



Library!

The University of Fiji



Undergraduate Programme
Department of Computer Science and Mathematics
Semester 2 Year 2018

FINAL EXAMINATION PAPER

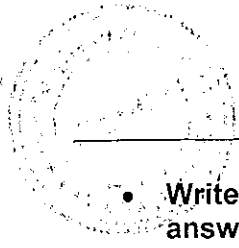
**ITC208 SYSTEM PROJECT AND QUALITY
MANAGEMENT**

Important Instructions to Students:

1. Read the questions, instructions carefully and answer the questions.
2. You are allowed an **extra 10 minutes reading time** (during this time, you are not allowed to write with pen) and **180 minutes (3 Hours) to complete this paper**.
3. Silent, non-programmable calculators are allowed, but not supplied.
4. Write all your answers in the answer booklet provided. If you need extra sheets, please ask from the supervisor. Write your name, course code and student identification number in the answer booklet and in the attendance sheet.
5. This Final Course Examination Paper is worth 100 marks contributes 50% of the total course assessments.
6. This paper contains four (4) sections - Sections A, B, C, and D. All sections and questions are compulsory.
7. Write all your answers legibly. The marker has the right to award zero for answers that are not legible.
8. This is a **Closed Book Examination**. The University views plagiarism, cheating and dishonest practice as serious offences and if found, offenders are penalized.

Examination Paper Content (Format):

<u>Section</u>	<u>Question</u>	<u>Content</u>	<u>Marks</u>	<u>Suggested Time</u>
A	1-25	Multiple Choice	25	45 minutes
B	1-10	Definitions	10	15 minutes
C	1-16	Short Answer Questions	50	90 minutes
D	1-12	Case Study	15	30 minutes
		TOTAL	100	180 Minutes



Section A – Multiple Choice [25 Marks]

- Write only the question number and the letter representing the best answer in the answer booklet (e.g. 1.a)

1. Which of the following is not part of the triple constraint of project management?
 - a. Meeting cost goals
 - b. Meeting quality goals
 - c. Meeting scope goals
 - d. Meeting time goals
2. What is the name of the popular project management certification provided by CompTIA?
 - a. Certified Project Manager (CPM)
 - b. Project Management Expert (PME)
 - c. Project Management Professional (PMP)
 - d. Project+
3. Which of the four frames of organizations provides harmony between needs of the organization and needs of the people?
 - a. Human resources
 - b. Political
 - c. Structural
 - d. Symbolic
4. The nature of IT projects is different from projects in many other industries because they are very _____.
 - a. challenging
 - b. diverse
 - c. expensive
 - d. technical
5. Project charter is the output of which process group?
 - a. Executing
 - b. Initiating
 - c. Monitoring and controlling
 - d. Planning
6. Many organizations use customized _____ as a standard format for preparing various project management documents.
 - a. methodologies
 - b. project management software
 - c. standards
 - d. templates
7. What is the first step in the four-stage planning process for selecting IT projects?
 - a. Business area analysis
 - b. IT strategy planning
 - c. Mind mapping
 - d. Resource allocation

8. Which of the following processes is not part of project integration management?
- Close the project or phase
 - Create WBS
 - Develop the project charter
 - Develop the project management plan
9. What approach to developing a WBS involves starting with the largest items of the project and break them into subordinate items?
- analogy
 - bottom-up
 - mind mapping
 - top-down
10. Which of the following is not a suggestion for improving user input?
- Deliver something to the project users and sponsors on a regular basis
 - Do not have users on the project team
 - Do not promise to deliver what the team cannot deliver in a particular time frame.
 - Locate users with the developers
11. A group of activities on an IT project might start simultaneously. What type of dependency does this represent?
- finish-to-finish
 - finish-to-start
 - start-to-finish
 - start-to-start
12. What symbol on a Gantt chart represents a milestone?
- a black arrow
 - a black diamond
 - a white arrow
 - a white diamond
13. If a company loses \$2 for every \$100 in revenue for a certain product, what is the profit margin for that product?
- \$2
 - \$2
 - 2 percent
 - 2 percent
14. You are preparing a cost estimate for a building by estimating the costs of individual work items or activities and summing them to get a project total. What cost-estimating technique are you using?
- analogous
 - bottom-up
 - parametric
 - top-down
15. _____ is the totality of characteristics of an entity that bear on its ability to satisfy stated or implied needs..
- Conformance to requirements
 - Fitness for use
 - Quality
 - Reliability

