotypic ratio is same?
 - Linkage
 - Codominance
 - Multiple allelism
 - Incomplete dominance
- 45+ XY means ____ syndrome?
 - Turner
 - Klinefelter's
 - Mongolian
 - None
- The diagram shows ____ vascular bundle.
 - collateral
 - radial
 - bicollateral
 - concentric
- The phenotypic ratio of monohybrid cross between red and white flowered *Mirabilis jalapa* plant is _____.
 - 1:2:2
 - 3:1
 - 2:1:2
 - 1:2:1
- In which of following case does plant cell will be turgid?



GROUP – B

Give short answer to the following questions.

[4×4=16]

6. Draw a well labelled diagram of Dicot stem (no description). [4]
7. Mutations are not always harmful. Explain it with suitable examples.
Describe how *Triticum aestivum* was developed. [2+2]

OR

Illustrate 'law of segregation' of Mendel and state why Mendel did not observe linkage in his experiment? [3+1]

8. What is IAA? How does Auxin help plants in their growth and development? [1+3]
9. Write the salient features of a dicot embryo in reference to its development pattern with diagram. [2+2]

GROUP – C

Give long answer to the following questions.

[2×8=16]

10. Why does a DNA need to replicate? Describe the DNA replication in which half of the parental strand is conserved in each daughter DNA with well labelled diagram. [1+5+2]

OR

What are the general characteristics of sex-linked inheritance? When a colourblind man marries a normal woman, what result will you expect? Analyse briefly with the help of different crosses. [2+2+2+2]

11. How does aerobic respiration differ from anaerobic respiration? Describe the cycle that involves breakdown of two carbon compound Acetyl co-A in aerobic respiration with necessary diagram. [3+3+2]

PART II (ZOOLOGY)

GROUP – A

Circle the correct one from given alternatives.

[6×1=6]

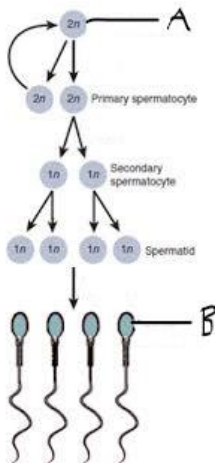
1. Nissl's granules are very useful for protein synthesis also help to transport these proteins. These granules are present in
 - a) bone
 - b) cartilage
 - c) neuron
 - d) muscle cell
2. The process, during the development of frog, in which three germ layers form is called:
 - a) cleavage
 - b) blastulation
 - c) gastrulation
 - d) organogenesis
3. Find the part from where ventricular muscles accept impulses of heart beat.
 - a) AV node
 - b) Bundle of His
 - c) Right and left bundle branches
 - d) Purkinje system
4. Identify the correct statement for the partial pressure of oxygen in alveoli?
 - a) less than carbon dioxide
 - b) less than the blood
 - c) more than the blood
 - d) equal to that of the blood
5. How do neurons (nerve fibers) communicate with one another?
 - a) Electrically
 - b) Chemically
 - c) Through weak, radio-wave-like impulses
 - d) a and b
6. Judge the character of fovea centralis of human eye
 - a) the optic nerve exits the eye
 - b) only rods are found
 - c) more rods than cones are found
 - d) no rods but a high density of cones occur

GROUP – B

Give short answer to the following questions.

[4×4=16]

7. Compare and contrast adipose tissue with areolar tissue. [4]
8. Study the figure and answer the given questions.
 - a) Label A & B. [1]
 - b) Which hormone from adenohypophysis stimulates this process? [1]
 - c) This figure shows the detail process of spermatogenesis. Describe this process in brief. [2]

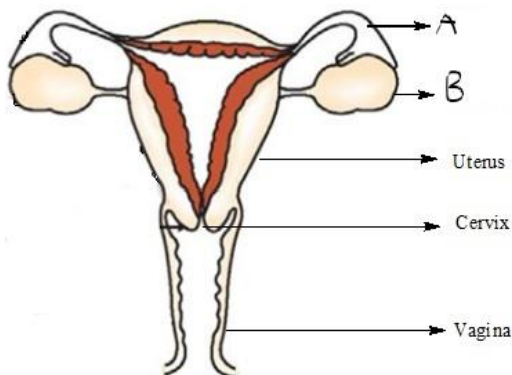


9. Give your analytical perspective on the population growth models represented by J & S- shaped curves. [4]

OR

List down the importance of fish and poultry farming in Nepal.

