Q.1. What is the role of Forecasting in capacity planning? Explain with a suitable example.

OR

Explain the process layout and give the advantages and disadvantages.

(10)

Q.2. What are the effects of demand uncertainty? How to reduce the demand uncertainty?

OR

Draw a network diagram for the activities given below and determine the critical path:

<table>
<thead>
<tr>
<th>No.</th>
<th>Description of activity</th>
<th>Duration of activity</th>
<th>Immediate predecessor activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Equipment design</td>
<td>12</td>
<td>-</td>
</tr>
<tr>
<td>B</td>
<td>Site selection</td>
<td>8</td>
<td>A</td>
</tr>
<tr>
<td>C</td>
<td>Vendor selection</td>
<td>4</td>
<td>A</td>
</tr>
<tr>
<td>D</td>
<td>Personnel selection</td>
<td>3</td>
<td>A</td>
</tr>
<tr>
<td>E</td>
<td>Site preparation</td>
<td>12</td>
<td>B</td>
</tr>
<tr>
<td>F</td>
<td>Manufacture generator</td>
<td>18</td>
<td>C</td>
</tr>
<tr>
<td>G</td>
<td>Operations manual preparation</td>
<td>5</td>
<td>C</td>
</tr>
<tr>
<td>H</td>
<td>General installation</td>
<td>4</td>
<td>E,F</td>
</tr>
<tr>
<td>I</td>
<td>Operator training</td>
<td>9</td>
<td>D,G</td>
</tr>
<tr>
<td>J</td>
<td>Obtaining license</td>
<td>6</td>
<td>H,I</td>
</tr>
</tbody>
</table>

(5+5=10)

Q.3. Explain the inputs and outputs in material requirement planning.

(10)

Q.4. Explain the characteristics of just-in-time system.

(10)
Q.5. Define the meaning in two lines for any five of the following:

(i) ERP  
(ii) Motion study  
(iii) JIT  
(iv) Scheduling and sequencing  
(v) Operation management  
(vi) Project management  
(vii) Codification

(5x2=10)

Q.6. Distinguish between qualitative and quantitative methods of forecasting and also explain some applications of forecasting in operations management.

(10)

Q.7. What are various steps involved in work method analysis and the role of flow process chart in analysis procedure?

(10)

Q.8. Write short notes on any two of the following:

(a) CPM  
(b) Total productive maintenance  
(c) Kanban systems

(2x5=10)

Q.9. Define TQM. What is the role of employee motivation and process control in TQM?

(a) Strategic analysis and choice does not involve:

(i) Corporation mission  
(ii) Company strength and weakness  
(iii) Invention  
(iv) External threats and opportunities

(b) Which one of the following is not a project type by size:

(i) Large project  
(ii) Medium project  
(iii) Small project  
(iv) Miniature project

(c) Which one of the following is not a type of capacity:

(i) Design capacity  
(ii) Intended capacity  
(iii) Effective capacity  
(iv) Actual capacity
(d) The following is not part of a supply chain:
(i) Manufacturer
(ii) Distributor
(iii) Bank
(iv) Retailer

(e) A product structure is part of:
(i) Inventory
(ii) Demand forecast
(iii) MRP
(iv) Group technology

B State True or False:
(i) It is possible to use mass customization for manufacturing all types of products.
(ii) LCL country means low cost labour country.
(iii) Factor and location ratings are used to screen for better location options.
(iv) Effective capacity is the maximum possible capacity requirements planning.
(v) Project indirect cost is mainly the cost of supervision during the implementation of the project.

(5+5=10)

**********