

Version No.			
3	1	0	1

ROLL NUMBER					



0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

0	0	0	0	0	0
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9

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

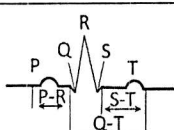
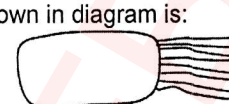
SECTION – A (Marks 17)

Time allowed: 25 Minutes

حصہ اول لازمی ہے۔ اس کے جوابات اسی صفحہ پر دے کر ناظم مرکز کے حوالے کریں۔ کاٹ کر دوبارہ کٹنے کی اجازت نہیں ہے۔ لیڈ 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
- β 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, NADH₂, O₂ ☐ ATP, NADPH, O₂ ☐ ATP, NADPH, CO₂ ☐ PGA, NADH, O₂
- 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: ☐ Oxidoreductases ☐ Hydrolases ☐ Transferases ☐ Lyases

—1HA-I 2210-3101 (L) —



BIOLOGY HSSC-I

28

Time allowed: 2:35 Hours

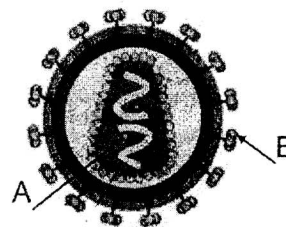
Total Marks Sections B and C: 68

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)

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



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

- Differentiate photosynthesis in Cyanobacteria and Bacteria.
- List and elaborate any six salient features of Protozoa.
- Write about cause, prevention and treatment of Dyspepsia.
- Differentiate between Protostomes and Deuterostomes.
- Write about structure of a typical antibody.
- List the adaptations in Xerophytes which enable them to live in that specific environment.
- Inflammatory response is a type of Non-Specific Defence. State its events.
- Write down the principle of Angioplasty.
- 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)

- Describe Life Cycle of a Fern. Also Sketch and label the life cycle. (6+2.5)
 - Describe Mutualism established in Mycorrhizae and Lichen Association. (3+1.5)
- Write General Characteristics of Phylum Arthropoda. (05)
 - How blood flow through Heart is regulated by Valves? (04)
 - In Systemic circulation, write about circulation of blood to heart, liver and kidneys. (04)
- 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)
 - How does K^+ ions influx and efflux control opening and closing of stomata? (2.5+2.5)