

COLLEGE OF AGRICULTURE, FISHERIES AND FORESTRY (CAFF)

Department of Soil Science & Agricultural Engineering

School of Agricultural Sciences

Bachelors of Education (Secondary) Agricultural Science Year 2

FINAL EXAMINATION: 2017
Trimester II, 2017

AGR702 AGRICULTURE, ENVIRONMENT AND CLIMATE CHANGE

TOTAL MARKS: 100

TIME DURATION: 3:00 HOURS

INSTRUCTIONS TO STUDENTS

1. This paper consists of six (6) pages. Please check to see that your paper is complete.
2. You are allowed 10 minutes extra reading time in which you are NOT permitted to write.
2. Attach all the sheets used as your answer paper in their correct sequence and secure with a string.
3. Use both sides of the answer sheet and write your candidate number on each sheet.
4. Write clearly the number(s) of the question(s) attempted on the top of each sheet.
5. Candidates are not allowed to carry any textual material, printed or written material, bits of papers, inside the Examination Room/Hall

"MOBILE PHONES ARE STRICTLY NOT ALLOWED"

SECTION	PARTICULARS	TOTAL
A	Part 1: Fill in the Blanks Part 2: True and False Part 3: MCQ Part 4: Differentiate	40
B	Part 5: Short answers Part 6: Long answers	60
	Total	100

SECTION A:

PART 1

FILL THE BLANK:

(10X1=10 MARKS)

1. Deseret of sea is an environment rich in resources but generally low in -----.
2. -----can make people fully understand the interdependence of economy, polity, and ecology in the world.
3. -----advices and encourages developing countries to reduce deforestation.
4. -----Mangroves, grow at the water's edge, with "prop" roots that stabilize trees in soft mud and wave zones.
5. -----is a method of fishing that involves pulling fishing net through the water behind one or more boats.
6. ----- can be defined as the release of radioactive substances or high-energy particles into the air water, or earth as a result of human activity, either by accident or by design.
7. -----is the discarded electronic devices like computer, TV, music systems.
8. The term -----comes from the Japanese language, meaning harbor (tsu) and wave (nami).
9. In Fiji there is only one species of -----Mangrove.
10. ----- means lessening the negative impact of the natural hazards

PART 2
STATE TRUE OR FALSE

(10X1=10 MARKS)

1. Marine Protected Areas (MPA's) are used as management tools to protect, maintain, or restore natural and cultural resources in coastal and marine waters.
2. Mangroves are acid -tolerant plants of tropical and subtropical intertidal regions of the world.
3. The word environment is derived from the Latin verb 'environner' which means to 'encircle or surround'.
4. The amount of oxygen required to break down a certain amount of organic matter is called Chemical oxygen demand (COD).
5. A sound level of 170 dB or more can physically rupture the human eardrum.
6. Sedimentation is the continuous exposure of eroded soil to sun for longer periods may transform the land into sandy and rocky in nature.
7. Bioremediation can be defined as any process that uses microorganisms, fungi, green plants or their enzymes to return the natural environment altered by contaminants to its original condition.
8. Point source of pollution is when a source of pollution cannot be readily identified such as agricultural run-off, acid rain etc.
9. Eutrophication refers to natural or artificial addition of nutrients to bodies of water and to the effects of the added nutrients.
10. Ecosystem diversity refers to the variation in the genetic composition of individuals in a population, community or species.

PART 3:

WRITE THE LETTER OF YOUR CHOICE

(10X1=10 MARKS)

- 1. Why is species diversity important?**
 - A. Allows for species to adapt /thrive in different environments.
 - B. Global warming threatens
 - C. It enables species to create their own habitat.
 - D. It's not important
- 2. Maximum amount of gas found in air is**
 - A. Oxygen
 - B. Carbon dioxide
 - C. Hydrogen
 - D. Nitrogen
- 3. Human activities that causes climate change on Earth includes**
 - A. Burning of forests
 - B. Agricultural activities
 - C. Use of aerosol cans
 - D. All of above
- 4. What type of radiation is trapped on the earth's surface by the greenhouse effect?**
 - A. UV rays
 - B. Beta-rays
 - C. X-rays
 - D. IR rays
- 5. The greenhouse effect is caused by**
 - A. Greenhouse gases in the lower atmosphere absorbing solar radiation
 - B. Greenhouse gases in the lower atmosphere absorbing radiation from the Earth's surface, and preventing much of it escaping into space
 - C. Too much heat in the atmosphere
 - D. Too much sunshine reaching Earth
- 6. Types of Biodiversity are**
 - A. Genetic diversity
 - B. Species diversity
 - C. Ecosystem diversity
 - D. All of above

7. Which of these is NOT an expected effect of climate change?

- A. Sea levels rising
- B. Flooding in coastal cities
- C. Expanding glaciers
- D. Extreme weather

8. Which of the following is not a likely result of global warming?

- A. Rising sea level
- B. Increased agricultural productivity worldwide
- C. Increased storm frequency and intensity
- D. All of the above

9. Pollutants can be classified as:

- A. Degradable
- B. slowly degradable pollutants
- C. non-degradable pollutants
- D. All of the above

10. What is/are the threat(s) to coral reefs?

- A. Global climate change
- B. Destructive fishing methods
- C. Pollution
- D. All of the above

PART 4 :

(2X5=10 MARKS)

Write difference in the for the following

Note: Attempt any TWO (2) questions only.

1. Renewable and nonrenewable resources
2. Genetic and species diversity
3. Greenhouse effect and global warming
4. Acid rain and ozone layer depletion

SECTION B

PART 5 :

(4X5=20 MARKS)

Write short answers for the following questions

Note: Attempt any FOUR (4) questions only.

1. Role of information technology on environment
2. Functions of ecosystem
3. Write on 3 R's principle.
4. Industrial waste management
5. Greenhouse gas emission agriculture fields.

PART 6

(4X10=40 Marks)

Descriptive Type Questions : Attempt any FOUR (4) questions only.

1. Provide the details for disaster vulnerability profile of Fiji and steps for disaster management for cyclones and landslides in Fiji.
2. Use the knowledge about climate change and explain in detail the impacts of climate change on agriculture sector and its mitigation measures?
3. Analyse different types of Mangroves and their importance in combating with climate change.
4. Use the knowledge about Environmental Education and discuss different methods that may be adopted for successful implementation of Environmental Education in Fiji.
5. Analyse the different biodiversity types, causes of depleting biodiversity and strategies for its conservation.
6. Apply your knowledge about Environmental pollution and explain any three types of Environmental pollution -their causes, effects and control management.

END OF EXAMINATION PAPER