

MODEL PAPER "BIOLOGY"

Intermediate Part-I Examination

OBJECTIVE

Time: 20Minutes

Marks: 17

Q.No.1. Note: Write answers to the questions on the objective answer sheet provided.

You have four choices for each objective type question as A, B, C, and D. The choice which you think is correct; fill the circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling to or more circles will result in zero mark in that question. Attempt as many question as given in objective-type question paper and leave others blank.

- (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) Mg⁺⁺ ions (b) Glucose (c) Lipids (d) RNA
- (iv) The infectious proteins are:
(a) Viruses (b) Viroids (c) Virions (d) Prions
- (v) Bacteria require low concentration of oxygen:
(a) Aerobic (b) Anaerobic (c) Microaerophilic (d) Facultative
- (vi) The cell wall consists of two shells that overlap like a petridish in:
(a) Foraminifera (b) Actinopods (c) Slime molds (d) Diatoms
- (vii) Carcinogenic mycotoxins called aflatoxins are produced by:
(a) *Aspergillus* (b) *no italic* (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 is called.
(a) Blastocoel (b) Haemocoel (c) Spongocoel (d) Pseudocoelom
- (x) Which 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) Chemosynthesis (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) Parabronchi

- (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 B-chain in it, instead F 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 protein fixes oxygen instead of CO_2 :
(a) Glycolysis (b) Photorespiration (c) Krebs' cycle (d) Respiration

MODEL PAPER "BIOLOGY"

Intermediate Part-I Examination

SUBJECTIVE

Time: 2:40Hours

Marks: 68

SECTION -I

Note: Out of Questions Nos.2,3, and 4 write any 22 (Twenty two) short answers. While writing answer write question No. carefully.

(22x2)=44

Q.No.2. Write short answers.

- (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 microfilaments.
- (vi) What do you know about the capsid of a virus?
- (vii) Give the importance of plasmids.
- (viii) What is a hydroponic culture technique?
- (ix) What is the role of tRNA.
- (x) Give two differences between prokaryotic and eukaryotic cells.
- (xi) Differentiate between antiseptics and disinfectants.

Q.No.3. Write short answers.

- (i) What are the distinguishing characters of kingdom protista?
- (ii) List four adaptations of Bryophytes to terrestrial environment.
- (iii) Explain the evolution of megaphyll.
- (iv) Give a description of conidia in *Penicillium*.
- (v) Explain polymorphism in coelenterates.
- (vi) Differentiate between polychaeta and oligochaeta.
- (vii) Give four differences between Dicots and Monocots.
- (viii) What is the importance of *Archaeopteryx* ?
- (ix) Compare an ascus with a basidium.
- (x) Give two differences between gymnosperms and angiosperms.
- (xi) How have reptiles been able to live on land?

Q.No.4. Write short answers.

- (i) What is meant by compensation point?
- (ii) What is the role of gastrin?
- (iii) Compare aerobic and anaerobic respiration.
- (iv) Differentiate between monocytes and lymphocytes.
- (v) What is photorespiration?

- (vi) How is food swallowed by you?
- (vii) Differentiate between single circuit and double circuit heart.
- (viii) What is diving reflex in cetaceans?
- (ix) Why do some plants feed on insects?
- (x) What is meant by preparatory and oxidative phase of glycolysis?
- (xi) Differentiate between apoplastic and symplastic pathway taken by water to reach the xylem tissue.

SECTION -II

Note: - Attempt any THREE questions.

(8x3)=24

- Q.No.5.** What are amino acids? Describe four levels of proteins structural organization.
How can the action of catalytic proteins be inhibited? **(2+4+2)**
- Q.No.6.** Define alternation of generations. Describe the evolution of seed. **(1+7)**
- Q.No.7.** Narrate the general characters of Arthropods. What is the importance of chitin in their life? **(7+1)**
- Q.No.8.** Describe light dependent reactions of photosynthesis. **8**
- Q.No.9.** Discuss the evolution of vertebrate heart. **8**