Q.1. Select and write correct option. (Do not reproduce the statement)

a) Which of the following is not an element of LOB approach
   A) An objective chart                B) A progress chart
   C) An organization chart           D) A plan of operation

b) DPR stands for
   A) Detailed Project Requirements   B) Detailed Project Resources
   C) Date of Project Registration    D) Detailed Project Report

c) Insurance is a technique for
   A) Risk transfer                   B) Risk Avoidance
   C) Risk Reduction                  D) Risk Acceptance

d) The process of breaking down of the entire project into distinct activities is known as
   A) Networking                      B) Work breakdown structure
   C) Scheduling                      D) Project initiation

e) All of the following are related to Gantt chart except
   A) It is modified bar chart         B) Used as a time scale
   C) Depicts interdependencies of activities   D) Named after its originator

f) Which of the following is true about dummy activity
   A) It does not consume time          B) It is used in AON network
   C) It is used to give an aesthetic look to the diagram  D) Drawn with thick line
g) All of the following are classification of constraints faced by a project manager except
A) Mandatory  B) Discretionary
C) Internal  D) External
h) Which of the following is the decision making criteria based on optimism under uncertainty
A) Maximin criterion  B) Maximax criterion
C) Laplace criterion  D) Hurwicz criterion

Q.2. Fill in the blanks. (Do not reproduce the sentence)

a) Product life cycle has four stages whereas a Project has ____ stages in its life cycle
b) Risk is the product of ____________ and consequence of project.
c) ____________ and ____________ method relates to scheduling.
d) An event in a network is defined as _________
e) PFR is a short form for ____________ ____________ ____________
f) Project ____________ is a method for shortening the project duration
g) Last phase of any project is project __________________
h) ____________ network is deterministic in nature.

Q.3. State True or False

a. EIA is a method of determining economic index of acceptance of a project
b. Preventive maintenance is an effect oriented measure of risk
c. PDM and AOA are the same
d. Fulkerson rule is a method of analyzing networks
e. Matrix organization structure is more flexible
f. Resource leveling is done to lessen the wastage of resources
g. Incentive contracts are usually used when there is some level of uncertainty
h. Post Implementation Review is to reflect on the events that took place in the closure of the project
Q.4. Match the following

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Critical activity</td>
<td>a) Three time estimate</td>
</tr>
<tr>
<td>2) Slack</td>
<td>b) Planning technique</td>
</tr>
<tr>
<td>3) PERT</td>
<td>c) Cost estimate</td>
</tr>
<tr>
<td>4) LOB</td>
<td>d) Value of work completed</td>
</tr>
<tr>
<td>5) CCE</td>
<td>e) Zero float</td>
</tr>
<tr>
<td>6) Earned value</td>
<td>f) Event</td>
</tr>
<tr>
<td>7) CADD</td>
<td>g) Sigmoid formula</td>
</tr>
<tr>
<td>8) S curve</td>
<td>h) PDMS</td>
</tr>
</tbody>
</table>

**PART B**

48 marks

(Answer any three. Each question carries 16 marks)

Q.5. a) Define the term project and project management. (4 marks)

b) What are the components of project management? (4 marks)

c) Explain the concept of Line of Balance. (8 marks)

Q.6. a) Explain the utility of networking as a planning tool. (8 marks)

b) Explain various cost control techniques. (8 marks)

Q.7. a) Discuss various contract types with merits and demerits. (8 marks)

b) Explain the uses of post implementation review. (8 marks)

Q.8. Distinguish between (4x4 marks)

a) CPM and PERT

b) Project structure and matrix structure

c) Product life cycle and project life cycle

d) Risk transfer and risk avoidance

Q.9. Write short notes on any four (4x4 marks)

a) Squared network

b) Change control

c) Gantt chart

d) S curves

e) Cost estimation
PART C

Q. 10 compulsory

Q. 8. A project consists of 9 activities. The three time estimates of each of the activities along with the precedence relationships are given below.

<table>
<thead>
<tr>
<th>Job</th>
<th>Predecessor</th>
<th>Time (days)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>to</td>
</tr>
<tr>
<td>A</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>B</td>
<td>A</td>
<td>1</td>
</tr>
<tr>
<td>C</td>
<td>A</td>
<td>3</td>
</tr>
<tr>
<td>D</td>
<td>B,C</td>
<td>2</td>
</tr>
<tr>
<td>E</td>
<td>B</td>
<td>1</td>
</tr>
<tr>
<td>F</td>
<td>C,D</td>
<td>2</td>
</tr>
<tr>
<td>G</td>
<td>E</td>
<td>3</td>
</tr>
<tr>
<td>H</td>
<td>E,F</td>
<td>1</td>
</tr>
<tr>
<td>I</td>
<td>G,H</td>
<td>3</td>
</tr>
</tbody>
</table>

Questions;

a) Calculate the expected time and the variance for each activity. (5 marks)
b) Draw the critical path diagram & Indicate the critical path (6 marks)
c) Calculate the expected completion time of the project (2 marks)
d) Calculate floats for each of the activities (5 marks)
e) What is the standard deviation of the project (2 marks)