Final Examination  
Semester 3 / Year 2011

**COURSE**  : PROJECT MANAGEMENT  
**COURSE CODE**  : CSIS2063  
**TIME**  : 2.5 HOURS  
**DEPARTMENT**  : COMPUTER SCIENCE  
**LECTURER**  : TAN WEE CHUEN

Student’s ID  
Batch No.  

Notes to candidates:  
1) The question paper consists of 6 pages and 2 parts.  
2) Answer ALL questions in PART A and any FOUR questions in PART B.  
3) Submit your answer booklet.
PART A: Multiple-Choice questions (1 mark x 20 = 20 marks)

1. ____ involves working with stakeholders to create the document that formally authorizes a project.
   a. Developing the project charter
   b. Developing the preliminary project scope statement
   c. Developing the project management plan
   d. Directing and managing project execution

2. In the ____ stage of selecting information technology projects, organizations define project scope, benefits, and constraints.
   a. Project Planning
   b. Business Area Analysis
   c. Resource Allocation
   d. Information Technology Strategy Planning

3. Projects that address ____ are much more likely to be successful because they will be important to the organization.
   a. a balanced scorecard
   b. a weighted scoring model
   c. broad organizational needs
   d. net present value

4. The ____ is the minimum acceptable rate of return on an investment.
   a. return on investment
   b. internal rate of return
   c. external rate of return
   d. required rate of return

5. In a weighted scoring model, the sum of all of the criteria’s weights must total ____ percent.
   a. 0
   b. 50
   c. 100
   d. 150

6. A(n) ____ is a document that formally recognizes the existence of a project and provides direction on the project’s objectives and management.
   a. balanced scorecard
   b. business case
   c. net present value analysis
   d. project charter

7. A(n) ____ is a document that describes the products or services to be created by the project team.
   a. contract
   b. statement of work
   c. project charter
   d. business case

8. The ____ section of the project management plan describes how to monitor project progress and handle changes.
   a. management objectives
   b. project controls
   c. risk management
   d. technical processes
9. Good ____ is very important to project success because it helps improve the accuracy of time, cost, and resource estimates, it defines a baseline for performance measurement and project control, and it aids in communicating clear work responsibilities.
   a. scope planning   c. scope definition
   b. scope management d. scope verification

10. Of the following constraints, it is most difficult to describe, agree upon, and meet the ____ goal of many projects.
    a. scope   c. cost
    b. time   d. technical

11. ____ dependencies are inherent in the nature of the work being performed on a project.
    a. Mandatory   c. External
    b. Discretionary d. Internal

12. ____ provide(s) a standard format for displaying project schedule information by listing project activities and their corresponding start and finish dates in a calendar format.
    a. Gantt charts   c. Critical chain scheduling
    b. Critical path analysis d. PERT analysis

13. ____ are costs that are not directly related to the products or services of the project, but are indirectly related to performing the project.
    a. Intangible costs c. Direct costs
    b. Tangible costs d. Indirect costs

14. In any normal distribution, ____ percent of the population is within three standard deviations of the mean.
    a. 95.5   c. 99.7
    b. 99.0 d. 99.9

15. ____ involves building individual and group skills to enhance project performance.
    a. Developing the human resource plan c. Acquiring the project team
    b. Developing the project team d. Managing the project team

16. ____ is matching certain behaviors of the other person.
    a. Empathic listening c. Synergy
    b. Rapport d. Mirroring

17. ____ is a technique for resolving resource conflicts by delaying tasks.
    a. Resource loading c. Resource allocation
    b. Resource leveling d. Resource requesting
18. In the Tuckman model, ____ occurs as team members have different opinions as to how the team should operate.
   a. performing  c. forming
   b. norming  d. storming

19. ____ analysis simulates a model’s outcome many times to provide a statistical distribution of the calculated results.
   a. Decision tree  c. Monte Carlo
   b. EMV  d. Watch list

20. ____ involves determining what to procure, when, and how.
   a. Planning contracting  c. Conducting procurements
   b. Administrating procurements  d. Planning procurements

PART B: Answer any FOUR questions (80 marks)

Question 1

Read the case and answer the following questions:

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 project was the company’s largest endeavor, and it had tremendous potential for future growth and profits. Unfortunately, there were problems managing this large project. It had been in progress for three years and had already gone through three different project managers. Nick had been selected to lead the project. The CEO told him to do whatever it took to deliver the first version of the software for the DNA-sequencing instrument in 4 months and a production version in 9 months.

