

**MODEL PAPER BIOLOGY  
(10<sup>TH</sup> FRESH – 2014)**

**Time Allowed: 3 Hours**

**Marks: 65**

**Note:** There are THREE Sections in this paper i.e. Section A, B and C. Attempt Section-A on the same paper and return it to the Superintendent within the given time. No marks will be awarded for Cutting, Erasing or Overwriting. Marks of Identification will lead to UFM case, Mobile Phone etc are not allowed in the Examination Hall.

**Section-A**

**Time Allowed: 15 minutes**

**Marks: 12**

Q.I. Write the correct option i.e. A, B, C or D in the empty box provided opposite to each part.

- (i) Gaseous exchange in the lungs happens by the process of: A. Diffusion B. Osmosis C. Exocytosis D. Active transport
- (ii) In human kidney, the pyramid types of structures are seen in: A. Medulla B. Pelvis C. Hilus D. Cortex
- (iii) Nervous layer of eye is called: A. Retina B. Choroid C. Cone cells D. Cornea
- (iv) The vertebral column consists of.... Vertebrae: A. 32 B. 33 C. 34 D. 35
- (v) Counting the number of seeds in a fruit will give an indication of the number of: A. Stamens B. Carpals C. Ovules D. Pollen tubes
- (vi) Nucleic Acid contains: A. Iron B. Potassium C. Phosphorus D. Sulphur
- (vii) The sum of all Earth's ecosystem is called: A. Biosphere B. Hydrosphere C. Lithosphere D. Stratosphere
- (viii) Chemical Knives/ molecular scissors of DNA are: A. Polymerase B. Restriction endonuclease C. Transcriptases D. Ligase
- (ix) Natural selection operates to produce changes in: A. Population B. Phyla C. Races D. Individuals
- (x) All of the following are classes of Antibiotics EXCEPT: A. Morphines B. Tetracycline C. Penicillins D. Sulfonamides
- (xi) Where do plants get the carbon they use to make organic molecules? A. Oxygen B. Water C. Glucose D. Carbon dioxide
- (xii) If all offspring of a cross have the genotype **Aa**, the parents of the cross would most likely be: A. AA x aa B. Aa x Aa C. Aa x aa D. AA x Aa

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**Note:** Time allowed for Section-B and Section-C is 2 Hours and 45 minutes

Section-B

Marks: 32

Q.II. Attempt any EIGHT parts. Each part carries FOUR marks.

1. Differentiate between Inspiration and Expiration?
2. How skin help in homeostasis?
3. Define Neuron. Describe the structure and function of a typical neuron?
4. Draw neat and labeled diagram of Human eye?
5. Differentiate between Adrenaline and Nor-Adrenaline hormones?
6. Define Joints. Classify the types of joints and give specific example for each type
7. Write note on Apomixes and Cloning?
8. Differentiate between Incomplete Dominance and Co-dominance?
9. Write short notes on: Urbanization and Deforestation?
10. Write down the Importance of Biotechnology?
11. Differentiate between Antibiotics and Vaccines?

Section-C

Marks: 21

**Note:** Attempt any THREE questions. All questions carry equal marks. Draw neat and labeled diagrams where necessary.

- Q.III. (a) Describe any Two Respiratory diseases? (4)  
(b) Write short note on Dialysis?. (3)
- Q.IV. (a) Define Chemical Coordination? Describe the Structure and Function of Pituitary gland? (4)  
(b) Write note on Ozone layer depletion (3)
- Q.V. (a) Describe the Mendel's Law of Independent Assortment with the help of checker board? (4)  
(b) Write note on Food Chain? (3)
- Q.VI (a) Describe any **four** Characteristics of Insect Pollinated (Entomophilous) Flowers? (4)  
(b) Describe "Carbon Cycle" in detail (3)