

**PG CBCS**  
**M.SC. Semester- III Examination, 2021**  
**ZOOLOGY**  
 PAPER: ZOO 303A (SPL PAPER)  
**(FISH TAXONOMY & BIOLOGY AND OCEANOGRAPHY)**

**Full Marks: 40****Time: 2 Hours****Write the answer for each unit in separate sheet**

**UNIT: ZOO 303A.1**  
**(Fish Taxonomy & Biology)**

**Answer any TWO questions of the following:****2X10=20**

1. What is reproduction? What is parthenogenesis & hermaphrodite reproduction? What is fecundity? 3+2+2+3
2. What is migration? what are the main causes of migration? What is anadromous migration? Give suitable examples? 2+4+2+2
3. Exemplify the following fish order and mention two characters of each – (2.5X4)
  - i) Beloniformes
  - ii) Tetradontiformes
  - iii) Perciformes
  - iv) Clupeiformes
4. What do you mean by Osmoregulator and Osmoconformer? Write a note on the Osmoregulatory procedure of Hilsa fish. 4+6
5. Enlist different endocrine glands observed in fish and its secretions. Discuss the hormonal control during fish reproduction. 5+5

**UNIT: ZOO 303A.2**  
**(Oceanography)**

**Answer any TWO questions of the following:****2X10=20**

1. What is the main theme behind OTEC in the field of Oceanography? What is the meaning of Tidal Energy? What is the main concept behind the blue economy? Define Wave Energy? 3+3+2+2
2. What is the meaning of XBT & CTD in the field of oceanography? What is the full form of NOAA & AVHRR in the field of oceanography? What is the meaning of ocean current, discussed conceptually? What is the main theme behind ocean tide? 2+2+3+3
3. What is the meaning of Ocean Resources? Define Biotic Resources. What is the meaning of abiotic resources? What are the key differences between Nekton and Benthos? 3+3+2+2
4. What is Remote Sensing? Mention Major Advantages of RS? Application of Remote Sensing in Fisheries? What is ocean acidification? 2+4+2+2
5. What is the meaning of Upwelling and Down welling in the field of Oceanography? What are the Key differences between Detritivore and Decomposer? What are the renewable and non-renewable energy in the field of Oceanography? 4+2+4

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