MASENO UNIVERSITY

UNIVERSITY EXAMINATIONS 2022/2023

FOURTH YEAR FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN COMPUTER SCIENCE

MAIN CAMPUS

CCS 401: SOFTWARE PROJECT MANAGEMENT

Date: 6th January, 2023 Time: 3.30 - 6.30pm

INSTRUCTIONS:

- *Do not write anywhere on this Question paper*
- *Answer ALL Questions in Section A and any other TWO from Section B.*
- *Fasten together all loose answer sheets used*
- *No mobile phones in the examination room.*

Keep safe: wear mask properly, wash your hands with water and soap or sanitize and keep social distance

SECTION A: ANSWER ALL QUESTIONS

Question one (30 marks)

a) Describe the Scope aspects that should be addressed by software projects. **(6 marks)**

b) Outline six main skills that a software project manager should posses. **(6 marks)**

c) State any seven reasons that can get a software project into trouble. **(7 marks)**

d) Explain the processes involved in a software project scope management. **(5 marks)**

e) Provide any six factors that can be used to determine the success of a software project. **(6 marks)**

SECTION B: ANSWER ANY TWO QUESTIONS

Question Two (20 marks)

a) Human resource management is a very important aspect to be considered in software project management. Briefly describe the processes involved in a software project human resource management. **(4 marks)**

b) Outline five main stakeholders of a software project. **(5 marks)**

c) Project procurement management is the acquiring of goods and services for a project from outside the performing organization. State and briefly explain the Project Procurement Management Processes. **(6 marks)**

d) State and briefly explain any five special nature of software projects. **(5 marks)**

Question Three (20 marks)

a) Name and briefly explain the three product development categories used by COCOM (COnstructive COst MOdel) model. **(6 marks)**

b) Explain the importance of Project quality management. **(2 marks)**

c) Briefly explain the three processes of software Project quality management. **(3 marks)**

d) In order to ensure quality of a software product, some cost must be incurred. State and briefly explain any three categories of cost related to a software product quality. **(5 marks)**

e) State and briefly explain four types of feasibility studies that should be conducted during system analysis in order to determine the viability of a software project. **(4 marks)**

Question Four (20 marks)

a) Project cost management includes the processes required to ensure that the project is completed within an approved budget. Briefly explain three processes that are involved in project cost management. **(3 marks)**

b) Explain the meaning of software project risk management. **(2 marks)**

c) Identify and briefly explain the four stages involve in software risk management process **(4 marks)**

d) State and briefly explain the strategies that can be used to establish risk management plans. **(4 marks)**

e) Explain any seven knowledge areas that a project manager should be conversant with. **(7 marks)**

avoidance
Transference
Contigency plan
Accept.

identification
analysing
monitoring
planning

H.R
Procurement

Question Five (20 marks)

a) Project time management involves the processes required to ensure timely completion of a project. List the Processes involved in Project time management. **(5 marks)**

b) The table below shows the tasks involved in a certain software project, the duration of each task, the task sequencing, Precede Event ID, and Succeed Event ID.

Task ID	Task Description	Task Duration	Precede Event ID	Succeed Event ID
A	Specification	3	1	2
B	High level design	2	2	3
C	Detailed design	2	3	4
D	Code/Test Main	7	4	5
E	Code/Test DB	6	4	6
F	Code/Test UI	3	4	7
G	Write test plan	2	4	8
	Dummy Task		5	8
	Dummy Task		6	8
	Dummy Task		7	8
H	Integration/System test	5	8	9
I	Write user manual	2	8	10
J	Typeset user manual	1	10	9

Use the information in the table to answer the following questions.

i. Draw a network diagram for the project. ***(7 marks)***

ii. Compute the Earliest completion time and latest completion time of each event in the network. ***(4 marks)***

iii. Establish the critical path for the project (computation of path should be shown before selecting the critical path). ***(4 marks)***