

January 2017

Master of Business Administration (MBA) Examination

III Semester

Project Management

Time : 3 Hours]

[Max. Marks : 80

Note : Attempt any two questions from Section A and any three questions from Section B.

1. Discuss in brief about characteristics and types of projects with examples. Discuss the importance of time and costs involved in a project.
2. Draw and explain different phases of project life cycle.
3. Discuss criteria's of selecting a project. Discuss technicality of a project describing its models. Also highlight on market potential analysis and techniques of long term forecasting.
4. Write short notes on any three with examples :
 - (a) Financial feasibility and, determinants of cost of project.
 - (b) Risk analysis and types of Risk involved in a project.
 - (c) CPM and PERT with their applications.
 - (d) Human aspects involved in project management (focusing on project manager skills to handle a project).
 - (e) Project Monitoring and Audit.

Section A

5. The following table shows, for each activity of a project the normal and crash costs, the normal and crash times. The contract includes a penalty clause of Rs. 200 per day in excess of 19 days. The overhead, cost is Rs. 400 per day.

Activity	Time (Days)		Costs (Rs.)	
	Normal	Crash	Normal	Crash
1-2	6	4	600	1000
1-3	4	2	600	1400
2-4	5	3	500	1500
2-5	3	1	450	650
3-4	6	4	900	2000
4-6	8	4	800	3000
5-6	4	2	400	1000
6-7	3	2	450	800

- (a) Draw the project network and determine the critical path.
- (b) Find the cost of completing the project in Normal time.

- (c) Crashing the project activities, determine the cost of completing the project in minimum time, with total cost findings.
- (d) What is the optimal duration of the project and what is the costs involved ?

6. Using sensitivity analysis of a project (using break even analysis) of a following company ABC which proposes to start a new venture for manufacturing fluorescent bulbs. The estimates of new venture are as under :

Out put of Bulbs per annum : 3,00,000 number
 Exported sales revenue per annum : Rs. 1,50,00,000
 Fixed costs : Rs. 35,00,000
 Variable costs : Rs. 66,00,000

- (a) If selling price comes down to Rs. 40 per unit then find to effect on Break Even Points (BEP).
- (b) If fixed cost increases to Rs. 40,00,000 find out its effect on BEP.
- (c) If variable costs increases be 10% then find out its effect on BEP.
7. The owner of a chain of fast food restaurants is considering a new computer system hot accounting and inventory control. The computer company sent the following information about the system installation:

Activity Identification	Activity Description	Immediate Predecessor	Time		
			a	m	b
A	Select Computer Model	-	4	6	8
B	Design I/O System	A	5	7	15
C	Design Monitoring System	A	4	8	12
D	Assemble Computer H/W	B	15	20	25
E	Develop Main Programs	B	10	18	26
F	Develop I/O Routined	C	8	9	16
G	Create Data Base	E	4	8	12
H	Install the System	D, F	1	2	3
I	Test and implement	G, H	6	7	8

where a, m, b are most optimistic, most likely and most pessimistic times of project.

- (a) Construct an arrow diagram for this problem, determine the critical path and state the expected project completion time.
- (b) Determine the probability that the project will be completed in 55 days.
- (c) If the company wants to be 90% sure that the system will be installed by a certain due-date, how many days prior to that should it start the work ?
- (d) Suppose the company agrees to install the computer system in 50 days failing which, it would pay a penalty of Rs. 500 per day. What

is the probability that as penalty, but not exceeding Rs. 2,000, will be paid ?

- (e) Obtain in earliest and latest scheduling times of various activities. .
- (a) Compare projects A and B using net-present value method assuming discount rate of 11% per annum :

Year	Project A (Cash Flow) Rs.	Project B (Cash Flow) Rs.
0	-10,00,000	-10,00,000
1	8,00,000	4,00,000
2	6,00,000	4,00,000
3	-	3,00,000
4	-	3,00,000
5	-	2,00,000

Note : (Where Negative figure indicate cash out flow).

- (b) Also compare two projects by IRR method (assuming IRR-of 19%, 25%, 21%, 26%, 27% and 28%.
9. (a) Compare two projects A and B (using NPV method only) from the following information :

Project A

Investment on project : Rs. 10,00,000.
 Life of the project : 5 years
 Period of implementation : 1 year
 Cost of capital : 15%
 Year : 1 2 3 4 5
 Cash In Flow (lakhs Rs.) : 2 3 4 3 1

Project B

Investment on project : Rs. 10,00,000
 Life of project : 5 yrs
 Period of implementation : 1 year
 Cost of capital : 13%
 Year : 1 2 3 4 5
 Cash In Flow (lakhs Rs.) : 3 4 4 3 2

- (b) Compare two projects by PI (Profitability index Method) :

	Project A (Rs.)	Project B (Rs.)
Initial value of investment (cash out flow)	5,00,000	11,00,000
Present value of cash In flows	6,00,000	12,50,000
NPV	1,00,000	1,50,000