10. Answer the questions based on the given figure.



- a) Label **A&B** [1]
- b) If the lumen of part A is blocked in both left and right side, can that female conceive baby normally? [1]
- c) In which of the above given part sperm fuses with ovum if the female's reproductive tract is intact? [1]
- d) Identify the part which is cut and tied or clipped for permanent contraception in females. [1]

GROUP – C

Give long answer to the following questions. [2×8=16]

11. Where are adrenal glands located? With the help of sketch show the different parts of these glands. How do you justify that this gland is related with blood pressure, sugar metabolism, sex characters and even adaptation to emergency situations? [1+3+4]

OR

With the help of neat labeled diagram of human female reproductive system, depict the following sites with structural description:

- a) Production of gamete [3]
 - b) Site of fertilization [1]
 - c) Site of implantation [2]
 - d) Birth canal [2]
12. Once there was a global emergency of **T.B.** What is the cause? Discuss the causative agent, mode of transmission, sign and symptoms and prevention of the disease. [1+1+2+2+2]



Attempt all questions.

PART I (BOTANY)

GROUP – A

Circle the correct one from given alternatives.

[5×1=5]

1. The process of formation of permanent tissue from meristematic tissue is:
 - a. Differentiation
 - b. Dedifferentiation
 - c. Redifferentiation
 - d. None of the above
2. In a monohybrid cross between two heterozygous individuals (Tt), the percentage of pure homozygous individuals obtained in F₁ generation is:
 - a. 25 %
 - b. 50 %
 - c. 75 %
 - d. 100 %
3. An angiospermic plant have 16 chromosomes in the leaf cell. The number of chromosomes in the endosperm and antipodal cells will be:
 - a. 8 and 16
 - b. 16 and 8
 - c. 24 and 16
 - d. 16 and 24
4. A student found that a seed failed to germinate due to seed dormancy. The application of which of the following hormone would promote the seed to germinate?
 - a. Auxin
 - b. Gibberellin
 - c. Cytokinin
 - d. Absciscic acid
5. A plant breeder wants haploid plants for his breeding program. Which of the following methods of tissue culture should the plant breeder adopt in order to obtain haploid plants?
 - a. Embryo culture
 - b. Anther culture
 - c. Callus culture
 - d. Protoplast culture

GROUP – B

Give short answer to the following questions.

[4×4=16]

6. What is manure? Describe its types and importance in Agriculture [1+3]
7. Where does ETS occur? Give an account of Krebs cycle. [1+3]

OR

What is plant growth hormone? Mention the role of cytokinin in the development of plant. [1+4]

8. What is complex tissue? Draw a neat and well labelled detailed diagram of T.S of Dicot Root. [1+3]
9. What is pollination? Differentiate between self and cross pollination. [1+3]

GROUP – C

Give long answer to the following questions.

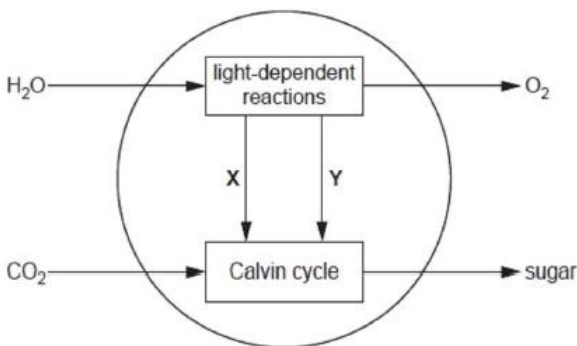
[2×8=16]

