

Birla Institute of Technology & Science, Pilani
Project Management (MBA G523/BITS F490)
First Semester 2016-2017
Mid-Semester Test (close book)

Time: 90 Minutes
Date: 7/10/16

Marks:20

1. A company is considering two mutually exclusive investments, Project X and Project Y. The expected cash flows of these projects are as follows:

Year	Project X	Project Y
0	(5,000)	(2,500)
1	(2,500)	800
2	300	1,000
3	2,000	2,000
4	5,000	2,000
5	6,000	1,500

Which project should it choose if the cost of capital is 15 percent? 45 percent? (2+2=4 M)

2. Develop a WBS for a project in which you are going to build a bicycle. Try to identify all of the major components and provide three levels of detail. (3 M)

3. Firewall Project XT, Using the “complexity Weighting” scheme shown in Table 1 and the function point complexity weighted table 2 shown below, estimate the total function point count. Assume historical data suggest 5 function points equal one person a month and six people can work on the project. (2+1+1+1=5M)

Table 1 Simplified Basic Function Point Count Process for a Prospective Project

Element	Complexity Weighting			Total
	Low	Average	High	
Number of <i>inputs</i>	_____ × 2 +	_____ × 3 +	_____ × 4	= _____
Number of <i>outputs</i>	_____ × 3 +	_____ × 6 +	_____ × 9	= _____
Number of <i>inquiries</i>	_____ × 2 +	_____ × 4 +	_____ × 6	= _____
Number of <i>files</i>	_____ × 5 +	_____ × 8 +	_____ × 12	= _____
Number of <i>interfaces</i>	_____ × 5 +	_____ × 10 +	_____ × 15	= _____

Complexity Weight Table 2

Number of inputs	10	Rated complexity low
Number of outputs	20	Rated complexity average
Number of inquires	10	Rated complexity average
Number of files	30	Rated complexity high
Number of interfaces	50	Rated complexity high

- a. What is the estimated project duration?
 - b. If 20 people are available for the project, what is the estimated project duration?
 - c. If the project must be complete in 6 months, how many people will be needed for the project?
4. What are characteristics of matrix structure of organizing project? Explain with a suitable example. (1 +1=2M)
5. From the following information, develop an AON project network. Complete the forward and backward pass, compute the activity slack, and identify the critical path.

Activity	Predecessor	Time (Weeks)
A	None	4
B	A	5
C	A	4
D	B	3
E	C,D	6
F	D	2
G	E,F	5

- a. What is the critical path? (4 M)
- b. How many weeks to complete? (1M)
- c. What is the slack for activity C? (1 M)