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ROLL NUMBER					



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Answer Sheet No. \_\_\_\_\_

Sign. of Candidate \_\_\_\_\_

Sign. of Invigilator \_\_\_\_\_

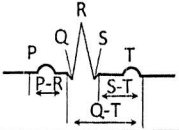
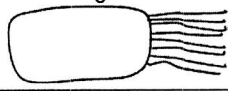
Section - A is compulsory. All parts of this section are to be answered on this page and handed over to the Centre Superintendent. Deleting/overwriting is not allowed. Do not use lead pencil.

**BIOLOGY HSSC-I**  
**SECTION - A (Marks 17)**  
**Time allowed: 25 Minutes**

حصہ اول لازمی ہے۔ اس کے جوابات اسی صفحہ پر دے کر ناظم مرکز کے حوالے کریں۔ کاٹ کر دوبارہ لکھنے کی اجازت نہیں ہے۔ لید پینسل کا استعمال ممنوع ہے۔

Fill the relevant bubble against each question:

ہر سوال کے سامنے دیے گئے درست دائرہ کو پر کریں۔

- The organelle which will be more active in liver cells after alcohol intake is:  Lysosome  Peroxisome  Glyoxisome  Polysome
- The property of water which helps to maintain integrity of lipid bilayer is:  High specific heat capacity  Hydrogen bonding  Cohesion and Tension  Hydrophobic Exclusion
- $\beta$  1-4 Glycosidic linkage is found in:  Sucrose  Lactose  Maltose  Amylose
- The causative agent of Hepatitis D is:  Virus  Bacillus  Viroid  Prion
- The physical method used to control Bacteria is:  Antiseptics  Disinfectants  Pasteurization  Antibiotics
- The products formed during light dependent reactions are:  ATP, NADH<sub>2</sub>, O<sub>2</sub>  ATP, NADPH, O<sub>2</sub>  ATP, NADPH, CO<sub>2</sub>  PGA, NADH, O<sub>2</sub>
- A sequence of three nucleotides called anticodon is part of:  tRNA  cDNA  rRNA  mRNA
- Identify the type of immunity produced after using vaccine:  Natural Active  Artificial active  Natural passive  Artificial passive
-  In an electrocardiograph, (ECG) T wave represents:  Ventricular repolarization  Ventricular depolarization  Atrial repolarization  Atrial depolarization
- Presence of fats in intestine causes release of bile under the influence of:  Gastrin  Acetylcholine  Secretin  Cholecystokinins
- Secondary xylem is produced by the activity of:  Apical meristem  Cork cambium  Vascular cambium  Intercalary meristem
- Presence of shelled egg, dry skin and internal fertilization are evolutionary adaptations in:  Frog  Lizard  Kiwi  Kangaroo
- All of the following are characteristics of Chondrichthyes EXCEPT:  Heterocercal tail  5-7 pairs of gills  Cartilaginous Endoskeleton  Operculum over gills
- The arrangement of flagella in bacterial cell shown in diagram is:   Monotrichous  Lophotrichous  Peritrichous  Monopolar bitrichous
- Cyclosis, the movement of cytoplasm is controlled by:  Microtubules  Intermediate Filaments  Microfilaments  Myosin filaments
- In bacterial cell the absorption of DNA from medium to cell results in:  Transformation  Transduction  Conjugation  Translation
- $A-B + C \longrightarrow A + C-B$   
The above reaction can be catalyzed by:  Oxido-reductases  Hydrolases  Transferases  Lyases



# BIOLOGY HSSC-I

28

Time allowed: 2:35 Hours

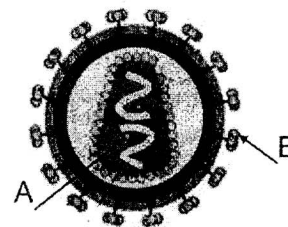
Total Marks Sections B and C: 68

NOTE: Answer any fourteen parts from Section 'B' and attempt any two questions from Section 'C' on the separately provided answer book. Write your answers neatly and legibly.

## SECTION – B (Marks 42)

Q. 2 Attempt any FOURTEEN parts from the following. All parts carry equal marks. (14 x 3 = 42)

- (i) Compare Autophagy and Autolysis.
- (ii) Elaborate the structure of Cilia and Flagella. How does Cilia help in movement?
- (iii) What are Stereoisomers? Why laboratory manufactured sweeteners are not metabolized in body?
- (iv) Justify the significance of sequence of amino acids in Normal and Sickle Cell Haemoglobin.
- (v) What are Prostaglandins? Mention their role in living organisms.
- (vi) Narrate the mechanism of Induced Fit Model of enzyme working.
- (vii) Outline the steps of Kreb's cycle with labelling.
- (viii) a) List the events of Photorespiration.  
b) How is Photorespiration disadvantageous?
- (ix) Compare characteristics of virus as non-living and living organism.
- (x) The diagram shows HIV.
  - a) Name the parts labelled as A, and B
  - b) Which cells are affected by HIV?
  - c) List Opportunistic diseases caused by HIV infection
- (xi) Complete the table:



Sr. No.	Character	Gram positive bacteria	Gram negative bacteria
I	Thickness		
II	Peptidoglycan		
III	Periplasmic space		

- (xii) Differentiate photosynthesis in Cyanobacteria and Bacteria.
- (xiii) List and elaborate any six salient features of Protozoa.
- (xiv) Write about cause, prevention and treatment of Dyspepsia.
- (xv) Differentiate between Protostomes and Deuterostomes.
- (xvi) Write about structure of a typical antibody.
- (xvii) List the adaptations in Xerophytes which enable them to live in that specific environment.
- (xviii) Inflammatory response is a type of Non-Specific Defence. State its events.
- (xix) Write down the principle of Angioplasty.
- (xx) What are Irreversible Non-Competitive Inhibitors? Describe with examples.

## SECTION – C (Marks 26)

Note: Attempt any TWO questions. All questions carry equal marks. (2 x 13 = 26)

- Q. 3 a. Describe Life Cycle of a Fern. Also Sketch and label the life cycle. (6+2.5)
- b. Describe Mutualism established in Mycorrhizae and Lichen Association. (3+1.5)
- Q. 4 a. Write General Characteristics of Phylum Arthropoda. (05)
- b. How blood flow through Heart is regulated by Valves? (04)
- c. In Systemic circulation, write about circulation of blood to heart, liver and kidneys. (04)
- Q. 5 a. Explain structure of a Villus. How is its structures well-suited for absorption of different digested food such as glucose, amino acids and fats? (08)
- b. How does K<sup>+</sup> ions influx and efflux control opening and closing of stomata? (2.5+2.5)