



Roll No:

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Answer Sheet No: _____

Signature of Candidate: _____

Signature of Invigilator: _____

Federal Board HSSC-I Examination
Biology Model Question Paper
(Curriculum 2006 – NBF)

SECTION – A

Time allowed: 25 minutes

Marks: 17

Note: Section-A is compulsory and comprises pages 1-3. 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. Polymerases belong to the group:
A. Lyases
B. Ligases
C. Transferases
D. Hydrolases
- ii. The genome of Pox virus is:
A. Single stranded DNA
B. Double stranded DNA
C. Double stranded RNA
D. Single Stranded RNA
- iii. The final electron acceptor in lactic acid fermentation is:
A. Pyruvate
B. NAD^+
C. Lactic Acid
D. O_2
- iv. The protein fibrinogen belongs to:
A. Fibrous
B. Structural
C. Globular
D. Intermediate
- v. Pick out the radially symmetrical animal:
A. Squid
B. Ascaris
C. Tapeworm
D. Obelia
- vi. Complement:
A. is a non-specific defense mechanism
B. is involved in the inflammatory reaction
C. is a series of proteins in the plasma
D. All of these are correct
- vii. The diagram shows the structure of microfilament. What are X, Y & Z?



| | X | Y | Z |
|---|----------------|-------------|----------------|
| A | Tropomyosin | Troponin | Actin filament |
| B | Actin filament | Tropomyosin | Troponin |
| C | Actin filament | Troponin | Tropomyosin |
| D | Troponin | tropomyosin | Actin filament |

DO NOT WRITE ANYTHING HERE

- viii. A bacteria with tuft of flagella at each pole is:
 A. Monotrichous B. Lophotrichous
 C. Peritrichous D. Amphitrichous
- ix. Amylase is produced by:
 A. Liver & pancreas B. Stomach & Pancreas
 C. Pancreas & salivary gland D. Colon & salivary gland
- x. Downy Mildews are example of:
 A. Oomycota B. Myxomycota
 C. Zygomycota D. Ascomycota
- xi. Following is the diagram of female gametophyte. Which one of the following shows exact combination of cells in gametophyte?



| | X | Y | Z |
|---|----------------|----------------|----------------|
| A | Synergids | Polar Nuclei | Antipodal cell |
| B | Antipodal cell | Polar Nuclei | Synergids |
| C | Polar Nuclei | Synergids | Antipodal cell |
| D | Polar Nuclei | Antipodal Cell | Synergids |

- xii. Chose the mismatch:
 A. Chloroplast membrane → glycolipid
 B. Cutin → Glycoprotein
 C. Bacterial antigen → lipoprotein
 D. Yeast → Nucleoprotein
- xiii. Which of the following is closest to the center of a woody stem?
 A. Old xylem B. New Xylem
 C. Old phloem D. Vascular Cambium
- xiv. What structural similarities do veins & lymphatic vessels have in common?
 A. Both have thick walls of smooth muscle.
 B. Both contain valves for one-way flow of fluids.
 C. Both empty directly into heart.
 D. Both fed fluid from arterioles.

- xv. Which one of the following is true about chlorophyll?
A. Contains Mg in porphyrin ring B. Is found mostly in stroma
C. Dissolves in water
D. Is the only pigment found in most plants
- xvi. Which one of the following is not the effect of Cytokinin on floral bud?
A. Promote bud initiation B. Promote lateral bud growth
C. Break bud dormancy D. Promote leaf growth
- xvii. A hormone that stimulates gastric gland to secrete pepsinogen is:
A. Secretin B. Gastrin
C. Cholecystokinin D. Intrinsic factor

For Examiner's use only

Q. No.1: Total Marks:

17

Marks Obtained:



Federal Board HSSC-I Examination
Biology Model Question Paper
(Curriculum 2006 – NBF)

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 (Chapter 1-7)

(7 × 3 = 21 Marks)

Please write your answer in no more than FIVE/SIX lines.

Q.2 Attempt any SEVEN parts from the following. All parts carry equal marks.

i. Complete the table:

| Enzymes | Functions |
|-------------------------|--|
| Histidine decarboxylase | |
| Cytochrome oxidase | |
| | Transfer Phosphate group from ATP to glucose |

- ii. Write down symptoms, causes and prevention/treatment of the following diseases:
a. Blight b. Pneumonia
- iii. How does the formation of following take place within their fruiting body?
a. Basidiospore in club fungi b. Ascospore in sac fungi
- iv. How chromatography is used to separate various biological molecules from a mixture.
- v. Give reasons for the following:
a. Abundance of Peroxisomes in Liver cells
b. Tay-Sachs disease
c. Left handed sugar molecules are not metabolized
- vi. Draw a structure showing molecule of ATP.
- vii. How is glycolysis linked to Krebs's cycle?
- viii. What are the uses of bacteriophage in genetic engineering?
- ix. Differentiate between starch and glycogen.
- x. Compare photosystem-I and photosystem-II.

SECTION – C (7 × 3 =21)

(Chapter 8-13)

Q.3 Attempt any SEVEN parts from the following. All parts carry equal marks.

- i. Draw a labeled diagram of life cycle of Funaria.
ii. Differentiate Cymose and Racemose inflorescence.

- iii. What is the mode of action of phytochrome in photoperiodism?
- iv. Write about the role of arterioles in vasodilation and vasoconstriction.
- v. Enlist protein digesting enzymes in the alimentary canal.
- vi. How is blood supplied to kidney?
- vii. Liver is called the clearing house of the body. Discuss metabolic role of liver?
- viii. What are the evolutionary adaptations in class Reptilia?
- ix. Enlist the function of intrinsic factor, enterokinase and heat shock proteins
- x. What is the mode of action of antibody?

SECTION – D (Marks 26)

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

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| Q.4 | a. | Describe the events of Non Cyclic Photophosphorylation. | (7) |
| | b. | Describe the structure of cilia and flagella and the mechanism of their movement. | (6) |
| Q.5 | a. | Explain the life cycle of HIV. | (7) |
| | b. | Write an account on evolution of leaf. | (6) |
| Q.6 | a. | What are the forces which contribute to the ascent of sap? | (7) |
| | b. | Write an account on conducting system of heart. | (6) |
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