



UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
SEMESTER II
SESSION 2022/2023

- COURSE NAME : MARINE ECOSYSTEM
MANAGEMENT
- COURSE CODE : BWJ 31203
- PROGRAMME CODE : BWW
- EXAMINATION DATE : JULY / AUGUST 2023
- DURATION : 3 HOURS
- INSTRUCTIONS :
1. ANSWER ALL QUESTIONS
 2. THIS FINAL EXAMINATION IS
CONDUCTED VIA
 Open book
 Closed book
 3. STUDENTS ARE **PROHIBITED** TO
CONSULT THEIR OWN MATERIAL
OR ANY EXTERNAL RESOURCES
DURING THE EXAMINATION
CONDUCTED VIA CLOSED BOOK

THIS QUESTION PAPER CONSISTS OF **THREE (3)** PAGES

TERBUKA

CONFIDENTIAL

Q1 The largest aquatic ecosystem on earth, marine ecosystem is found in waters with a lot of salt. This environment stands in contrast to freshwater ecosystem, which contains less salt.

(a) Differentiate between open ocean, shallow water, and intertidal zones.
(6 marks)

(b) Define the term "wave".
(1 mark)

(c) Briefly explain the processes and forces involved in the formation of waves by giving **NINE (9)** viewpoints.
(18 marks)

Q2 The study of the physical, chemical, and biological characteristics of the ocean, as well as the ocean's ancient past, present state, and potential future, is known as oceanography.

(a) Define the term "Coriolis effect".
(1 mark)

(b) Compare the movement of water with the movement of wind in the ocean by giving **FOUR (4)** viewpoints.
(8 marks)

(c) Regarding the internal fertilisation and development of marine organisms, differentiate between r- and k-selected organisms by giving **EIGHT (8)** viewpoints.
(16 marks)

Q3 Physical and biological resources found in oceans are referred to as marine resources and are beneficial to people. One of the 17 Sustainable Development Goals adopted by the United Nations in 2015, Sustainable Development Goal 14, is about "Life below water" and is responsible for popularising the term.

(a) Define the terms "physical resources", "marine energy resources", "non-extractive resources", and "biological resources". Give example(s) for each type.
(12 marks)

(b) Define the term "population density".
(1 mark)

(c) Differentiate between density-dependent and density-independent limiting factors by giving **SIX (6)** viewpoints.
(12 marks)

Q4 The key to managing the ocean sustainably is to safeguard both its resources and the services it offers. The oceans are vital to the health of the world, and the coastal regions in particular are home to a diverse range of habitats and ecosystems.

- (a) Define the term “symbiosis”.
(1 mark)
- (b) Differentiate between commensalism, inquilinism, parasitism and mutualism.
(16 marks)
- (c) Explain **FOUR (4)** goals of the regional plan of action of The Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF).
(8 marks)

- END OF QUESTIONS -