



The University of Fiji



Post Graduate Programme
Department of Computer Science & Information Technology
Semester 1 Year 2016

FINAL COURSE EXAMINATION PAPER

ITC401: IT PROJECT 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 A, B, C and D. All questions are compulsory to answer **except** section D has choices.
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	1-15	Quick Quiz	15	27 minutes
B	1-10	Short Answer Questions	20	54 minutes
C	1-8	Long Answers Questions	50	78 minutes
D	1-3	Case study (Choose Any TWO out of Three)	15	21 minutes
		TOTAL	100	180 Minutes

Section A: Quick Quiz
(15 Marks)

Each question is worth 1 mark. All questions are compulsory.

1. What are the phases of the traditional project life cycle?
2. What type of organizational structure has project team members reporting to at least two bosses?
3. Which project management process group(s) includes activities from every single knowledge area?
4. What does RACI stand for in a RACI chart?
5. What is the formula for determining the number of communications channels?
6. In face-to-face interactions, what percent of communications is through the actual spoken content?
7. What type of contract has the least amount of risk for the buyer?
8. What strategy would you use to manage stakeholders with high interest and high power?
9. Provide a few examples of organizational process assets.
10. How does outsourcing increase accountability?
11. What types of influence are correlated with successful projects?
12. What is the most common type of task dependency?
13. Which project management process groups includes activities from every single knowledge area?
14. What is the popular designation for people certified as project managers by the Project Management Institute?
15. What project management certifications can students earn without work experience?

Section B: Short Answer Questions
(20 marks)

Each question is worth 2 marks. All questions are compulsory

1. What is a program? Discuss the relationship between projects, programs, and portfolio management and the contributions they each make to enterprise success.
2. What is the main technique used for validating scope? Give an example of scope validation on a project.
3. Can recent college graduates expect to be project managers right away? What is a typical career path for a project manager?
4. Difference between PRINCE2 and RUP.
5. What is champion? What does OBS stand for?
6. What is project portfolio management? Can project managers use it with earned value management?
7. Describe several types of software that project managers can use to support project cost management.
8. How many different communication channels does a project team with six people have? How many more communication channels would there be if the team grew to 10 people?
9. Why do you need a good WBS to use project management software? What types of software can you use to assist in project scope management?
10. What is emotional intelligence (EI)? Why is emotional intelligence so important?

Section C: Long Answers Questions

(50 marks)

All questions in this section are compulsory.

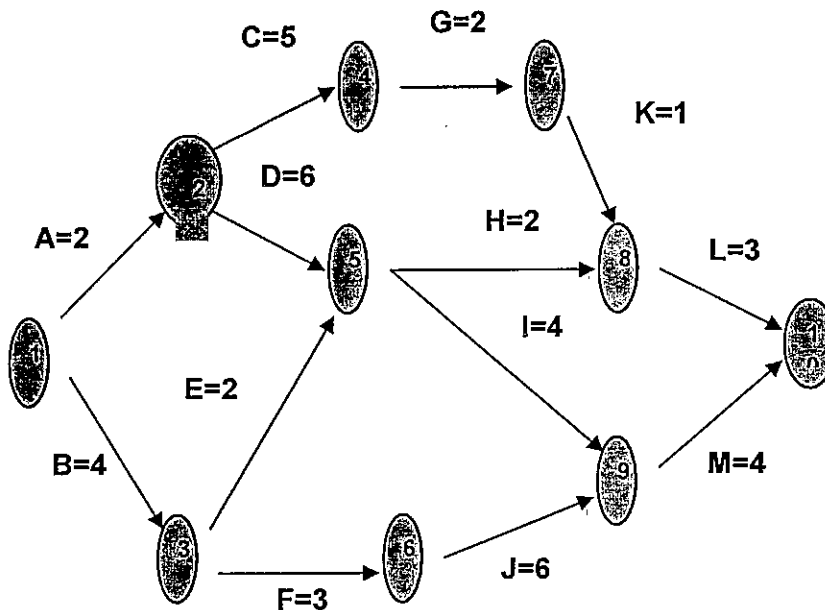
1. a) What is PERT? What is the formula you use when using PERT? **2 marks**
b) Explain the four frames of organizations. How can they help project managers understand the organizational context for their projects? **2 marks**
c) What is RFP? **1 mark**
2. a) What are the main types of contracts if you decide to outsource? **2 marks**
b) What is e-procurement software? Do you see any ethical issues with e-procurement? For example, should stores be able to block people with smart phones from taking pictures of barcodes in their stores to do comparison shopping? **3 marks**
3. a) What is a project and what are its main attributes? What other factors affect a project? **3 marks**
b) List and describe each of the ten project management knowledge areas. What is the triple constraint? **6 marks**
c) How many modes project has? **1 mark**
4. Perform a financial analysis for a project. Assume the projected costs and benefits for this project are spread over four years as follows: Estimated costs are \$200,000 in year 1 and \$30,000 each year in years 2, 3, and 4. Estimated benefits are \$0 in year 1 and \$100,000 each year in years 2, 3, and 4. Use a 9 percent discount rate and round the discount factors to two decimal places. Calculate and clearly display the NPV, ROI, and year in which payback occurs. In addition, explain whether you would recommend investing in this project, based on your financial analysis. **4 marks**
5. a) What is a network diagram? Describe two network diagramming methods. **2 marks**
b) What are the three basic types of cost estimating? Describe each type. **2 marks**
c) Describe three tools used in developing a good cost estimate. **2 marks**
6. a) What are some of the qualities of a good project manager? Explain. **2 marks**
b) Discuss four key issues project managers must address when working on global projects. **2 marks**
c) What are the four basic response strategies for negative risks? **2 marks**
d) What are the five stages of team development according to the Tuckman model? Briefly describe each stage. **3 marks**

7. a) What are the main processes of integration management?

