

The
Management
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UNDERGRADUATE UNIVERSITY EXAMINATIONS
SCHOOL OF MANAGEMENT AND LEADERSHIP
DEGREE OF BACHELOR OF ARTS IN DEVELOPMENT STUDIES

ENM 402 : CONTEMPORARY ISSUES IN ENVIROMENT CONSERVATION

DATE: 1ST AUGUST 2024

DURATION: 2 HOURS

MAXIMUM MARKS: 70

INSTRUCTIONS:

1. Write your registration number on the answer booklet.
2. **DO NOT** write on this question paper.
3. This paper contains **SIX (6)** questions.
4. Question **ONE** is compulsory.
5. Answer any other **THREE** questions.
6. Question **ONE** carries **25 MARKS** and the rest carry **15 MARKS** each.
7. **Write all your answers in the Examination answer booklet provided.**

QUESTION ONE

Read the Case Study below carefully and answer the questions that follow:

ENERGY-BASED SOLUTIONS

While working to create a better climate, it makes the most sense for engineers to work on solving energy-specific issues. As we mentioned previously, divisions between environmentalists has created stagnation in climate activism. This stall allows for coal and natural gas to maintain their position in the market as backups for variability in solar and wind energy production, (Blunt, 2022). If policy and public opinion is primarily in favor of solar and wind, we will see issues with intermittent energy production due to the structure of the grid. This is a huge problem because the main method of combating blackouts from weather variation is importing electricity. Due to the structure of the grid in the United States, it is extremely difficult for us to transport electricity over long distances and to neighboring states, meaning that if we were to import electricity from neighboring states, it would primarily be with fossil fuels. Bill Gates equation on Innovating to Zero carbon emissions.

$$CO_2 = P * S * C * E$$

Above is an equation used by Bill Gates in his TED Talk: Innovating to Zero. This equation details how carbon emissions are affected by many different variables, (Gates, 2010). The P in this equation is for population, which is increasing. The S in this equation stands for "services per person" which is also increasing. However, this is good because it indicates that the standard of living has been improving, especially in the developing world. The E is for energy, which has actually been decreasing due to an increase in efficiency of energy production. This is also a good thing, but it is primarily canceled out by the increase in S and P sections of the equation. This is why Bill Gates argues that we should shift our focus to C: CO₂ per energy unit. He challenges, in the talk, for us to innovate our emissions down to zero. When we ask what that entails in the electricity sector, Gates goes into detail in the chapter titled "How We Plug In" from his book How To Avoid A Climate Disaster.

These developments include updates to the US grid system, further development of carbonfree energy sources, innovation in energy storage options, carbon capture and decreased usage of electricity and energy, (Gates, 2021, pp. 66–97). This is obviously a big challenge, but if we are to focus ourselves on creating a stable, carbon-neutral grid as Mr. Gates has described, CO2 emissions will no longer be an important part of the equation, consideration should be in huge. Infrastructural projects to update the grid or an integrated approach to alternative energy sources (Blunt, 2022) & (Gates, 2021, pp. 66–97). Selling Points of Alternative Energy Sources There are a number of benefits to alternative energy sources, but for them to succeed in persuading the public of their applicability, they have to be able to appeal to more than one set of priorities. Discussion around alternative energy sources are in terms of economics, health, and welfare perspectives.

Required:

- a) Explain the Bill Gates equation on Innovating to Zero carbon emissions. **(10 Marks)**
- b) There are a number of benefits to alternative energy sources, Assess the three of the benefits. **(9 Marks)**
- c) Explain the Economic Value of Conservation. **(6 Marks)**

QUESTION TWO

- a) Economic globalization affects both the nature and the **rate** of technological innovation and diffusion through a variety of channels. Expound on any three of the channels. **(9 Marks)**
- b) Describe three kinds of politic related with the governance of resources **(6 Marks)**

QUESTION THREE

- a) While armed conflicts and military activities can cause or facilitate many different forms of environmental harm, addressing the environment during and after conflicts can also create opportunities for building and sustaining peace, and for helping to transform societies through sustainable recovery. Assess the importance of shared natural resource. **(10 Marks)**
- b) Civil resisters use a wide range of tactics; examine five of the tactics used to raise awareness. **(5 Marks)**

QUESTION FOUR

- a) Using appropriate examples, evaluate three views on environmental ethics **(9 Marks)**
- b) Knowledge-based campaigns have always been a popular means of promoting certain behaviors in the general public, like conservation behavior. Discuss the six behaviors of knowledge – based campaigns. **(6 Marks)**

QUESTION FIVE

- a) Discuss any three ways involved in wetland restoration for climate change mitigation. **(8 Marks)**
- b) Examine seven topics of interest to Environmental Sociology. **(7 Marks)**

QUESTION SIX

- a) Expound on the concept of technology transfer in relation to climate change. **(8 Marks)**
- b) Examine any seven GIS, Mammal conservation categories of protected areas. **(7 Marks)**