10. How can you differentiate dihybrid cross with mono hybrid cross? Describe and explain the law of independent assortment. [2+6]

OR

Elaborate the types, mechanism and significance of crossing over. [2+4+2]

11. The figure shows the relationship between the light-dependent and light-independent reactions in a chloroplast.



- a) Name the substances X and Y (2)
- b) Describe the process of light-independent reactions (6)

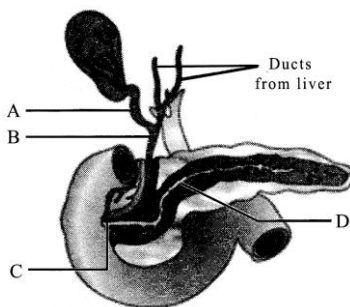
PART II (ZOOLOGY)

GROUP – A

Circle the correct one from given alternatives.

[6×1=6]

- Respiratory centre which control inspiration and expiration are located in
 - Medulla oblongata
 - Hypothalamus
 - Spinal cord
 - Cerebellum
- The duct systems of liver, gall bladder and pancreas are given below, correctly identify labeling A to D.



a)	b)	c)	d)
A–Cystic duct	A–Common bile duct	A–Pancreatic duct	A–Hepato-pancreatic duct
B–Common bile duct	B–Cystic duct	B–Hepato-pancreatic duct	B–Pancreatic duct
C–Pancreatic duct	C–Common bile duct	C–Hepato-pancreatic duct	C–Cystic duct
D–Cystic duct	D–Common bile duct	D–Hepato-pancreatic duct	D–Pancreatic duct

- Type of cleavage in frog's zygote is:
 - Holoblastic and equal
 - Holoblastic and unequal
 - Meroblastic
 - Diploblastic

4. The DNA molecule to which the gene of interest is integrated for cloning is called **d**:
 - a) Vector
 - b) Template
 - c) Carrier
 - d) Transformer
5. Keratinised stratified squamous epithelium is found in
 - a) Trachea
 - b) Lining of blood vessel
 - c) Mouth cavity
 - d) Epidermis
6. Insufficient supply of blood to organ **is**:
 - a) Ischemia
 - b) Necrosis
 - c) Euphoria
 - d) Apoptosis

GROUP – B

Give short answer to the following questions.

[4×4=16]

7. Human ear is also known as stato-acousting organ. Justify the statement in reference to the working mechanism of ear. [1 +3]
8. Nepal is rich in water resources. Enlist the various scopes of fish farming in Nepal. Also mention the various types of fish farming practices are adopted in Nepal. [3+1]

OR

Alcoholism is a very serious problem of Nepal in present situation. Identify the reasons and various effects of alcoholism. What can you contributes to control the excessive use of alcohol. [2+2]

9. What is organogenesis? Describe the process of neurulation and notogenesis in frog. [2+2]
10. Discuss the structure and function of cardiac muscle with diagram. How is it differing from skeletal muscles? [2+1+1]

GROUP – C

Give long answer to the following questions.

[2×8=16]

11. Fungal infection is a very common among living things. Name the fungal disease you have studied with causative agent. Also analyze the mode of transmission, symptoms and control measures. [1+1+2+2+2]
12. Nervous system is an important system of animals which control and coordinate the various activities of body. In which form the **message** conduct from the receptor cell to CNS and from CNS to effector organs? Describe the mechanism of conduction of nerve impulses in human being. [1+ 5+2]

OR

Name the excretory product and site of production in human beings. Draw well labeled diagram of nephron and describe the mechanism of urine formation in human. [1+2+5]



Attempt all questions.

PART I (BOTANY)
GROUP – A

Circle the correct one from given alternatives.

