



UNIVERSITY EXAMINATIONS

EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE
IN BIOLOGY

ZOOL 410: ICTHYOLOGY

STREAMS: B.SC (BIO) Y4S1

TIME: 2 HOURS

DAY/DATE: WEDNESDAY06/12/2017

11.30 A.M. – 1.30 P.M.

INSTRUCTIONS:

- Answer All questions in section A and any two in section B
- Illustrate your answers with diagram & where appropriate

SECTION A (30 MARKS)

1. Explain briefly the origin and evolution of modern fishes. [4 marks]
2. Distinguish between the following terms.
 - (a) Anadromous and catadromous [1 mark]
 - (b) Mouth brooders and substrate spawners [1 mark]
 - (c) Agnetha and gnathastomata [1 mark]
 - (d) Homocercol and heterocercol tail [1 mark]
 - (e) Ctenoid and cycloid scales [1 mark]
- Q3. Write explanatory notes on the following concepts:
 - (a) Fish pathology [2 marks]
 - (b) Bioluminesce in fish [2 marks]
 - (c) Fish locomotion [2 marks]
- Q4. State the distinctive characteristics of chondrichthyes and osteichthyes. [6 marks]
- Q5. Explain briefly each of the following as applied in ichthyology:
 - (a) Counter current flow [2 marks]
 - (b) Coloration in fish [2 marks]
 - (c) Maximum sustainable yield in fisheries [2 marks]

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- Q6. (a) State the importance of the following in fish
- (i) Schooling [1½ marks]
 - (ii) Parental care [1½ marks]

SECTION B

- 7. Discuss the merits and demerits of artisanal and commercial fisheries. [20 marks]
 - 8. Write an essay on fish migration citing examples. [20 marks]
 - 9. Discuss the significance of conservation of fish in aquatic ecosystems. [20 marks]
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