



## **PUNJAB PUBLIC SERVICE COMMISSION**

### **COMBINED COMPETITIVE EXAMINATION 2017** **FOR RECRUITMENT TO THE POSTS OF** **PROVINCIAL MANAGEMENT SERVICE, ETC.**

**SUBJECT: ZOOLOGY (PAPER-II)**

**TIME ALLOWED: THREE HOURS**

**MAXIMUM MARKS: 100**

**NOTE:** **Attempt FIVE Questions in All. Selecting At Least ONE from Each Section. Attempt in Urdu or English.**

#### **SECTION-A**

- Q No. 1:** a) ✓ Describe the interrelationship among "Cell", "Body system" and "Homeostasis". What factors must be homeostatically maintained in the body?  
b) Describe various steps involved in "Krebs Cycle".  
(10 + 10 Marks)
- Q No. 2:** a) Distinguish between "Cellular respiration" "Oxidative phosphorylation" and "Chemiosmosis" also explain their role in cellular respiration.  
b) What are the main steps and enzymes involved in DNA replication?  
(10 + 10 Marks)

#### **SECTION-B**

- Q No. 3:** a) ✓ Describe the "Fluid Mosaic Model" of membrane structure. Also state three (3) important roles of Na<sup>+</sup> - K<sup>+</sup> pump.  
b) What different types of general factors are involved in regulating "Digestive system" functions?  
(5+5+10 Marks)
- Q No. 4:** a) What are "Skeletal Muscles"? what type of organization level of structures and functions these have?  
b) Describe the structure of "Neuromuscular Junction" and what sequences of events takes place at that junction?  
(10 + 10 Marks)

#### **SECTION-C**

- Q No. 5:** a) ✓ Write short notes on the followings:  
i) Epistasis and Hypostasis. ii) Complementary Genes.  
iii) Atavism. iv) Expressivity v) Penetrance.  
b) What is the importance of "Central dogma" and "Genetic Codes" in Molecular Biology?  
(10 + 10 Marks)

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