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 - d) None of the above
2. In a monohybrid cross between two heterozygous individuals (Tt), the percentage of pure homozygous individuals obtained in F₁ generation is:
 - a) 25 %
 - b) 50 %
 - c) 75 %
 - d) 100 %
3. An angiospermic plant has 16 chromosomes in the leaf cell. The number of chromosomes in the endosperm and antipodal cells will be:
 - a) 8 and 16
 - b) 16 and 8
 - c) 24 and 16
 - d) 16 and 24
4. A student found that a seed failed to germinate due to seed dormancy. The application of which of the following hormone would promote the seed to germinate?
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 - a) Embryo culture
 - b) Anther culture
 - c) Callus culture
 - d) Protoplast culture

GROUP – B

Give short answer to the following questions.

[4×4=16]

6. Define genetic code. Explain the characteristics of genetic code. [1+3]

OR

Define phytohormone. Mention the physiological roles of Auxin in plants. [1+3]

7. The anatomical structure of a root of a vascular plant is shown in the given **Figure 'A'**. Study the given diagram and answer the following questions.

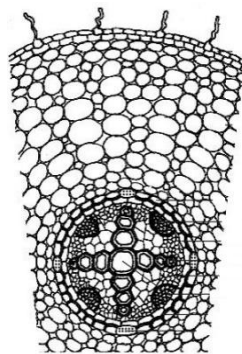


Figure 'A'

- a) Discuss the features from which you know that it is a TS of root and not a TS of stem. [2]
b) Identify whether it is that of a dicot or a monocot root. Explain. [2]

8. What is plasmolysis? How do the phenomenon of plasmolysis justify the semipermeable nature of cell membrane and permeable nature of cell wall? Discuss the uses of the knowledge of plasmolysis in daily life. [1+1+2]
9. A farmer wants to grow a good variety mango plant which he found while visiting the neighbouring village. He enquires you about the best technique for the quick production of mango fruit. Which technique of asexual reproduction would you suggest and why? [1+3]

GROUP – C

Give long answer to the following questions.

[2×8=16]

10. Life on earth solely depends on the ability of producers to produce food. One of the process food production is to harness the light energy of sun and produce food through a process called photosynthesis. Based on your study regarding photosynthesis, answer the following questions.

- a) Why does light reaction occur ahead of the dark reaction in photosynthesis? [1]
- b) Explain the steps how glucose is produced during dark reaction in C₃ plants. [4]
- c) Discuss about the reason that makes the C₃ plants less efficient than C₄ plants in photosynthetic efficiency? [3]
11. In the human population, there are people with colour vision deficiency who find it difficult to identify and distinguish between certain colours. This inability observed in the human population is called **colour blindness**.
- a) Justify, using genetic crosses, that colour blindness observed in humans is a case of sex linked inheritance. [4]
- b) Examine how color blindness is a case of criss cross inheritance. [2]
- c) Can human males be a carrier of the above trait? Justify your answer. [2]

OR

According to Mendelism, the segregation in one pair of allele is independent of the segregation in another pair of allele. Which law does the above statement refer to? Using genetic crosses explain the above statement showing cross up to second filial generation with chart and also predict the phenotypic and genotypic ratio. [1+5+2]

PART II (ZOOLOGY)

GROUP – A

Circle the correct one from given alternatives.

[6×1=6]

1. The cranial nerve responsible for taste sensation from tongue is :
 - a) Vagus & fascial
 - b) Glossopharyngeal & fascial
 - c) Hypoglossal and vagus
 - d) Trigeminal and vagus
2. Fertilization in most mammals occurs in :
 - a) Uterus
 - b) Ureter
 - c) Vagina
 - d) Fallopian tube
3. Gastrulation in frog covers step wise :
 - a) Epiboly, involution, cleavage
 - b) Invagination, involution, cleavage
 - c) Epiboly, invagination, involution
 - d) Involution, epiboly, exvagination
4. Biconcave erythrocyte of mammals helps :
 - a) In easy release in blood stream
 - b) In quick coagulation
 - c) In easy rolling
 - d) In providing maximum surface area
5. In Nepal , amniocentesis is banned due to :
 - a) Knowing of the foetal sex
 - b) Genetic diseases
 - c) Chromosomal abnormalities
 - d) Finding genetic disorder
6. The symptoms of Corona (COVID-19) are similar to :
 - a) Influenza
 - b) Flu
 - c) Both a and b
 - d) Hepatitis

GROUP – B

Give short answer to the following questions.