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 as project manager, Nick had taken on the role of software integrator and troubleshooter. Nick, however, did not understand top management’s problem but he delivered the product.

   a) What do you think the real problem was in this case (4 marks)?

   b) Was Nick Carson a good project manager? Why or Why not (6 marks)?
c) What should top management had done to help Nick (4 marks)?

d) What could Nick have done to be a better project manager (6 marks)?

**Question 2**

Table 1 is the network diagram data for an Online Banking System project. All duration estimates are in weeks.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Initial Node</th>
<th>Final Node</th>
<th>Estimated Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>B</td>
<td>1</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>C</td>
<td>1</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>D</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>E</td>
<td>3</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>F</td>
<td>3</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>G</td>
<td>4</td>
<td>6</td>
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<tr>
<td>H</td>
<td>5</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>I</td>
<td>5</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>J</td>
<td>6</td>
<td>7</td>
<td>12</td>
</tr>
</tbody>
</table>

a) 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 (10 marks).

b) Identify all of the paths on the network diagram and note how long they are (5 marks).

c) What is the critical path for this project and how long is it (3 marks)?

d) What is the shortest possible time it will take to complete this project (2 marks)?

**Question 3**

People are the most important assets on projects. Therefore, it is essential for project managers to be good human resource managers.

a) Briefly describe the major processes involved in project human resource management (5 marks).
b) Describe how the theories of Maslow, Thamhain and Wilemon, and Covey relate to project management (10 marks).

c) Briefly discuss the difference between resource loading and leveling and provide example of when you would use each technique (5 marks).

**Question 4:**

Blue Bank is an international bank. It is investing a project to offering customers remote deposit capture. With this new service, customers do not have to physically go to banks or ATM machines to deposit checks anymore. Instead, they can send checks as a scanned image through an Internet portal provided by the bank. This technology can save banks and customers time and money making the transactions. Blue Bank is considering implementing this new service. Harold Johnson, the project manager of Remote Deposit Capture is worried about the cost, so he has asked you as the consultant to review the cost estimate to get a solid cost baseline to evaluate performance.

The duration of the project is 12 months. Harold Johnson has completed three months of the project. The BAC was $500,000 for this six-month project. Also assume the following:

\[
\begin{align*}
PV &= $250,000 \\
EV &= $230,000 \\
AC &= $300,000
\end{align*}
\]

Using the information above to answer the following questions:

a) What is earned value management (EVM) (2 marks)?

b) What is the cost variance, schedule variance, cost performance index (CPI), and schedule performance index (SPI) for the project (10 marks)?

b) Calculate the estimate at completion (EAC) for this project. Use the SPI to estimate how long it will take to finish this project (4 marks).

c) How is the project doing for the schedule and budget (4 marks)?

**Question 5**

The Recreation and Wellness Intranet Project team is working hard to ensure that the new system they develop meets expectations. The team has a detailed scope statement, but the project manager, Tony Prince, wants to make sure they are not forgetting any requirements that might affect how different people view the quality of the project. He knows that the
project’s sponsor and other senior managers are most concerned with getting people to use the system, improve their health, and reduce healthcare costs. System users will want the system to be very user-friendly, informative, fun to use and fast.

1. List any FOUR tools or techniques for quality control (4 marks).

2. Develop a list of quality standards or requirements related to meeting the stakeholder expectation as above. Especially for customers who are the end users of the system (6 marks).

3. You have conducted a survey about the favorite programs or classes. You decide to create a Pareto chart to see which types of recreational programs and classes most people were interested in. Using the data below to create the Pareto diagram (8 marks). Briefly discuss the result (2 marks).

<table>
<thead>
<tr>
<th>Requested Programs/Classes</th>
<th># of Times Requested</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walking program</td>
<td>7115</td>
</tr>
<tr>
<td>Volleyball program</td>
<td>2054</td>
</tr>
<tr>
<td>Weight reduction class</td>
<td>8875</td>
</tr>
<tr>
<td>Stop smoking class</td>
<td>4889</td>
</tr>
<tr>
<td>Stress reduction class</td>
<td>1894</td>
</tr>
<tr>
<td>Soccer program</td>
<td>3297</td>
</tr>
<tr>
<td>Table tennis program</td>
<td>120</td>
</tr>
<tr>
<td>Softball program</td>
<td>976</td>
</tr>
</tbody>
</table>

_________  000 __________

_________  000 __________