INDIAN INSTITUTE OF MATERIALS MANAGEMENT

Post Graduate Diploma in Materials Management

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

Project Management

DATE: 21.06.2014   **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.

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PART A   (1 x32 = 32 marks)

Que 1. Expand the following

1. PBP
2. ROI
3. PERT
4. PLC
5. DPR
6. RADR
7. GERT
8. IRR

Que 2. Fill in the blanks

1. ------ is a statistical analytical method to monitor the performance of a group of people working on a project.
2. The drawing of the Arrow Diagram is also called-------
3. --------- is defined as an activity which does not consume time or resource but is a useful and necessary constraint.
4. The activities with TF=0 are called ----- as if any of these activities gets delayed, the entire project gets delayed.

5. ---------- is the capital which can be paid to suppliers of plant and maturing in due courses.
6. ------- is the space of time (length of time) with which the investment made will be recovered by the net returns of the projects.
7. -------   is a graphical representation of different decision alternatives and the sequence of events as if they were branches of a tree.
8. One way of predicting whether a new critical path will develop before reaching crash point is to consider the ---- for non-critical activities.

Que 3. Match the following

1. LOB   a) Review of potential impact of a project to be launched by an organization
2. FULKERSON RULE   b) $(\text{Standard Deviations})^2$
3. Total Float   c) Difference between its latest start and earliest start
4. Variance (V)   d) Numbering of events
5. Matrix Organization   e) Ishikawa diagram
6. Team Synergy   f) Combination of line and functional organization
7. EIA   g) One plus one is always greater than two
8. Fish-bone diagram   h) Graphical technique used in project planning to depict time quantity relationship

Que 4. Find True or False of the following

1. Line of balance is a management technique to determine the progress of various phases of the project using management by exception.
2. The only drawback of Gantt chart is that the inter dependency of various activities cannot be shown fully.
3. A network diagram is a flow plan consisting of the activities and the events that must be completed to reach the goal.
4. Event in networking design is defines as a Task, Job or Assignment
5. CPM is used where the emphasis is on trade off between cost and completion date for large project.
6. The shorter the payback period, the more desirable the project
7. Float is with reference to an event and used with PERT.
8. Cause effect analysis is a technique for identifying the most probable causes affecting a problem.

PART B   **48 marks**

(Answer any three. Each question carries 16 marks)

Que 5: a) Define Project Management. Explain the relationship between Project management & Line
         management .
      b) What is LOB? Describe the elements of LOB Approach.

Que 6: a) Describe the important phases of a project life-cycle.
      b) What is Gantt chart? Explain Precedence diagram method with example.

Que 7: a) What are the different types of project organization? Explain Quality Circle concept.
      b) Describe the Matrix organization. What are the advantages and limitations of matrix
         organization?

Que 8: As per the given data, kindly answer the following questions.
      a) Draw the network diagram
      b) Crash the activities to find the time-cost trade-off points that the company should want to

      consider. Start with the plan that has the longest duration.

Activity	Preceding Activity	Time(weeks)		Cost (Rs)	
		Normal	**Crash**	**Normal**	**Crash**
		Program	**Program**	**Program**	**Program**
A	-	2	1	20,000	20,700
B	-	3	1	29,000	33,000
C	A	2	1	25,000	26,100
D	B	4	3	47,000	47,750
E	C	4	2	55,000	57,000
F	C	3	2	29,000	29,500
G	D, E	5	3	79,000	80,800
H	F, G	2	1	15,000	17,900

Que 9: a) Explain ISO 14000 series in detail.

b) Name the different problem -solving techniques and explain any one in detail

PART C   20 marks

Q. 10   compulsory

A UK based project consultancy collect the following data after doing a project review.
Read this information and calculate the following:

Activity	Immediate Predecessor.	Normal Time(weeks)	Normal Cost	Crash Time(weeks)	Crash Cost
A	__	10	30	8	70
B	A	8	120	6	150
C	B	10	100	7	160
D	A	7	40	6	50
E	D	10	50	8	75
F	C, E	3	60	1	95

a) Show the project network

b) Assume the company wants to complete the project in 28 weeks. Should any activity be crashed? Explain.

c) Which activities should be crashed, by how much, and at what total crashing cost, if the objective is to minimize the total crashing costs, while meeting the deadline of 28 weeks?

d) Assuming there is a penalty of 20 paid for each week the project is not completed beyond the deadline of 28 weeks. What is the optimal crash plan that minimizes total costs?

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