16. _____ is a structured review of specific quality management activities that help identify lessons learned and that could improve performance on current and future projects.
- Benchmarking
 - Design of experiments
 - Quality audits
 - Six Sigma
17. At the top of Maslow's pyramid or hierarchy of needs are _____ needs.
- esteem
 - physiological
 - safety
 - self-actualization
18. Which of the following types of power is based on a person's own charisma? People with such power are held in very high regard, and others will do whatever they say based on that regard.
- Coercive power
 - Expert power
 - Legitimate power
 - Referent power
19. If you add two more people to a project team of five, how many more communication channels will you add?
- 1
 - 10
 - 11
 - 21
20. What term describes information that is sent to recipients without their request via e-mails?
- customer communications
 - interactive communications
 - pull communications
 - push communications
21. Which of the following is not one of the main techniques in quantitative risk analysis?
- Analysis and modeling
 - Data gathering
 - Expert judgment
 - Interview
22. Which type of contract has the least amount of risk for the seller?
- Cost plus fixed fee
 - Cost plus percentage of cost
 - Firm fixed price
 - Fixed price incentive
23. Your organization hired a specialist in a certain field to provide training for a short period of time. Which reason for outsourcing would this example fall under?
- accessing skills and technologies
 - allowing the client organization to focus on its core business
 - providing flexibility
 - reducing costs

24. A stakeholder register is an output of which process group in stakeholder management?
- Executing
 - Initiating
 - Monitoring and controlling
 - Planning
25. Which of the following is not an item column in a stakeholder register?
- Contact information
 - Date joined
 - Internal/external
 - Project role

Section B – Definitions [10 Marks]

- Briefly define the following terms:

1. 5 whys
2. Activity
3. Brainstorming
4. Intrinsic motivation
5. Contract
6. DMAIC
7. Kaizen
8. ISO 9000
9. WBS dictionary
10. User stories

Section C – Short Answers [50 Marks]

- Write brief/concise/to-the-point answers.

1. How should you define the **success or failure** of a project? (2m)
2. State two key reasons why **top management commitment** is important in project management. (2m)
3. Explain at least three basic **principles** that you need to apply in order to create a good **WBS**. (3m)
4. Explain the main difference between a **Gantt chart** and **Tracking Gantt chart**. (2m)

5. Explain the **SMART criteria** and using it write a meaningful milestone. (4m)
6. Explain at least two reasons for **inaccuracies in IT cost estimates** and suggest how you can overcome each. (3m)

Study the Table given below and answer question 7 and 8. All duration estimates or estimated times are in days, and the network proceeds from Node 1 to Node 9.

Activity	Initial Node	Final Node	Estimated Duration
A	1	2	2
B	2	3	2
C	2	4	3
D	2	5	4
E	3	6	2
F	4	6	3
G	5	7	6
H	6	8	2
I	6	7	5
J	7	8	1
K	8	9	2

Source: Schwalbe, K, 2016 "Information Technology Project Management", Cengage Learning, p.257.

