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 Answer Sheet No: _____
Signature of Candidate: _____ Signature of Invigilator: _____

**Federal Board HSSC-I Examination
Biology Model Question Paper**

SECTION – A

Time allowed: 25 minutes

Marks: 17

Note: Section-A is compulsory and comprises pages 1-2. All parts of this section are to be answered on the question paper itself. It should be completed in the first 25 minutes and handed over to the Centre Superintendent. Deleting/overwriting is not allowed. Do not use lead pencil.

Q.1 Encircle the correction option i.e. A / B / C / D. All parts carry equal marks.

- i. Plants having foreign DNA incorporated into their cells are called:
A. Transduced plants B. Transgenic plants
C. Transformed plants D. Xerophyte plants
- ii. Heat vaporization is expressed as calories per _____ vaporized.
A. Litre B. Kilogram
C. Gram D. Kilometre
- iii. Who used the technique of X-Ray diffraction to determine the structure of DNA?
A. Erwin Chargaff B. Watson & Crick
C. M. Wilkins and R. Franklin D. Alfred Harshey & Martha Chase
- iv. RNA is synthesized by DNA in a process known as:
A. Replication B. Transcription
C. Reverse Transcription D. Conjugation
- v. Thylakoids are found in:
A. Chloroplasts B. Golgi complex
C. Mitochondria D. Nucleus
- vi. The virus is:
A. Facultative parasite B. Obligate intracellular parasite
C. Saprophyte D. Ectoparasite
- vii. Heterocysts are helpful in the fixation of atmospheric nitrogen in:
A. Bacteriophages B. Cyanobacteria
C. Fungi D. Land plants
- viii. Which of the following organisms is used as an experimental organism in research on photosynthesis as well as an alternative source of food?
A. Plasmodium B. Ameoba
C. Chlorella D. Rhizopus

DO NOT WRITE ANYTHING HERE

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- ix. Sexual phase has not been observed in:
A. Zygomycota B. Basidiomycota
C. Ascomycota D. Deuteromycota
- x. Gametophyte is the dominant plant body in:
A. Marchantia B. Rosa indica
C. Adiantum D. Pinus
- xi. Which one of the following is not an eutherian mammal?
A. Whale B. Opossum
C. Elephant D. Horse
- xii. Hepatic and pancreatic secretion are also stimulated by a hormone called:
A. Insulin B. Oxytocin
C. Secretin D. Testosterone
- xiii. Tiny thin walled ducts called parabronchi are present in the lungs of:
A. Cows B. Birds
C. Man D. Frog
- xiv. Which one group of the following organisms has not double circuit heart?
A. Reptiles B. Birds
C. Fishes D. Mammals
- xv. Antiserum is a serum containing:
A. Antibiotics B. Antibodies
C. Antigens C. Antiseptic
- xvi. What type of pressure moves the sucrose and other substances in the sieve tube cells and then moves to sink?
A. Atmospheric pressure B. Root pressure
C. Hydrostatic pressure D. Blood pressure
- xvii. Guttation is the loss of liquid water through:
A. Phloem B. Cambium
C. Hydathodes D. Endodermis

For Examiner's use only

Q. No.1: Total Marks:

17

Marks Obtained:



Federal Board HSSC-I Examination
Biology Model Question Paper

Time allowed: 2.35 hours

Total Marks: 68

Note: Sections 'B' 'C' and 'D' comprise pages 1-2 and questions therein are to be answered on the separately provided Answer Book. Use supplementary answer sheet i.e., sheet B if required. Write your answers neatly and legibly.

SECTION – B (Marks 21)
(Chapter 1-8)

Q.2 Attempt any seven parts from the following. All parts carry equal marks. (7 × 3 = 21)

- i. Compare the various kinds of cytoskeleton.
- ii. Differentiate between Glycosidic linkage and peptide bonding.
- iii. Write down optimum pH of Pepsin, Sucrase, Enterokinase and Arginase.
- iv. How does an enzyme accelerate a metabolic reaction?
- v. Differentiate between:
 - Antiseptic and antibiotic
 - Capsid and capsomere
 - Foraminiferans and Actinopods
- vi. Why kingdom Protista is regarded as polyphyletic group of organisms?
- vii. How cloning is done in animals?
- viii. Diagrammatically show the functions of Lysosomes in Eukaryotic cells.
- ix. Show different steps of infectious cycle of HIV.
- x. List land adaptations of Fungi.

SECTION – C (Marks 21)
(Chapter 9-14)

Q.3 Attempt any SEVEN parts from the following. All parts carry equal marks. (7 × 3 = 21)

- i. Enlist steps which are adopted by plants for the evolution of seed habit.
- ii. Compare coelomic characteristics of groups of kingdom animalia.
- iii. What is mechanism of water flow from root to leaf in plants?
- iv. Enlist all types of cells present in human blood along with their major functions.
- v. What is the Action spectrum of photosynthesis?
- vi. Enlist secretions of different organs of human digestive system.
- vii. How do Cnidaria exhibit alternation of generation?
- viii. Write a note on Respiratory organs of cockroach.
- ix. How Glycolysis is linked with Kreb's cycle?
- x. Draw the structural model of an antibody molecule.

SECTION – D (Marks 26)

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

- Q.4 a. Describe in detail the structure and types of bacterial cell wall. (7)
b. Which adaptations are required for aerial mode of life in birds? (6)
- Q.5 a. How transport of respiratory gases takes place in humans. (7)
b. Describe non – cyclic phosphorylation. (6)
- Q.6 a. Describe the life cycle of Adiantum. (7)
b. What are the stages of Cardiac cycle? How it is controlled? (6)
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