

U.G. 2nd Semester Examination - 2021**ZOOLOGY****[HONOURS]****Course Code : ZOOL-H-CC-P-03****[PRACTICAL]**

Full Marks : 20

Time : 2 Hours

*The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.***Answer all the questions.**

1. A study was conducted on a population of female squirrel in Jaldapara National Park by inserting micro-transmitter under their skin. Sixty female squirrels were alive at the start of the experiment (year = 0), 20 at the start on the next year (year = 1), 8 at year 2, 1 at year 3, and 0 at year 4. During year 0, no babies were produced by the females; average 4 babies at the start on the next year (year = 1), average 8 babies at year 2, average 3 babies at year 3 and 0 babies at year 4. Create a life table from this data [Include n_x , d_x , l_x , b_x/m_x and q_x] calculate the net reproductive rate (R_0). 4+1=5

*[Turn Over]***OR**

Write down the principal and procedure of determination of free CO₂ of water sample. Comment on the expected result. 2+2+1=5

2. What is Shannon-Weiner diversity index? An ornithologist has investigated the diversity of birds at a site in Sunderban National Park. The collected data from that part of the forest is:

Small minivet-5, Mangrove whistler-2, Cinnamon bittern-8. Calculate the Shannon-Weiner diversity index (H) of the above data. [Given $\ln(0.33) = -1.11$, $\ln(0.13) = -2.04$, $\ln(0.53) = -0.63$] 2+3=5

OR

Submission of Report on a visit to National Park or Biodiversity Park or Wildlife Sanctuary. 5

3. Submission of Lab Note Book. 5
4. Viva voce. 5