2 marks

b) Determine how many paths there are in this network diagram, and list the paths and their lengths. For example, a path might be written as A-B-E-F-L with a length of 12 days.

3 marks



c) What is the critical path for this project and how long is it?

1 mark

8. a) Suppose that your company is trying to decide whether it should buy special equipment to prepare high-quality publications itself or lease the equipment from another company. Suppose that leasing the equipment costs \$240 per day. If you decide to purchase the equipment, the initial investment is \$6,800, and operations will cost \$70 per day. After how many days will the lease cost be the same as the purchase cost for the equipment? Assume that your company would only use this equipment for 30 days. Should your company buy the equipment or lease it?

3 marks

b) Define project charter outlines.

2 marks

Section D: Case Studies (15 Marks)

Answer any two out of three. Each question is worth 7.5 marks.

7.5 × 2 = 15 marks

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 next generation (next-gen) DNA-sequencing instrument used in assembling and analyzing the human genome. Several companies were competing to build smaller, faster sequencing instruments that would reduce the costs and improve the quality of data analysis in this rapidly changing field. The biotech project was the company's largest endeavor, and it had tremendous potential for future growth and revenue.

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 product 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 next-gen 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 trouble-shooter. Nick, however, did not understand top management's complaints—he delivered the product, didn't he? Didn't they realize how valuable he was?

Tasks:

Answer the following questions:

- a) What do you think the real problem was in this case?
- b) Does the case present a realistic scenario? Why or why not?
- c) Was Nick Carson a good project manager? Why or why not?
- d) What could Nick have done to be a better project manager?
- e) What should top management have done to help Nick?

Case study 2

You and your team are continuing your work on the Global Treps Project. Your project sponsor, Dr. K., has asked you to refine the existing cost estimate for the project so you can evaluate supplier bids and have a solid cost baseline for evaluating project performance. Recall that your schedule and cost goals are to complete the project in six months for under \$120,000. You planned to use up to \$50,000 total to pay yourself and your team members, and your initial estimates were \$30,000 for travel expenses, \$20,000 for hardware and software, and \$20,000 for organizing four events, including consultants, legal/business fees, etc.

Tasks:

Assume that you have completed three months of the project. The BAC was \$120,000 for this six-month project. You can also make the following assumptions:

$$PV = \$60,000 \quad EV = \$55,000 \quad AC = \$50,000$$

- a) What is the cost variance, schedule variance, cost performance index (CPI), and schedule performance index (SPI) for the project?
- b) How is the project doing? Is it ahead of schedule or behind schedule? Is it under budget or over budget?
- c) Use the CPI to calculate the estimate at completion (EAC) for this project. Is the project performing better or worse than planned?
- d) Use the SPI to estimate how long it will take to finish this project.

Case study 3

Erica Bell is in charge of the Project Management Office (PMO) for her consulting firm, JWD Consulting, which has grown to include more than 200 full-time consultants and even more part-time consultants. JWD Consulting provides a variety of consulting services to assist organizations in selecting and managing IT projects. The firm focuses on finding and managing high-payoff projects and developing strong metrics to measure project performance and benefits to the organization after the project is implemented. The firm's emphasis on metrics and working collaboratively with its customers gives it an edge over many competitors.

Joe Fleming, the CEO, wanted his company to continue to grow and become a world-class consulting organization. Because the core of the business is helping other organizations with project management, he felt it was crucial for JWD Consulting to have an exemplary process for managing its own projects. He asked Erica to work with her team and other consultants in the firm to develop several intranet site applications that would allow them to share their project management knowledge. He also thought that the firm should make some of the information available to the firm's clients. For example, the firm could provide project management

templates, tools, articles, links to other sites, and an Ask the Expert feature to help build relationships with current and future clients. Because JWD Consulting emphasizes the importance of high-payoff projects, Joe also wanted to see a business case for this project before proceeding.

Erica Bell and her team finished the project management intranet site project on November 4, as planned in their project charter. They went over budget, but Joe had approved Erica's request for additional funds, primarily for purchasing external software and customization. Like any project, they had a few challenges, but they worked together as a team and used good project management to meet their sponsor's and users' needs. They received positive initial feedback from internal consultants and some of their clients on the new intranet site. People were asking for templates, examples, and expert advice even before the system was ready. (If they had used an agile approach, these features could have been delivered earlier.) About a year after the project was completed, Erica worked with a member of the Finance department to review the benefits of the new system. Although the Project Management Office lost one of its staff members, it did not request a replacement because the new system helped reduce its workload. This saved the firm about \$70,000 a year for the salary and benefits of that staff position. The team also had data to show that the firm saved more than \$180,000 on contracts with clients because of the new system, compared with their projection of \$160,000. The firm was breaking even with the Ask the Expert feature during the first year, and Erica estimated that the system provided \$30,000 in additional profits the first year by generating new business, instead of the \$40,000 the team had projected. However, savings from the PMO staff position salary and the extra savings on contracts more than made up for the \$10,000 difference. Joe was proud of the project team and the system they produced to help make JWD Consulting a world-class organization.

Tasks:

- a) Define top management role here.
- b) Define the types of system used in this case study. Which system do you support? Why?
- c) Does the system play an important role here? How?
- d) Do you support ERICA'S decisions? Why?

The End