



# INDIAN INSTITUTE OF MATERIALS MANAGEMENT

## Post Graduate Diploma in Materials Management

Dec 2014

### Paper-18.A (New) & 17.A (Old)

### Project Management

DATE: 20.12.2014

MAX. MARKS: 100

Time: 2.00 p.m. to 5.00 p.m.

Duration : 03 hrs.

#### INSTRUCTIONS :

1. From Part 'A', answer four questions ( Compulsory). Each sub-question carries 01 mark. **Total: 32 Marks**
2. From 'B', answer any 3 out of 5 questions. Each question carries 16 marks. **Total Marks: 48**
3. Part 'C', is a case study with sub questions ( Compulsory) **Total Marks: 20**
4. Use of calculator and/or mathematical table is permitted. Graph sheet can be used wherever necessary.
5. Please read the instruction on the answer sheet.

### **PART A**

(1 marks each Total = 32 marks)

#### Q.1. Expand the following

8 marks

- a) DPR
- b) TEFR
- c) PACE
- d) LOB
- e) EIA
- f) UNIDO
- g) PDM
- h) WDM

#### Q. 2. Fill in the blanks

8 marks

1. A project often fails during acceptance testing and the goal is to reduce failure by -----
2. LOB technique is a combination of the process and the -----
3. ----- of an activity is that part of the total float which does not affect the subsequent activities.
4. ----- is a graphical representation of different decision alternatives and the sequence of events as if they were branches of a tree.
5. ----- is event oriented and CPM technique is activity oriented

6. IRR may be defined on the rate of discount which make it NPV equal/< -----.
7. ----- cannot be utilized fully for detailed scheduling and controlling and also it lacks in closely indicating ES and LF
8. ----- is the capital which can be paid to suppliers of plant and maturing in due courses.

**Q. 3. Match the following**

**8 marks**

<b>Column A</b>	<b>Column B</b>
1. Law of synergy	a) Generally provide feed ward information rather than feedback
2. FULKERSON RULE	b) (Standard Deviations) <sup>2</sup>
3. Dummy Activity	c) Method provides a measurement of profitability of the project
4. NPV	d) Output of the system is always more than the combined output of its parts
5. Intimacy	e) Under this the strategy chosen is the one which gives maximum pay off after assigning each strategy an equal opportunity
6. Laplace Criterion	f) Numbering of events
7. Variance (V)	g) Means how well people need to get to know each other
8. DSS Report	h) Used for the logic completion

**Q 4. Find True or False of the following**

**8 marks**

1. The line organization represents structure in a direct vertical relationship through which authority flow
2. Scheduling of a critical activity shows as a central line in a squared network.
3. Event in networking design is defined as a Task, Job or Assignment
4. Pay back method is more suitable when the company is facing problem of liquidity
5. ARR with straight line depreciation method is lower than when calculated with WDM.
6. Focus team approach focuses on right people on right problem.
7. Float is with reference to an event and used with PERT.
8. Purchase nodes have to be issues for a large variety of materials and equivalent for suppliers and contracts have to be negotiated for service.

**PART B**

(16 marks each Total = 48 marks)

(Answer any three)

**Q 5.** The owner of a chain of fast food restaurant is considering a new computer system for accounting and inventory control. A computer company sent the following information about the computer system installation:

Activity	Description	Immediate Predecessor	Times (days)		
			Optimistic	Most Likely	Pessimistic
A	Select the computer model		4	6	8
B	design/input/output system	A	5	7	15
C	Sedign monitoring systems	A	4	8	12
D	Assemble computer hardware	B	15	20	25
E	Develop the main programmes	B	10	18	26
F	Develop input/output routines	C	8	9	16
G	Create database	E	4	8	12
H	Install the system	D,F	1	2	3
I	Test and implement	G,H	6	7	8

- i. Construct PERT network diagram for this problem
- ii. Determine the critical path and compute the expected complete time
- iii. Determine the probability of completing the project in 55 days.

**Q 6.** a) What are the objectives and benefits of audits and review in project management?

b) Explain the relationship between Project management & Line management.

**Q 7.** a) Describe the important phases of project life –cycle

b) Define network. What are the important phases of network?

**Q 8.** a) What is payback period? What are the advantages and limitations of payback period?

b) What are the standards in ISO 14000 series?

**Q. 9.** Write short note on (ANY TWO)

- a) Objectives of estimation
- b) Resource Analysis
- c) Decision Tree
- d) Quality Concept

**PART C**

**20 marks**

**Que 10. compulsory**

Service Electronics and Engineers (SEE) is a repair outfit which takes up maintenance jobs in industry. For one of their jobs, SEE identifies the work components and related estimates as given below:

<i>Name</i>	<i>Work component (Activity Description)</i>	<i>Duration (minutes)</i>	<i>Immediate Predecessor/s</i>	<i>No. of Technicians Needed for the Activity</i>	<i>No. of Support Staff Needed for the Activity</i>
<i>A</i>	<i>Removing defective module</i>	<i>15</i>	<i>-</i>	<i>0</i>	<i>2</i>
<i>B</i>	<i>Removing power unit</i>	<i>30</i>	<i>-</i>	<i>1</i>	<i>3</i>
<i>C</i>	<i>Repairing power unit</i>	<i>90</i>	<i>B</i>	<i>2</i>	<i>3</i>
<i>D</i>	<i>Module testing</i>	<i>15</i>	<i>A</i>	<i>1</i>	<i>1</i>
<i>E</i>	<i>Module repairing</i>	<i>30</i>	<i>D</i>	<i>2</i>	<i>3</i>
<i>F</i>	<i>Module checking, after repair</i>	<i>15</i>	<i>C,E</i>	<i>2</i>	<i>2</i>
<i>G</i>	<i>Fitting power unit and module</i>	<i>30</i>	<i>F</i>	<i>1</i>	<i>2</i>
<i>H</i>	<i>Instruments checking</i>	<i>45</i>	<i>-</i>	<i>1</i>	<i>3</i>
<i>I</i>	<i>Instaurations calibration</i>	<i>60</i>	<i>H</i>	<i>3</i>	<i>0</i>
<i>J</i>	<i>Checking the systems</i>	<i>30</i>	<i>G,I</i>	<i>3</i>	<i>1</i>
<i>K</i>	<i>Carrying out a safety check</i>	<i>15</i>	<i>G,I</i>	<i>1</i>	<i>1</i>

Answer the following questions:

- i. Draw the network for the above maintenance job
- ii. How long will it take for the entire maintenance job?
- iii. Compute the total float and free float for each activity
- iv. What are the requirement of technician and support staff? (Assume that once assigned to this maintenance job, they cannot be assigned to any other project during the day).
- v. If only five technical and five supporting staff are assigned to this project, what would be the minimum possible duration of the project?

- vi. Would you recommend the requirement of one more technician and one more supporting staff (i.e. six technician and six supporting staff)? Explain.

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