[4×4=16]

7. Compare and contrast cartilage and bone tissue. [2+2]
8. What is coelom? How is it formed with reference to frog? [1+3]

Or

Discuss the various steps of pond maintenance in fish farming. [4]

9. Draw a well labelled diagram of internal structure of human heart. [4]
10. Suggest effective methods of control of population growth. [4]

GROUP – C

Give long answer to the following questions.

[2×8=16]

11. What are communicable diseases? Discuss the causative agents, symptoms, effects and control measures of any one communicable disease you have studied. [1+7]
12. Draw a well labelled diagram of the alimentary canal of a human being. Explain the mechanism of the digestion of foods that a person undertakes. What would happen in digestion when the pancreas is removed? [3+4+1]

Or

Draw a well labelled drawing of respiratory system of a human being. Why and how oxygen and carbon dioxide are exchanged rapidly in the lungs? What would happen if a person moves to high altitude? Write your views on how to solve it. [2+4+1+1]

Attempt all questions.

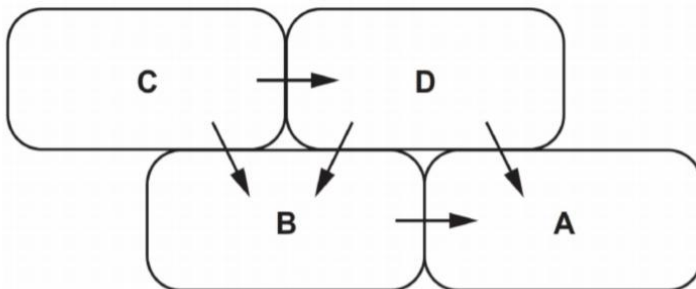
PART I (BOTANY)

GROUP – A

Circle the correct one from given alternatives.

[5×1=5]

1. The tissue that helps in secondary growth is _____
 - a. Apical meristem and lateral meristem
 - b. Intercalary meristem and apical meristem
 - c. Lateral meristem
 - d. Apical meristem
2. Anticodon of the nitrogenous base sequence TAC on template strand of DNA is _____
 - a. UAC
 - b. AUG
 - c. ATG
 - d. None
3. Which of the four cells gain more water by osmosis?



4. Which of the following methods of tissue culture should be adopted to raise virus free varieties of paddy plants?
 - a. Embryo culture
 - b. Anther culture
 - c. Meristem-tip culture
 - d. Protoplast culture
5. In _____, pollination is brought about by bat.
 - a. Ornithophily
 - b. Entomophily
 - c. Malacophily
 - d. Chiropterophily

GROUP – B

Give short answer to the following questions.

[4×4=16]

6. If you are given a photomicrograph of a plant part, what will help you to be confirmed that it is of stem, but not root? How will you be sure that it is dicot stem? [2+2]
7. Write short notes on the following:
Development of dicot embryo. [4]

OR

Different methods of grafting. [4]

8. Incomplete dominance is the phenomenon in which an allele of a gene dominates the expression of its recessive allele incompletely. So, both characters are expressed partially.
- a. Andalusian fowls are found in three different body colours – black, blue and white. Blue is the most common variant among three. The gene responsible for these colours has two alleles. The dominant allele 'B' incompletely dominant over its recessive allele is 'b'. Both of these alleles in their homozygous conditions 'BB' and 'bb' develop black and white colours respectively.
- Describe the monohybrid cross between these two contrasting homozygous parents to show phenotypic and genotypic ratio in F2 generation. [2]
- b. The colour of flower in *Mirabilis jalapa*, 4 O'clock plant is another example of incomplete dominance. Like all other plants, it is photoautotrophic in mode of nutrition. What are the pigments that help them to be alike to other plants? [2]
9. Define genetic engineering. Describe the applications of genetic engineering in the field of agriculture. [1+3]

GROUP – C

Give long answer to the following questions.

