Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
SEMESTER I
SESSION 2019/2020

COURSE NAME	:	PRINCIPLES OF BIODIVERSITY AND CONSERVATION
COURSE CODE	:	BWJ 10102
PROGRAMME CODE	:	BWW
EXAMINATION DATE	:	DECEMBER 2019 / JANUARY 2020
DURATION	:	2 HOURS
INSTRUCTION	:	ANSWER **ALL** QUESTIONS

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

Q1 (a) Genetic diversity refers to the variation of genes within a species. Give **ONE (1)** species and list down **FOUR (4)** characteristics that exemplified genetic diversity within that species.

(5 marks)

(b) Developing and developed countries have different scenarios when it comes to biodiversity and conservation.

(i) Give **ONE (1)** example of developing country and **ONE (1)** example of developed country.

(2 marks)

(ii) Compare how developing and developed countries perceive biodiversity.

(8 marks)

(c) The distribution of biodiversity worldwide follows specific patterns.

(i) What is pattern diversity?

(2 marks)

(ii) Explain why the tropics contains the highest biological diversity among other regions on Earth.

(3 marks)

(d) Explain how niche specialization can lead to speciation.

(5 marks)

Q2 (a) Differentiate autogenous engineers from allogenous engineers. Give **ONE (1)** example for each.

(6 marks)

(b) Define or explain the following.

(i) Predation
(ii) Bioindicator
(iii) Keystone species
(iv) Ecosystem integrity
(v) The objectives of management of land, water and living resources are a matter of societal choices

(10 marks)

(c) Inventory of biodiversity is a tedious process. It must be done for specific purposes and according to standard and well-established field procedures.

(i) Provide **TWO (2)** approaches that can be applied in order to conduct an inventory of biodiversity. Explain each approach clearly.

(6 marks)

(ii) Given that you are tasked to conduct general inventory of biodiversity in Taman Negara Johor Endau-Rompin (TNJER), from the approaches provided in **Q2(c)(i)**, select which one will you apply for TNJER and briefly explain why.

(3 marks)

Q3 (a) Conversion of forest to different land-uses is one of the main causes of loss of biodiversity. Demonstrate how conversion of forest to agricultural purposes can cause loss of biodiversity. Explain your answer clearly.

(10 marks)

(b) List down **TWO (2)** anthropogenic threats to biodiversity and explain the impact of each to biodiversity. Note: Do not include your answer in **Q3(a)**.

(10 marks)

(c) List down **FIVE (5)** principles of sustainable development.

(5 marks)

Q4 Conservation of biodiversity encompasses genetic, species and ecosystem.

(a) Enumerate **THREE (3)** importance of genetic conservation.

(6 marks)

(b) Compare *in-situ* and *ex-situ* conservation. Give **ONE (1)** example for each.

(4 marks)

(c) Demonstrate how restoration ecology can be a tool for conservation of biodiversity.

(5 marks)

(d) Conservation of biodiversity will be more effective if efforts to conserve will be coming from all sectors of the society, not just by the government. Determine the most effective approach in order to promote conservation of biodiversity to the following.

(i) Primary school children

(5 marks)

(ii) Rural community

(5 marks)

- END OF QUESTIONS -