

**KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION**  
**COMPETITIVE EXAMINATION FOR THE POSTS OF PMS(BPS-17)-2022**

**ZOOLOGY (PAPER 11)**

Maximum Marks: 100

Time Allowed: 3 hours

Note: Attempt Five (05) questions in all selecting ONE question from each Part. Draw neat and well-labeled diagrams where required.

Q No	Questions	Allocated Marks
PART - A		
1	Discuss the structural and functional unit of DNA and how DNA is controlling the characteristics of a cell, an organism, and generations.	20
2	How does a eukaryotic cell get energy from glucose?	20
PART - B		
3	How the resting membrane potential of nerves is maintained and action potential is attained?	20
4	Discuss the mechanism of self-excitation of fibers of the sinus node and how it is different from ventricular contraction of the heart?	20
PART - C		
5	What is gene mapping and how it is used to measure the distance between genes?	20
6	What are multiple alleles and how these are related to erythroblastosis foetalis?	20
PART - D		
7	What is organic evolution? Explain its mechanism by Darwin along with evidence of evolution.	20
8	Do you think that evolution is happening all the time? If so then explain it by Hardy Weinberg's theorem.	20
PART - E		
9	Explain osmotic adaptations of organisms in marine water, freshwater, and estuaries.	20
10	Do you think that overpopulation is a root cause of all types of pollution, urbanization, deforestation, and industrialization? Explain.	20