7. Draw an **AOA network diagram** representing the project. Put the node numbers in circles and draw arrows from node to node, labeling each arrow with the activity letter and estimated time. (5m)
8. Write all of the **paths** on the network diagram and note how long they are. What is the **critical path** for this project and how long is it? (5m)
9. Explain the difference between **feeding buffer** and **project buffer**. (2m)
10. Explain the three main **outcomes** of the quality control process. (3m)
11. Explain **benchmarks**, using an example from the IT industry. (2m)
12. Explain a **RACI chart** using an example. (2m)
13. Explain three **tools/techniques** for managing project teams. (3m)

14. Study the figure given below and answer question parts (a-c).

Probability	High	risk 6	risk 9	risk 1 risk 4
	Medium	risk 3 risk 7	risk 2 risk 5 risk 11	
	Low		risk 8 risk 10	risk 12
		Low	Medium	High
		Impact		

Source: Schwalbe, K, 2016 "Information Technology Project Management", Cengage Learning, p.443.

- What is the special name of the figure shown above? (1m)
 - Where were the risks shown above listed prior to landing in this figure? (1m)
 - Explain what the project manager must do after this step. (2m)
15. Answer question parts (a-d).
- State two main reasons why organizations outsource. (2m)
 - When should an organization choose **not to outsource**? (1m)
 - Why are some organizations moving their software development work back **in-house**? (1m)
 - Why are some organizations beginning to use **onshoring**? (1m)
16. Answer question parts (a-b).
- Describe the type of information that is documented in an **issue log**. (2m)
 - How can you avoid spending too much time documenting and tracking issues? (1m)

Section D – Case Study [15 Marks]

- Study the cases 1 and 2 and answer questions that follow.

Case Study 1

Nick Carson recently became project manager of a critical biotech enterprise at his Silicon Valley Company. This project involved creating the hardware and software for a DNA-sequencing instrument used in assembling and analyzing the human genome. The biotech project was the company's largest endeavor, and it had tremendous potential for future growth and revenues.

Unfortunately, there were problems managing this large project. It had been under way for three years and had already gone through three different project managers. Nick had been the lead software developer on the project before top management made him the project manager. The CEO told him to do whatever it took to deliver the first version of the DNA-sequencing software in four months and a production version in nine months. Negotiations for a potential corporate buyout with a larger company influenced top management's sense of urgency to complete the project.

Highly energetic and intelligent, Nick had the technical background to make the project a success. He delved into the technical problems and found some critical flaws that kept the DNA-sequencing instrument from working. Nevertheless, he was having difficulty in his new role as project manager. Although Nick and his team got the product out on time, top management was upset because Nick did not focus on managing all aspects of the project. He never provided them with accurate schedules or detailed plans of what was happening on the project. Instead of performing the work of project manager, Nick had taken on the role of software integrator and troubleshooter. Nick, however, did not understand top management's complaints—he delivered the product, didn't he? Didn't they realize how valuable he was?

Source: Schwalbe, K, 2016 "Information Technology Project Management", Cengage Learning, p.140, 181.

Answer the following questions:

1. What do you think the real problem was in this case? (1m)
2. Does the case present a realistic scenario? Why or why not? (1m)
3. Was Nick Carson a good project manager? Why or why not? (1m)
4. What should top management have done to help Nick? (2m)
5. What could Nick have done to be a better project manager? (2m)

Case Study 2

Given the following information for a one-year project, answer the following questions. Recall that PV is the planned value, EV is the earned value, AC is the actual cost, and BAC is the budget at completion.

PV = \$20,000
EV = \$15,000
AC = \$25,000
BAC = \$100,000

Use the formula given below to answer questions that follow:

$CV = EV - AC$
 $SV = EV - PV$
 $CPI = EV / AC$
 $SPI = EV / PV$
 $EAC = BAC / CPI$

Estimated time to complete = original time / SPI

6. Calculate the cost variance for the project. (1m)
7. Calculate the schedule variance for the project. (1m)
8. Calculate the cost performance index for the project. (1m)
9. Calculate the schedule performance index for the project. (1m)
10. How is the project doing? Is it ahead of schedule or behind schedule? Is it under budget or over budget? (1m)
11. Use the CPI to calculate the estimate at completion (EAC) for this project. Is the project performing better or worse than planned? (2m)
12. Use the SPI to estimate how long it will take to finish this project. (1m)

The End

