

## Sample essay questions to help you revise

Below we have provided some example questions you might encounter in a final year exam for a Bachelor of Science Honours degree. You should revise for each question and then allow yourself 90 minutes to write your answer. Ensure you use 10 minutes to plan your essay and compile the key points and examples you want to use.

In the accompanying document we provide the questions again with pointers as to what the content of the essay would cover, but we do not provide a model essay for reasons associated with potential plagiarism. Use this document after you have written your essay or essay plan to see if you picked up the points we highlighted.

As the majority of the authors teach in Universities we have based our questions on our collected experience of setting exams. **In addition to reading the advice on 'how to write a good essay', available through the online resources which accompany this book**, it is patently clear that a good essay will be evidenced with lots of relevant examples to illustrate the statements you make. Remember to **ask yourself the key questions outlined in the essay advice** (what? Where? When? Who? How? etc.). Examples will be taken from the primary literature and will not be grazed from Wikipedia! Although the questions below are specific to certain chapters, good answers would necessarily draw on information in other chapters, particularly the information in Chapters 1 to 4 and Chapter 15 to 18. We have not set a specific question for Chapter 1 as it should be reflected in the answers to the majority of questions below.

## Chapter 2

**2.1 Factors influencing phytoplankton productivity are many and varied. Discuss how light and inorganic nutrient supply control phytoplankton growth.**

**2.2 Seaweeds are conspicuous primary producers in marine and estuarine systems. Discuss their importance in relation to other primary producers in marine and estuarine systems.**

### Chapter 3

**3.1 Multiple factors regulate growth in the oceanic microbial food webs. Present and discuss the two basic categories of controlling factors.**

**3.2 Planktonic microbial food webs in temperate seas undergo a seasonal cycle with four distinct phases. Describe the seasonal cycle of production and consumption and discuss the causing factors and features of each major phase.**

### Chapter 4

**4.1. How does bottom trawling affect the biomass, secondary production, P:B ratios and body size distribution of benthic invertebrate communities?**

**4.2. What ecosystems and groups of organisms have the highest amounts of secondary production and why? Is it possible to increase and decrease secondary production in an ecosystem? How, and why or why not?**

### Chapter 5

**5.1 Explain how the physico-chemical environment varies as you move along an estuary from river to sea. How does this influence patterns of organism distribution within the estuary?**

**5.2 Why are estuaries considered important for commercial fish stocks? Discuss the environmental factors influencing fish movement in estuaries and what tools can be used to assess whether a fish caught at sea has spent some of its life in an estuarine ecosystem.**

### Chapter 6

**6.1 Describe why and how experiments in intertidal systems have offered insight into ecology more generally**

## **Chapter 7**

**7.1 Describe the 'paradox of the plankton', and explain why modern sampling techniques are serving to dispel it.**

## **Chapter 8**

**8.1 Describe the importance of scale considerations in understanding the impact of natural disturbance in marine benthic shelf sea communities**

**8.2 Discuss how the changing climate is likely to affect continental shelf systems around the world**

## **Chapter 9**

**9.1 Discuss what food supplies are available to deep-sea organisms and the mechanisms they use to make the most of the food available**

**9.2 Review the environmental conditions experienced by an organism living on the abyssal plain and conclude which of these has the most limiting effect on deep-sea assemblages.**

## **Chapter 10**

**10.1 Discuss the main problems faced by mangroves trying to survive in the marine environment. What adaptations do the trees have enabling them to deal with these problems?**

**10.2 How do changes to the physical structure of seagrass beds affect the organisms living amongst the seagrass?**

## **Chapter 11**

**11.1 Assess the vulnerability of coral reef animals to climate-related coral bleaching.**

## **Chapter 12**

**12.1 Discuss how Antarctic sea ice assemblages have an important role for the Southern Ocean “ecosystem”.**

**12.2 With the permanent sea ice cover in the Arctic Ocean thought to be lost sometime within the next 100 years, speculate about the consequences for the Arctic marine productivity.**

## **Chapter 13**

**13.1 Why do fisheries need to be assessed and managed? What are reference points and why are they used to support management?**

**13.2 Describe the main impacts of fishing on the environment and how might managers ensure that they are sustainable?**

## **Chapter 14**

**14.1 Describe the environmental impacts associated with marine aquaculture and how these might be mitigated in the future**

**14.2 Is fish farming cruel?**

## **Chapter 15**

**15.1 Excluding the effects of climate change and fisheries, discuss the various impacts that human interventions in natural systems can have on the marine environment.**

## **Chapter 16**

**16.1 Why do people want to conserve the marine environment and what are the factors affecting the success of conservation policy?**

## **Chapter 17**

**17.1 Describe how climate change is affecting coastal communities (human) and biological processes in marine systems.**

## **Chapter 18**

**18.1 Which economic factors influence human use of the marine environment and how can economic analysis be used to inform conservation decision making?**