



(University of Choice)

**MASINDE MULIRO UNIVERSITY OF
SCIENCE AND TECHNOLOGY
(MMUST)**

(MAIN CAMPUS)

**UNIVERSITY EXAMINATIONS (MAIN EXAM)
2021/2022 ACADEMIC YEAR
FIRST YEAR SECOND SEMESTER EXAMINATIONS
FOR THE DIPLOMA
OF
MEDICAL BIOTECHNOLOGY**

COURSE CODE: BBD126

**COURSE TITLE: FUNDAMENTALS OF ENVIRONMENTAL
BIOLOGY**

DATE: 26/04/2022

TIME: 8.00 -10.00 AM

INSTRUCTIONS TO CANDIDATES

This paper is divided into three sections, **A B** and **C**, carrying respectively: Multiple Choice Questions (**MCQs**), Short Answer Questions (**SAQs**) and Long Answer Questions (**LAQs**). **Answer all questions. DO NOT WRITE ON THE QUESTION PAPER.**

TIME: 2 Hours

MMUST observes ZERO tolerance to examination cheating

SECTION A: MULTIPLE CHOICE QUESTIONS (MCQs)**20MARKS**

1. Which one of the following describes geothermal energy
 - a) The energy utilized from the high temperature present inside the earth
 - b) Organic matter produced by plants or animals used as source of energy
 - c) Mixture of methane, carbon dioxide and hydrogen sulphide
 - d) Fuels obtained by the fermentation of biomass
2. Which one of the following is not an effect of Global climatic change
 - a) Led to drought
 - b) Led to storms
 - c) Led to green-house effect
 - d) Improved quality of life
3. Which one of the following is true about tidal energy/tidal power
 - a) During high tides there is fall of water in the ocean
 - b) During high tides sea water enters into the reservoirs and rotates the turbine, produce electricity.
 - c) Tidal energy can be used by constructing a tidal wastes
 - d) Ocean tides are due to sun and moon light which produce enormous amount of energy
4. Which one of the following is not a non-metal resource
 - a) Clay
 - b) Salt
 - c) Aluminium
 - d) Cement
5. Which one of the following is a not Merit of renewable energy resources
 - a) Unlimited supply
 - b) Provides energy security.
 - c) Does not fit into sustainable development concept.
 - d) Reliable and the devices are modular in size.
6. Which one of the following is not a function of forest
 - a) They recycle rain water.
 - b) They remove pollutant from air.
 - c) They control water quality.
 - d) They moderate humidity and salinity.
7. How many species of edible plants are known in the world?
 - a) 5000
 - b) 50000
 - c) 60000
 - d) 6000
8. Which one of the following elements does not cause pollution
 - a) Carbon dioxide
 - b) Nitrogen
 - c) Oxygen
 - d) Sulphur
9. What is the greatest contributor of green-house effect?
 - a) Coal

- b) Sunlight
 - c) Carbon dioxide
 - d) Nitrogen
10. Which one of the following is a type of renewable energy resource
- a) Solar energy
 - b) Coal
 - c) Fossil fuel
 - d) Excessive water supply
11. Which one of the following is not an effect of mal nutrition
- a) Blindness
 - b) Anemia
 - c) Infectious diseases
 - d) Goiter
12. Which one of the following is a world food problem?
- a) Urbanization affects agricultural land, hence production of food crops is difficult.
 - b) Topsoil and vegetation get removed
 - c) Radioactive wastes and other acidic impurities affect the surface water
 - d) Harvesting pollutes ground water
13. Which one of the following is the habitat for nitrogen fixing bacteria
- a) Soil
 - b) Air
 - c) Water
 - d) Vapour
14. Which one of the following is a problem in using excessive fertilizers
- a) Water logging
 - b) Eutrophication
 - c) Death of non-target organism
 - d) Risk of cancer
15. Which one of the following is the main source of energy in the ecosystem
- a) Moon
 - b) Water
 - c) Plants
 - d) sun
16. What are herbivores?
- a) Animals that feed on plants
 - b) Animals that feed on other animals
 - c) Plants
 - d) Animals that feed on dead decomposing matter
17. Which one of the following is the term used for interlinked chains in an ecosystem
- a) Food chain
 - b) Food web
 - c) Ecological pyramid
 - d) Biodiversity
18. Which one of the following is not a Problem associated with natural resources.
- a) Rain

- b) Deforestation
 - c) Desertification
 - d) Global warming
19. Which one of the following is not an effect of over grazing
- a) Loss of useful species
 - b) Soil erosion
 - c) Land degradation
 - d) Bio magnification
20. Which one of the following is the source of non-renewable resources?
- a) Fossil
 - b) Coal
 - c) Atmosphere
 - d) Sun

SECTION B: SHORT ANSWER QUESTIONS (SAQ)(40 MARKS)

1. Explain the following terms as used in environmental studies (4 marks)
 - a) Atmosphere
 - b) Hydrosphere
 - c) Lithosphere
 - d) Hydrosphere
2. State the differences between traditional and modern (industrialized) agriculture (6 marks)
3. Outline the importance of environmental studies. (5marks)
4. Describe natural resources. (5marks)
5. Describe renewable resources. (5 marks)
6. What are the effects of modern agriculture? (5 marks)
7. Outline the roles of individuals in conservation of natural resources. (5 marks)
8. What are the ways we can use to save electricity? (5 marks)

SECTION C: LONG ANSWER QUESTIONS (LAQ) (60 MARKS)

1. Discuss measures that can be taken to curb pollution (20 marks)
2. Discuss various ways used in sustainable water management (20 marks)
3. Discuss mineral resources in terms of the following
 - a) Uses and exploitation (10 marks)
 - b) The environmental damages caused by mining activities (10 marks)