

University of Ruhuna - Faculty of Technology
Bachelor of Information & Communication Technology Degree
Level 3 (Semester 1) Examination, November 2019

Course Unit: ICT3123- IT Project Management (Theory Examination)

Answer all questions

Time Allowed: 2 hours

IMPORTANT INSTRUCTIONS

- The medium of this examination is English.
- This paper consists of Section A: 10 MCQ Questions and Section B: 4 Questions printed on 5 pages.
- This is a closed book examination.

SECTION A

- (1) _____ is the amount of time an activity can be delayed without delaying a succeeding activity.
- a) Leads
 - b) Duration
 - c) Slack or float
 - d) Lags
- (2) Which of the following is not described in scope management plan?
- a) How to create a WBS
 - b) How to obtain formal acceptance of the completed project deliverables
 - c) How to estimate durations of project scope activities
 - d) How to prepare a detailed project scope statement
- (3) _____ is the leading agile development method.
- a) Extreme programming
 - b) Scrum
 - c) Pair programming
 - d) Sprint
- (4) Which of the following is often completed before initiating a project?
- A. Project Charter
 - B. Business case
 - C. Risk Register
- a) A and C b) A only c) B only d) None of the above

- (5) All of the following are processes of "monitoring and controlling" project process group, except,
- a) Estimate cost
 - b) Configuration management
 - c) Performance reporting
 - d) Validate scope

- (6) A column chart that shows the number of resources assigned to a project over time is called a

- a) Organizational chart
- b) RACI chart
- c) Responsibility Assignment Matrices (RAM)
- d) Resource Histogram

- (7) The most suitable time for project risk identification is,

- a) When a problem occurred
- b) During the planning phase
- c) During the close-out phase
- d) After the project schedule has been published

- (8) Which of the following is not a suggestion for performing integrated change control?

- a) Minimize change
- b) Establish a formal change control system
- c) Use good configuration management
- d) View project management as process of constant communication and negotiation

- (9) Assume that a project is halfway completed. Project's schedule performance index is 110 %, and its cost performance index is 95%, how is it progressing?

- a) It is behind of schedule and under budget
- b) It is behind of schedule and over budget
- c) It is ahead of schedule and under budget
- d) It is ahead of schedule and over budget

- (10) A person who is risk-_____ receives greater satisfaction when more payoff is at stake and is willing to pay a penalty to take risks.

- a) Averse
- b) Aware
- c) Seeking
- d) Neutral

SECTION B

(1)

- a) Briefly explain four (04) attributes of a project.
- b) Today many software projects are managed remotely where the team members reside in different countries. List two (02) **advantages** and two (02) **difficulties** faced when practicing this method.
- c) Write down the **main difference** between the Predictive and Adaptive Life Cycle Models.
- d) List the SMART criteria in developing milestones.
- e) Briefly explain **any two (02)** topics given below.
 - i) Five Stages of Team Development.
 - ii) Fast tracking and Crashing. Use simple Gantt chart diagrams in explanation.
 - iii) As the project manager you suggest the temporary trainees to work until 7.00pm on working days and assigned some parts of the work from the project. However, due to various difficulties trainees disagreed on the request. Explain how you will solve this conflict by applying **an appropriate conflict resolution technique**. Clearly state the assumptions you made and justify the selection of the technique.

(2)

- a) The activities, estimated durations and the precedence requirements of an IT project are given in the following table 1.

Table 1

Task	Duration(weeks)	Predecessor
A	5	-
B	8	A
C	11	A, B
D	7	B
E	10	C, D
F	6	E
G	12	F

- i) Draw an "Activity on Node" network diagram for the activities in Table 1: Clearly indicate the followings in the diagram.

- the earliest start time (ES)
- the late start time (LS)
- the earliest finish time (EF)
- the late finish time.(LF)
- the total and free float/slack.

- ii) Write down the critical path(s) and calculate the minimum project duration(s).

- iii) Assume that the duration of task D is extended to 11 weeks instead of 7, write down how would this change affect the critical path(s) and the project duration(s).
- b) Write down three (03) information that can be displayed in a Gantt chart but not in a network diagram which are useful in planning the project and measuring progress.
- c) Answer the following questions based on PERT in project duration estimation.
- i) Write down one (01) main advantage and disadvantage of PERT.
 - ii) Calculate the duration of the project when optimistic, most likely and pessimistic activity durations are 4 days, 7 days and 16 days respectively.
- d) Briefly explain two (02) tools and techniques that can be used for project cost estimation.
- (3)
- a) Answer the following questions based on project quality management.
- i) Define project quality management.
 - ii) Write down the three (03) main processes involved in project quality management and state under which process groups these processes would occur.
- b) Briefly explain three (03) cost categories related to quality of products.
- c) Fill in the blanks with the appropriate Quality Control Tool/ Technique according to the given description from (i) to (v).
- i) Show if there is a relationship between two variables - _____
 - ii) Helps to find the root cause of a problem - _____
 - iii) Graphic display of data that illustrates the results of a process over time, for preventing defects rather detecting - _____
- d) Performance reports are normally provided as progress reports or status reports. Write down the main difference between progress reports and status reports.
- e) Suppose ABC organization is trying to decide whether it should bid on Project 1 or Project 2. Use the decision tree analysis technique to calculate the Expected Monetary Value (EMV) for each project and select the suitable project by considering following information on table2. Draw the decision tree, perform the calculations and clearly state how you made the decision.

Table2

Project	Probability of Success	Expected Profits
Project 1	60%	-\$20,000
	30%	\$40,000
	10%	\$50,000
Project 2	30%	-\$50,000
	70%	-\$30,000

(4)

- a) Projects are more likely to succeed when project managers influence with “expertise” and “work challenge”, and more likely to fail when rely too heavily on “authority” and “penalty”. Justify this statement briefly by explaining each of the above-mentioned influence factors that project managers have.
- b) Define “resource leveling” in project management.
- c) Briefly explain two (02) techniques used to identify risks in a project.
- d) A large fabric mill decided to establish a new in-house IT section to fulfill their IT needs such as developing the software they need, hardware maintenance and to provide network facilities. The main target of this is to develop a new, more advance sales management system to replace the old one which is no longer adequate and developed by an external IT company. Answer the following questions based on this scenario.
 - i) Identify one (01) possible negative and one (01) possible positive risk that can be associated with this new establishment.
 - ii) Define contingency plan and write down a contingency plan for the negative risk identified in above (4) d) i).
- e) Briefly explain Qualitative Risk Analysis and list three (03) main techniques used in qualitative risk analysis.

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