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KIRIRI WOMENS' UNIVERSITY OF SCIENCE AND TECHNOLOGY
UNIVERSITY EXAMINATIONS, 2024/2025 ACADEMIC YEAR
FIRST YEAR, SECOND SEMESTER EXAMINATION
FOR THE DIPLOMA IN SOFTWARE ENGINEERING

DSE 1010: SOFTWARE PROJECT MANAGEMENT

DATE: 11TH DECEMBER, 2024

TIME: 11:30 AM-1:30 PM

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER TWO QUESTIONS

QUESTION ONE: COMPULSORY (30 MARKS)

- Describe the approaches that one can employ when developing work breakdown structures. **(5 Marks)**
- As an international IT consultant, you have been invited to give a keynote speech on managing software projects at the international conference on ICT 2 for Development (ICTD). You would like one section of your speech to describe the characteristics that make software projects different from traditional projects. What content would you include in that section? **(5 Marks)**
- Explain how a project that shows signs of failure is detected once it's in motion and at what stage it should be concerned. **(6 Marks)**
- Discuss briefly the main actors involved in research projects. State clearly their roles and responsibilities. **(5 Marks)**
- Discuss any **FOUR** advantages of system requirements gathering before system design **(4 Marks)**
- Create a Gantt chart for the given project activities and calculate the project's total timeline, **(6 Marks)**

Project Detail

Task	Description	Duration (Days)	Dependencies
A	Requirements gathering	5	-
B	System design	6	A
C	Database setup	3	B
D	Frontend development	8	B
E	Backend development	7	C
F	Testing and Integration	4	D, E
G	Project deployment	2	F

QUESTION TWO: (20 MARKS)

- State and explain the reasons to perform risk management planning **(5 Marks)**
- Explain any **FOUR** approaches to developing a WBS. **(4 Marks)**

- c) Briefly elaborate the main attributes for a successive project. **(5 Marks)**
- d) You are managing a software project with a strict deadline of 20 days. The project's Gantt chart reveals that some tasks are lagging behind schedule. Propose three strategies to help bring the project back on track without compromising quality. **(6 Marks)**

QUESTION THREE: (20 MARKS)

- a) Explain any **THREE** advantages of using Gantt charts as a project work plan tool. **(3 Marks)**
- b) Define the terms Verification and Validation. Why is each insufficient on its own? What makes validation particularly hard? **(4 Marks)**
- c) A project manager can modify three basic elements of a software project: the **resources** available, the **time** available, and the **amount** of product to be built. Describe how each of these three can be varied during a development process in order to ensure the resulting software is of high quality. **(3 Marks)**
- d) Briefly explain the phases that a project goes through during its life. **(6 Marks)**
- e) Explain **SIX** responsibilities of a project manager **(4 Marks)**

QUESTION FOUR: (20 MARKS)

- a) Describe what is meant by stakeholder management and explain how the project manager ensures stakeholder coo-operation **(5 Marks)**
- b) Briefly discuss the major parts of a project proposal. **(5 Marks)**
- c) Project management is a critical element. Discuss any **FOUR** basic principles of Software project management. **(8 Marks)**
- d) Explain the purpose of writing a project proposal. **(2 Marks)**

QUESTION FIVE: (20 MARKS)

- a) Draw a basic activity-on-arrow network based on the following project information. And use it to calculate the Forward pass, backward pass and the Float, or slack **(15 Marks)**

Tasks	Precedence	Expected time in weeks
T1	-	12
T2	-	8
T3	T1	6
T4	T2	8
T5	T2	6
T6	-	20
T7	T5, T6	6
T8	T3, T4	4

- b) Discuss the **FIVE** types of Types of Project Costs in a project cost management **(5 Marks)**