UNIVERSITY EXAMINATIONS
2022/2023 ACADEMIC YEAR

Fourth YEAR SECOND SEMESTER
MAIN EXAMINATIONS

FOR THE DEGREE OF BACHELOR OF SCIENCE IN RENEWBLE ENERGY AND BIOFUELS TECHNOLOGY

COURSE CODE: REN 424

COURSE TITLE: PROJECT MANAGEMENT FOR TECHNOLOGISTS

DURATION: 2 HOURS

DATE: 4/8/23   **TIME: 2-4PM**

INSTRUCTIONS TO CANDIDATES
- Answer **QUESTION ONE** (Compulsory) and any other two (2) Questions.
- Indicate **answered questions** on the front cover.
- Start every question on a new page and make sure question's number is written on each page.

QUESTION 1 (30 marks)

a. Define the following terms:

    i.   Project   (1 mark)

    ii.   Project Management   (1 mark)

    iii.   Stakeholder   (1 mark)

    iv.   Project income   (1 mark)

    v.   Working capital   (1 mark)

b. Explain the stages of project management.   (5 marks)

c. Describe any five (5) typical stake holders in any project.   (5 marks)

d. State any five (5) typical project control activities.   (5 marks)

e. Explain any five (5) project finance appraisal techniques.   (5 marks)

f. State any five (5) desired features of project management softwares.   (5 marks)

QUESTION 2 (20 marks)

a. Explain any five (5) project characteristics.   (5 marks)

b. Explain any five (5) characteristics of a good project manager.   (5 marks)

c. Explain any five (5) key areas of project management.   (5 marks)

d. State the stakeholders' engagement process.   (5 marks)

QUESTION 3 (20 marks)

a. Explain any five (5) project finance sources.   (5 marks)

b. Explain the three (3) approaches to design control.   (3 marks)

c. State the three (3) essential steps in cost control process.   (3 marks)

d. Explain the three (3) categories of cash flows.   (3 marks)

e. Explain the three (3) basic financial statements in project management.   (3 marks)

f. Discuss resource leveling as a resource optimization technique.   (3 marks)

QUESTION 4 (20 marks)

a. Compare and contrast CPM and PERT as used in project management.   (5 marks)

b. State any five (5) advantages of computerized project management system.   (5 marks)

c. State the steps involved in Monte Carlo Simulation.   (5 marks)

d. State the procedure of simplex method using computers.   (5 marks)

QUESTION 5 (20 marks)

A project has eleven activities whose duration is given in the following table.

Activity	1-2	2-3	2-4	3-5	3-6	4-5	4-7	5-8	6-8	7-8	8-9
Duration (days)	2	8	10	6	3	3	7	5	2	8	3

a. Draw the network
b. Determine total, free and independent floats.
c. Identify the critical activities, the critical path and project duration.