BSc Information Technology

YEAR 2

SUPPLEMENTAL EXAMINATIONS 2006

I.S. PROJECT MANAGEMENT

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3 Hours

Answer question Q.1 and any THREE other questions.

Each question carries a total of 25 marks.
Q.1. As part of a new systems project a network is to be purchased and installed. A work breakdown structure as illustrated in Table 1 has been agreed.

Table 1.

<table>
<thead>
<tr>
<th>Activity No</th>
<th>Activity Description</th>
<th>Duration (days)</th>
<th>Dependency Activity Nos.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Prepare Requirements Specification</td>
<td>5</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>Design LAN</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Purchase and await delivery</td>
<td>21</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>Prepare test plan</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>Prepare training plan</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>Install communications</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>7</td>
<td>Install hardware</td>
<td>15</td>
<td>3</td>
</tr>
<tr>
<td>8</td>
<td>Install software</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>9</td>
<td>Conduct testing</td>
<td>5</td>
<td>4, 6, 8</td>
</tr>
<tr>
<td>10</td>
<td>Conduct training</td>
<td>10</td>
<td>5, 8</td>
</tr>
<tr>
<td>11</td>
<td>Handover</td>
<td>1</td>
<td>9, 10</td>
</tr>
</tbody>
</table>

(a) Prepare an activity-on-node PERT diagram for this project. (15 marks)

(b) i. State the activities which constitute the critical path
    ii. Calculate the minimum duration required to complete this project
    iii. Calculate the float for each non-critical activity (10 marks)

Q.2. (a) With the aid of suitable diagrams, discuss two alternative structures of the project development team that you could set up for the purpose of developing a new Information System. (16 marks)

(b) Explain how you would ensure that the external quality of the product that you develop complies with the client’s requirements. Your answer should relate to all stages of the development life cycle. (9 marks)

Q.3. Explain how Function Point Analysis is used by project managers for software project estimation. Give a full explanation, with examples where appropriate. (25 marks)
Q.4. (a) State the titles of SIX clauses that you would include in a contract between an acquirer and a supplier for the design, development, installation and maintenance a new Enterprise Information System.  

(b) For each of the clauses that you state in part (a) fully explain why you would include that clause.  

(c) Discuss how the contract that you write about in parts (a) and (b) is different to a Service Level Agreement (Service Level Contract).  

Q.5. (a) Explain what you understand by the term project control structures.  

(b) Discuss the options that are available to a project manager for recovering an out-of-control project  

Q.6. Write short notes on any FIVE of the following:  

i. Outsourcing;  
ii. Calculating a developer’s daily chargeout rate;  
iii. COCOMO;  
iv. Project Management CASE tools;  
v. Configuration management;  
vi. Information Systems development risk.