[2×8=16]

10. Respiration is a very complex catabolic process in which food (glucose molecule) is oxidized and broken down to release energy in the form of Adenosine triphosphate (ATP).

When respiration occurs in presence of oxygen, it is called aerobic respiration. The process of aerobic respiration completes in four different steps that include glycolysis, oxidative decarboxylation of pyruvic acid, Krebs's cycle and oxidative phosphorylation.

- a) How does glycolysis help in the generation of ATP? [2]
- b) When one molecule of glucose is oxidized, how many ATP molecules are produced from Krebs's cycle? [3]
- c) What is the fate of pyruvic acid in those cells that do not have mitochondria? [2]
- d) What is oxidative phosphorylation? [1]

OR

Green plants are photoautotrophs that synthesize organic compound during a complex physiological process called photosynthesis. It completes in two major steps including light reaction and dark reaction.

- a) In dark reaction, also called Calvin cycle, CO₂ is reduced to glucose. How many Calvin cycles does it need to occur to synthesize one molecule of glucose. [1]
- b) Water is another chemical that is used as reducing agent in photosynthesis. When and where is water used? [2]
- c) During light reaction, photosynthetic pigments present in the membrane of thylakoid and stroma lamellae of chloroplast converts light energy into chemical energy and reducing power. Describe the process in which it occurs. [5]

11. What is DNA replication? Describe how it occurs in semi-conservative mode? [1+5+2]

PART II (ZOOLOGY)

GROUP – A

Circle the correct one from given alternatives.

[6×1=6]

1. Predict the stage in development of frog in which blastopore is found.
 - a. Morula
 - b. Blastula
 - c. Gastrula
 - d. Neurula
2. Identify which of the following is related with Hamburger's phenomenon?
 - a. O₂ dissociation
 - b. Chloride shift
 - c. CO₂ dissociation
 - d. bicarbonate shift
3. The largest cranial nerve is
 - a. Vagus
 - b. Auditory
 - c. Abducens
 - d. Facial
4. Solve the location of Henle's loop in mammalian kidney.
 - a. Cortex
 - b. Medulla
 - c. Pelvis
 - d. Columns of Bertini
5. Outline the correct option of the structure between uterus and vagina.
 - a. Uterine tube
 - b. Cervix
 - c. Vulva
 - d. Hymen
6. Camel's hump is composed of tissue which provides water when oxidized. It is _____
 - a. Skeletal tissue
 - b. Areolar tissue
 - c. Adipose tissue
 - d. Muscular tissue

GROUP – B

Give short answer to the following questions.

[4×4=16]

7. Fill the missing data in the table depicting diseases, their causatives and symptoms.

Name of disease	Causative organisms	Symptoms	Diagnosis
Typhoid	Salmonella		
	HBV	Nausea, vomiting, urine and stool discolouration, swelling of abdomen	Liver Function test
Cholera		Watery diarrhea with rice-watery stool, sunken eyes, dehydration, electrolyte imbalance.	
	Myxovirus influenzae		RDT
Candidiasis			Culture of fungus

8. Describe the structure of internal ear with labelled diagram. [2+2]
9. Design the process of amniocentesis. Also formulate its beneficial and harmful aspects. [2+2]
10. Find the solutions to avoid overpopulation. [4]

OR

- Construct a note on renal disorders. [4]

GROUP – C

Give long answer to the following questions.

[2×8=16]

11. Analyze and examine various processes involved in Human alimentary canal. [6+2]

OR

Explain human heart as Myogenic. Demonstrate a well labeled diagram of internal structure of heart with its description. [1+3+4]

12. Influenza is a contagious respiratory illness that causes mild to severe illness. Elaborate the disease with its causative agent, mode of transmission, symptoms and control measures. [1+1+3+3]

