MAASAI MARA UNIVERSITY

REGULAR UNIVERSITY EXAMINATIONS
2022/2023 ACADEMIC YEAR
FOURTH YEAR FIRST SEMESTER

SCHOOL OF BUSINESS AND ECONOMICS

COURSE CODE: BCM 4182

COURSE TITLE: PROJECT MANAGEMENT

DATE: 9TH DECEMBER 2022 **TIME: 1100-1300**

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTION ONE AND ANY OTHER THREE L I ILL QUESTIONS

This paper consist of three printed pages

QUESTION ONE (25 MARKS)-COMPULSORY

Read the following case study and answer the questions that follow.

Steel, the most recycled industrial material in the world, was produced through highly energy intensive methods. Though the energy used to produce steel has been reducing since the 1960s, it consumed 6% of all the power generated in the world, and accounted for 6.7% of all the CO2 emissions. The European Union was targeting to cut its emissions to 80 – 95% of the 1990 levels by 2050 through the adoption circular economy and was looking at closing the loop of product lifecycles through recycling and reuse. As far as the steel industry was concerned it was looking at increasing the efficiency of production, and redesign processes to reduce CO2 emissions. In this direction, in 2004, eight steel makers in Europe along with Europe 48 universities and research organizations formed a consortium Ultra-Low Carbon Dioxide Steelmaking (ULCOS. The main objective of ULCOS was to identify technologies and processes to help reduce carbon emissions, ensure energy efficiency, and achieve flexibility in the selection of raw materials in the steel industry. The consortium decided to bring improvements to the steel making process and looked at several ways to bring changes in the way steel was manufactured in an economically and environmentally viable manner. In this direction, European unit of India-based steel major Tata Steel was chosen to execute the € 75 million project to develop a new technology. This resulted in HIsarna steelmaking process, which consisted of two different processes, one from metal and mining company Rio Tinto and another from Tata Steel. The process was developed and tested at Tata Steel's IJmuiden plant in the Netherlands. After several years of experiments and trial runs HIsarna was successful in reducing the carbon footprint in steel production by 20%. By capturing the pure CO2 that was generated during the process, the carbon footprint could be 80% smaller. "HIsarna's results show we can make a significant contribution to improving the sustainability of steel production with this Tata Steel technology. The development of this technology forges our ambition to become a steel company which is sustainable in all respects," 2 said Hans Fischer, Chief Executive Officer and Chief Technical Officer of Tata Steel's European operations. The steel makers were of the view that HIsarna technology would prove to be a game changer in the steel industry, pave the way for sustainable steel production globally and also offer solutions to challenges like increasing pollution, growing CO2 and greenhouse gas emissions, and climate change.

Required0

a) What are the roles and responsibilities of the project manager of TATA Steel Plant towards reduction on air pollution? **(5 marks)**

b) Explain some of the constraints on completion of project carried out by the Tata Steel's European operations. **(6 marks)**

c) Giving examples, explainthe dimensions of project feasibility analysis carried out by the Tata Steel Company towards combating greenhouse gas emissions**. (8 marks)**

d) With reference to the above case, explain why in practice, costing of projects presents many problems. **(4 marks)**

e) Risk analysis is a very important exercise in project management, citing examples from the above case, highlight areas where risk analysis been carried out. **(1 Mark)**

QUESTION TWO

The project information for the custom order project of an Air Control Company is presented here.

a) Draw a project network for this project. **(5 marks)**

b) Compute the early and late activity times and the slack times. **(6 marks)**

c) Identify the critical path. (**1Mark)**

d) Explain the importance of designing a project plan. **(3 marks)**

ID	Activity	Predecessor	Time
A	Order review	None	2
B	Order standard parts	A	15
C	Produce standard parts	A	10
D	Design custom parts	A	13
E	Software development	A	18
F	Manufacture custom hardware	C,D	15
G	Assemble	B,F	10
H	Test	E,G	5

QUESTION THREE

a) Define project feasibility analysis and discuss the various dimensions of feasibility analysis.

(5 marks)

b) Discuss the importance of monitoring and evaluation. (6 marks)

c) Evaluate three common reasons that may lead to project failure. (4marks)

QUESTION FOUR

The County Government of Narok is putting up a 5-year project. The project is expected to generate the following sales revenue:

Year	1	2	3	4	5
Sales Revenue	740,000	770,000	690,000	800,000	850,000

The project requires an initial cash outlay of one million shillings and annual operating expenses of Sh. 200,000 p.a. the project will have a salvage value of Sh. 100,000 at the end of its economic life. The university applies a straight-line method of depreciation for all new projects. All the income will be subjected to a tax rate of 40%. The cost of capital is 12%. Required:

Prepare a schedule to show the cash flows generated by the project.

(6marks)

Advice the university with regard to Net Present Value (NPV).

(4marks)

Suggest reasons why a project currently with a negative net present value would still pass for implementation. **(5 marks)**

QUESTION FIVE

(a) As part of designing a COVID-19 activity in Kenya, MOH design team needed to have a deeper understanding of various issues and constraints related to the pandemic. Before moving to a large logframe workshop the team decided to conduct focus group interviews with potential target groups and service providers: Through the focus groups the team gained a much deeper understanding of COVID-19-related problems, constraints and opportunities. At the same time, participants in the groups learned much about common problems they themselves were facing and their possible solutions. By use of problem tree diagram, analyze the problem.

(10 marks)

(b) You have reached the end of the design phase of your project. You decide to call a "phase end review" for obtaining authorization to close the design phase and initiate the next phase (i.e., execution phase) of your project. Your manager disagrees with your suggestion. He wants a "kill point" to formally end the design phase of the project. Discuss the critical issues that needs to addressed before implementing such a decision. **(5 marks)**

///END///