

OLLSCOIL NA hÉIREANN  
NATIONAL UNIVERSITY OF IRELAND, GALWAY

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SEMESTER II EXAMINATIONS, 2005

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Fourth Year (Denominated B.Sc. Degree in Marine Science; Honours)

ZO421 Zoology Specialist Topics

Prof. M. J. Dring  
and the internal examiners

*Questions should be chosen from the section of your supervisor and section D, giving a total choice of 9 questions, of which you may answer any 4.*

Section A

[WA]

1. Discuss the phylogenetic position of the Chilopoda in relation to other arthropod groups.
2. "The high intertidal is an ecotone involving interactions between 'marine' and 'terrestrial' animals". Discuss.
3. Write an essay on the evolution of segmentation in arthropods.
4. Describe the ecology of inland geophilomorph and lithobiomorph centipedes.
5. Discuss the nature of epimorphic and anamorphic development in the myriopods.
6. Outline the significance of intraspecific variation (in characters unconnected with segmentation) for the evolutionary process.

Section B

[JD]

7. Describe and discuss the various methods used to age fish.
8. Write an essay on fish migrations.
9. Discuss temperature control in fish.
10. Write an essay on fish parasites.
11. "Fish show many adaptations to their vision depending on their lifestyle". Discuss.
12. Write an essay on buoyancy in fish.

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Section C

[TKM]

13. Discuss the variety of coastal lagoons and saltmarshes found in Ireland, with reference to their conservation.
14. Write an essay on estuarine ecosystems.
15. Discuss the special physiological problems experienced by animals living in brackish water habitats.
16. Discuss the biogeography and ecology of the euryhaline fishes found in Ireland.
17. Discuss the ecology and medical importance of saltmarsh mosquitoes.
18. Give an account of the water bugs found in marine and mixohaline waters, with particular reference to water-striders and water-boatmen.

Section D

[AMP\_NW]

19. Describe the fauna of soft sediment shores with particular emphasis on how animals respond to the physical/chemical gradients that occur in these habitats.
20. What are the major environmental gradients found on rocky shores and how are these characterised/measured?
21. EITHER  
(a) Give a brief account of the life cycle of the Atlantic salmon. Explain the technologies known as "sea-ranching" and "sea-cage cultivation", indicating how each might impinge on wild salmon stocks.

OR:

- (b) Discuss some genetic aspects of stock restoration in Atlantic salmon.

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