

**MODEL PAPER "BIOLOGY"****Intermediate Part-I Examination, 2007****(Academic Session 2006-08)**

Roll No. \_\_\_\_\_

In Figures \_\_\_\_\_

In Words \_\_\_\_\_

**OBJECTIVE****Time: 20 Minutes****Marks: 17****Note: Write your Roll No. in space provided. Over-writing, Cutting, Erasing, Using lead pencil will result in loss of marks.****Q.No.1. Each question has four possible answers. Choose the correct answer and in circle it.** **17**

- (i) A large regional community primarily determined by climate.  
(a) Population (b) Biosphere (c) Ecosystem (d) Biome
- (ii) Substances which on hydrolysis yield polyhydroxy aldehyde or ketone sub-units.  
(a) Acylglycerols (b) Polypeptides (c) Carbohydrate (d) Nucleic acids
- (iii) Tay-sachs disease results due to accumulation in brain cells:  
(a) My<sup>+</sup> ions (b) Glucose (c) Lipids (d) RNA
- (iv) The infections proteins are:  
(a) Viruses (b) Viroids (c) Virions (d) Prions
- (v) Bacteria require low concentration of oxygen:  
(a) Aerobic (b) Anaerobic (c) Micro aerophilic (d) Facultative
- (vi) The cell wall consists of two shells that overlap like a petridish:  
(a) Foraminifera (b) Actinopods (c) Slime molds (d) Diatoms
- (vii) Carcinogenic mycotoxins called aflatoxins are produced by:  
(a) Aspergillus (b) Penicillium (c) Neurospora (d) Ustilago
- (viii) In Anthoceros sporophyte at the junction of foot and spore producing region there is a band of:  
(a) Paraphysis (b) Meristematic tissue  
(c) Phloem (d) Xylem
- (ix) The body cavity of Nematoda:  
(a) Blastocoel (b) Haemocoel (c) Spongocoel (d) Pseudocoelom
- (x) Fish show modification of aquatic breathing system to meet the conditions of terrestrial life by developing lungs:  
(a) Hagfish (b) Dogfish (c) Dipnoi (d) Shark
- (xi) The process by which a pH gradient across the membrane drives the formation of ATP:  
(a) Chemiosmosis (b) Chemo synthesis (c) Photosynthesis (d) Carbon fixation
- (xii) Ammonia a waste product of amino acid metabolism is converted to urea in:  
(a) Kidney (b) Liver (c) Villi (d) Pancreas
- (xiii) In the lungs of birds instead of alveoli tiny thin walled ducts are present which are called:  
(a) Tracheoles (b) Bronchioles (c) Air sacs (d) Para bronchi

- (xiv) The pathway involving system of adjacent cell walls which is continuous throughout the plant roots:  
(a) Casparian strip                      (b) Apoplast    (c) Symplast                      (d) Plasmodesmata
- (xv) Haemoglobin molecule in most cases, does not have  $\beta$ -chain in it, instead  $\epsilon$  chain is present  
(a) Oedema                                      (b) Leukemia    (c) Thrombosis                      (d) Thalassaemia
- (xvi) The megasporophylls bearing ovules are not folded and joined at the margins to form an ovary:  
(a) Filicineae                                      (b) Monocotyledonae  
(c) Dicotyledonae                                      (d) Gymnospermae
- (xvii) Rubisco fixes oxygen instead of  $\text{CO}_2$  :  
(a) Glycolysis'                      (b) Photorespiration    (c) Krebs' cycle                      (d) Respiration

**MODEL PAPER "BIOLOGY"**  
**Intermediate Part-I Examination, 2007**  
**(Academic Session 2006-08)**

**SUBJECTIVE**

**Time: 2:10Hours**

**Marks: 68**

**Note: - Attempt any TWENTY TWO (22) questions from Section -I and any THREE questions form Section-II**

**SECTION -I**

**Q.No.2. Attempt any TWENTY TWO (22) questions.**

**(22x2)=44**

- (i) Differentiate between deductive reasoning and inductive reasoning.
- (ii) How is a peptide bond formed?
- (iii) How does enzyme concentration affect the rate of reaction?
- (iv) What are polysomes?
- (v) Compare microtubules with micro filaments.
- (vi) What do you know about the capsid of a virus?
- (vii) List the different phases in bacterial growth curve.
- (viii) What are the distinguishing characters of kingdom proctista?
- (ix) Explain what is a mycelium?
- (x) Give a description of conidia of Penicillium.
- (xi) List four adaptations of bryophytes to terrestrial environment.
- (xii) Explain the evolution of megaphyll.
- (xiii) Give four differences between Dicots and Monocots.
- (xiv) Explain polymorphism in coelenterates.
- (xv) Differentiate between polychaeta and oligochaeta.
- (xvi) What is the importance of Archaeopteryx?
- (xvii) What is meant by compensation point?
- (xviii) What is the role of gastrin?
- (xix) Compare aerobic and anaerobic respiration.
- (xx) What is meant by preparatory and oxidative phase of glycolysis?
- (xxi) Name the parts of three main divisions of the digestive system of cockroach.
- (xxii) How is food swallowed by you?
- (xxiii) Differentiate between appendix and appendicitis?
- (xxiv) Air is better respiratory medium than water. Explain.
- (xxv) How does gaseous exchange occur in frog?
- (xxvi) What is diving reflex in cetaceans?
- (xxvii) What is plasmolysis?
- (xxviii) What are the characteristics of circulatory system of a multicellular animal?

- (xxix) Compare monocytes with lymphocytes.
- (xxx) What is electrocardiogram?
- (xxxi) What are the differences between gymnosperms and angiosperms?
- (xxxii) Compare ascus with a basidium.
- (xxxiii) Draw a labelled diagram of HIV.

## SECTION -II

**Note: - Attempt any THREE questions.**

**(8x3)=24**

- Q.No3.** What are amino acids? Describe four levels of proteins organization. How can the action of catalytic proteins be inhibited? (2+4+2)
- Q.No4.** Define alternation of generations. How has seed been evolved? (1+7)
- Q.No5.** Narrate the general characters of Arthropods. What is the importance of chitin in their life? (7+1)
- Q.No6.** Describe light dependent reactions of photosynthesis. 8
- Q.No7.** Discuss the evolution of vertebrate heart. 8