Federal Board SSC-I (2017)
BIOLOGY SSC-I
SECTION – A (Marks 12)

Time Allowed: 20 minutes **Total Marks: 12**

Q1. Circle the correct option i.e. A/B/C/D. Each part carries one mark.

(i) Similar groups of cells, performing the same functions are called:

A. Organelle B. Organ
C. Tissue D. Organ system

(ii) What is TRUE about volvox?

A. Unicellular Prokaryote
B. Colonial eukaryote
C. Unicellular eukaryote
D. Multicellular eukaryote

(iii) Which one of the following in not a characteristic of a hypothesis?

A. Must be consistent with all the available data
B. Must make predictions
C. Must be testable
D. Must be correct

(iv) Viruses are assigned to the kingdom:

A. Monera B. Protista
C. Fungi
D. Not included in any kingdom

(v) How many Indus dolphins are left today in Indus River?

A. 6000 B. 600
C. 60 D. 06

(vi) The cell wall in plants is composed of:

A. Chitin
B. Peptidoglycan
C. Cholesterol
D. Cellulose

vii) Which of the following features of cell division are very different for animal and plant cells?

A. Prophase B. Metaphase
C. Anaphase D. Cytokinesis

(viii) What is true about cofactors?

A. Break Hydrogen bonds in Proteins
B. Help facilitate enzyme activity
C. Increase activation energy
D. Are composed of proteins

(ix) In which component of the leaf cells, chlorophyll is present?

A. Stroma
B. Plasma membrane
C. Thylakoids
D. Cytoplasm

(x) The pancreas produces digestive enzymes and releases them in to the:

A. Colon B. Gall Bladder
C. Liver D. Duodenum

(xi) Stomata close when the guard cells:

A. Lose water
B. Become turgid
C. Gain chloride ions
D. Gain potassium ions

(xii) Which of the following is NOT a type of leukocyte?

A. Lymphocyte B. Monocyte
C. Eosinophil D. Osteocyte

BIOLOGY SSC-I

Time allowed: 2:40 Hours Total Marks Sections B and C:53

SECTION – B (Marks 33)

Q2: Attempt any ELEVEN parts. The answer to each part should not exceed 3 to 4 lines. (11×3=33)

(i). Define the following:

a. Palaeontology
b. Immunology
c. Entomology

(ii). Write the names and subjects of the books written by Jabir bin Hayan and Bu Ali Sina, in the field of biology.

(iii). Differentiate between quaiitative and quantitative observations with the help of examples.

(iv). Write down the important observations recorded by A.F.A king to solve the problem of Malaria.

(v). Differentiate between taxonomy and systematics. Write down the main aims of classification.

(vi). Who proposed the five kingdom system of classification? On which features, this system is based?

(vii). Differentiate among the phagocytosis, Pinocytosis and Exocytosis.

(viii). Write down the important features of skeletal muscles, sieve tube cells and companion cells.

(ix). Differentiate among Apoptosis, Necrosis and Apoptotic bodies.

(x). Define the following with examples:

a. Macronutrients
b. Micronutrients
c. Eutrophication

(xi). Write down the ways by which enzyme lower down the energy of activation.

(xii). Write down the important events of Calvin cycle.

(xiii). Describe aerobic respiration briefly with the help of chemical equation.

(xiv). Why Pepsin, a powerful protein-digesting enzyme does not digest the walls of stomach, made of proteins?

(xv). Describe Blood transfusions in Rh blood group system, briefly.

SECTION -- C (Marks 20)

Note: Attempt any TWO questions. All questions carry equal marks. (2 × 10 = 20)

Q. 3 a. Write a detailed note on the structure and function of cell membrane and nucleus.
Also labeled diagrams. (4+2)

b. Explain the transport of food in plants by pressure flow mechanism with the help of labeled diagram. (04)

Q. 4 a. Explain the significance of mitosis in detail. (04)

b. Write notes on the following:
(i) Disorders of gut
(ii) Blood vessels (3+3)

Q. 5 a. Explain the mechanism of enzyme action by Lock and Key model and its modification.
Define specificity of enzymes. (3+1)

b. Explain the important steps involved in Glycolysis, Kreb's Cycle and light reaction. (2+2+2)