

BIOLOGY Part-I
HSSC-11th-Swat-2026

Time: 20 Minutes Marks: 18

Multiple Choice Questions
01 Mark for each

Paper Code

①
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②

P-409

Roll No. of the Student							
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Serial No. Of the Answer Book

SECTION-A

Note:

- 1) Attempting all MCQs is compulsory. This paper along with the OMR sheet must be returned to the superintendent after due time.
- 2) Fill the circle (A) (B) (C) (D), which one is correct with blue or black ball point in separate OMR Sheet like ●
- 3) If more than one circle in the OMR sheet is filled then no credit will be given to such answer.

I.i. Griffith concluded from his experiment that:

- (A) Dead bacteria can revive (B) R-type bacteria are deadly (C) Substance from dead S-type transformed live R-type (D) Mouse immune system killed bacteria
- ii. *Morchella esculenta* is commonly called:
(A) Truffle (B) Puffball (C) Toadstool (D) Morel
- iii. A plant specimen shows elongated axis with sessile flowers arranged along it. this inflorescence is:
(A) Spike (B) Corymb (C) Raceme (D) Umbel
- iv. A mammal possessing a long trunk as its most prominent feature would be placed in the order:
(A) Perissodactyla (B) Artiodactyla (C) Proboscidea (D) Carnivora
- v. Fibres are generally long, slender cells also known as:
(A) Sclereids (B) Prosenchymatous cells (C) Ground tissue (D) Streaks
- vi. Nutrients classified as secondary macronutrients are:
(A) Boron, Copper, Iron, Chlorine (B) Carbon, Hydrogen, Oxygen (C) Calcium, Magnesium, Sulfur (D) Nitrogen, Phosphorus, Potassium
- vii. Identify the role of the intrinsic factor secreted by parietal cells:
(A) It digests proteins into peptides (B) It neutralizes stomach acid before it enters the duodenum (C) It stimulates the secretion of pepsinogen from chief cells (D) It binds to vitamin B₁₂ to enable its absorption in the intestine
- viii. A cardiologist observes the initiation of atrial contraction due to SA node firing. The ECG component corresponding to this activity is:
(A) T wave (B) ST segment (C) P wave (D) RS interval
- ix. NK cells are cytotoxic and induce apoptosis due to:
(A) Antigens and antibodies (B) Perforin and proteases (granzymes) (C) Histamine and heparin (D) C3a and C5a
- x. In differential centrifugation, the first pellet obtained after low-speed spinning mainly contains:
(A) Ribosomes (B) Nuclei and cell debris (C) Mitochondria (D) Endoplasmic reticulum
- xi. Ribonucleoproteins are synthesized in the:
(A) Mitochondria (B) Golgi complex (C) Cytoplasm (D) Nucleolus
- xii. The nucleotides in an RNA molecule are linked together by:
(A) Hydrogen bonds (B) Peptide bonds (C) Phosphodiester bonds (D) Glycosidic bonds
- xiii. A scientist isolates a molecule composed of adenine + ribose + three phosphate group. When the terminal phosphate bond breaks, the molecule produced immediately is:
(A) ADP (B) AMP (C) Adenosine (D) NAD
- xiv. One way enzymes help reactions to occur is by:
(A) Increasing substrate size (B) Stretching or weakening bonds in substrate molecules (C) Producing new substrates (D) Removing the active site
- xv. The head portion of a chlorophyll molecule contains a central atom of:
(A) Magnesium (B) Copper (C) Iron (D) Zinc
- xvi. The 4-carbon compound produced as first product of CO₂ fixation in plants adapted to dry and hot conditions is:
(A) Malate (B) Glycolate (C) Oxaloacetate (D) Serine
- xvii. The main difference between lytic and lysogenic cycles is:
(A) Type of host infected (B) Attachment method (C) Amount of phage DNA (D) Whether host cell is killed immediately
- xviii. Gram-negative bacteria are generally more resistant to antibiotics because:
(A) They have a thicker peptidoglycan layer (B) The outer layer impedes antibiotic entry (C) Their cell wall is made of flagellin (D) They completely lack a cell wall

BIOLOGY Part-I

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Note: Time allowed for section B and C is 2 hours and 40 minutes.**SECTION "B"****Marks: 40****II. Attempt any Ten Parts out of the following. Each Part carries equal marks.**

- i. Define nucleolus, nuclear membrane and nucleoplasm. Give two reasons why nucleus is regarded as an important organelle.
- ii. Briefly describe phospholipids and waxes.
- iii. Explain enzyme concentration and substrate concentration as factors affecting enzyme action.
- iv. Define photophosphorylation. Compare the two pathways of electron transport in light reactions (non-cyclic and cyclic).
- v. Analyze four treatment strategies available for managing symptoms of a severe polio infection.
- vi. What does pneumonia refer to? Discuss its causative agents, major symptoms, and treatment options.
- vii. Compare the parasitic and mutualistic relationships exhibited by kinetoplastids.
- viii. Discuss any four uses of gymnosperms, providing specific examples for each use.
- ix. Describe metamorphosis in arthropods and classify arthropods on the basis of metamorphosis.
- x. What were the two initial sources from which gibberellins were first isolated and subsequently found? List any four effects of the exogenous application of gibberellins on plants.
- xi. Briefly describe causes and treatment of food poisoning.
- xii. What is hypotension? List its symptoms and describe the most common causes of this condition.
- xiii. Define allergies and allergens. State the most common types of allergens. Identify the routes through which they enter our body.

SECTION "C"**Marks: 27****Note: Attempt any Three questions of the following. Each question carries equal Marks.**

- III. (a) Classify proteins based on their shape. Explain the structure and properties of each type of proteins. 5
- (b) Give the structural organization of a granum. Also draw its diagram. How is its structure directly related to its function in photosynthesis? 4
- IV. (a) Describe bacterial blight. List its causative organisms, symptoms, plants affected and control. 5
- (b) Outline enzyme nomenclature. Describe oxidoreductases, transferases and hydrolases with examples. 4
- V. (a) State any five characteristics each of class amphibians and reptiles. 5
- (b) What will happen to pyruvic acid after glycolysis? Explain in four points. 4
- VI. (a) Distinguish tropic movement from nastic movement in plants. 5
- (b) Describe any four main regions of the body where lymph nodes are concentrated. Also mention the areas they drain. 4