Software Project Management
Fall 2016
Final Examination

Time: 3 hours. **Total marks: 50**

Answer the following questions.

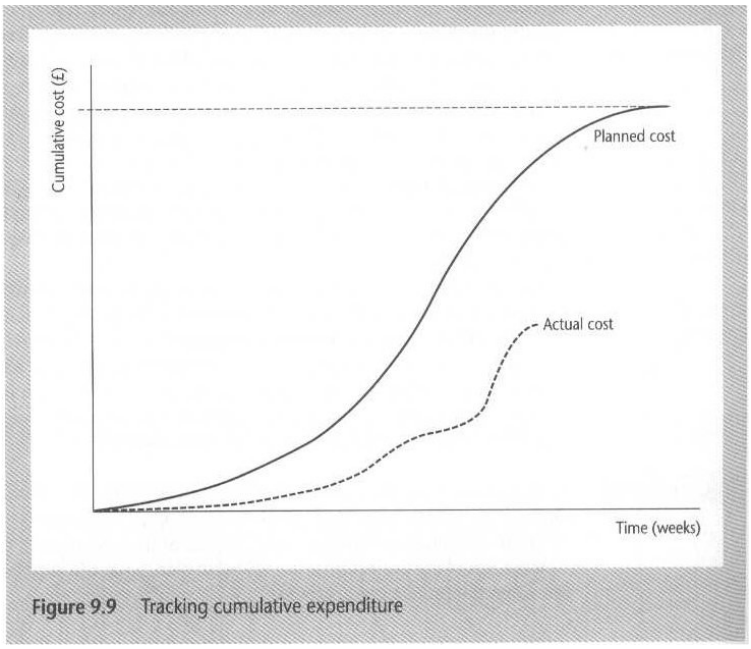
1. The project that you are managing has slipped from its target date. What should you do? List five different options. **(5 marks)**
2. List down five techniques for resource leveling/smoothing. **(5 marks)**
3. What is a product flow diagram? Why do we create it? Explain with an example. **(4 marks)**
4. 

Figure 9.9 Tracking cumulative expenditure

   What does this graph tell us about the project's health? How can this graph be improved? **(4 marks)**
5. List down ANY FOUR process discriminants and explain each in one line. **(4 marks)**
6. Write down ANY FOUR of Caper's Jones rules of thumb. **(4 marks)**
7. Write down two methods of reporting project status and explain each of them briefly. **(4 marks)**
8. Write down the formula for calculating effort using COCOMO II. Explain the variables and the units of the values used. **(3 marks)**
9. A project has the following estimated parameters:

   Number of resources = 10 persons

   Working Average = 5 hours/day

Cost = 5 dollars/person-hour

After ten weeks (50 working days), a total of $10,000 worth of actual effort has been spent, while there is a slippage of 10 days in the schedule. Calculate BCWS, BCWP, ACWP, CV, SV, CPI, and SPI. **(7 marks)**

10. Refer to the activity estimates and precedents below. Create a precedence network, perform forward pass and backward pass, calculate the span and float and identify the critical path(s). Use Day 0 as the starting point and the day number used should indicate the end of each day. Calculate the numbers accordingly. **(10 marks)**

Activity ID	**Activity Description**	**Estimated Duration (Days)**	**Precedents**
1	Specify overall system	20	
2	Specify module A	20	1
3	Specify module B	5	1
4	Specify module C	15	1
5	Specify module D	10	1
6	Check specification	3	2,3,4,5
7	Design module A	8	6
8	Design module B	4	6
9	Design module C	6	6
10	Design module D	5	6
11	Code/test module A	30	7
12	Code/test module B	20	8
13	Code/test module C	20	9
14	Code/test module D	15	10
15	System integration	7	11,12,13,14