SUPPLEMENTARY EXAMINATION-2013

8th Semester B.Tech

SOFTWARE PROJECT MANAGEMENT IT-813

[2009 Admitted Batch]

Full Marks: 60 Time: 3 Hours

Answer any SIX questions including Question No.1 which is compulsory.
The figures in the margin indicate full marks.
Candidates are required to give their answers in their own words as far as practicable and all parts of a question should be answered at one place only.

1. (a) What is the difference between information system and embedded system? [1 × 10

   (b) Who are stakeholders in developing a software project management?

   (c) What is an outsourced project in the context of executing a software development?

   (d) What is cash flow forecasting during a project development?

   (e) What is the deficiency of IRR in providing a profitability measure?

   (f) What is a prototype to develop a software system? Classify them.

   (g) What is pair programming? State its disadvantages.

   (h) What is a Gantt chart? How are the most likely durations applied?

(i) Explain the difference between an activity and an event in a project network.

(j) What is the risk and how it is reduced in the project?

2. (a) Explain the major activities carried out by a software project manager and the order in which these are carried out with a suitable diagram. [5

(b) Consider two projects with the following project cash flow projections: [5

Year	Project 1 ($)	Project 2 ($)	Discount rate (10%)
0	-50000	-70000	1.0000
1	10000	20000	0.9091
2	30000	30000	0.8264
3	40000	50000	0.7513

Calculate the following for both the projects:

(i) Net profit

(ii) Payback period

(iii) Return on investment

(iv) Net present value

On the basis of NPV and decide which is the best project.

3. (a) What is an Atern process model? Explain the Atern process model with a suitable diagram. [5

(b) Briefly explain the different software effort estimation techniques. Using the parametric model find out the effort where the system size is 3 KLOC and the productivity rate is 40 days per KLOC. [5

4. (a) What are the benefits of PERT? [5

(b) "Monitoring and control is essential for a project". Explain. [5

5. (a) What are the major shortcomings of the waterfall model? How have those short comings been overcome by the agile model? [5

(b) Stephanie has a hardware store and she is deciding whether or not to buy Adler's hardware store on Wickendon street. She can buy it for **$4,00,000**. However, it would take one year to renovate, implement her computer inventory system. [5

The next year she expects to earn **$6,00,000** if the economy is good and only **$2,00,000** if the economy is bad. She estimates a **65%** profitability of a good economy and a **35%** profitability of a bad economy. If she doesn't buy Adler's she knows she will get **$0** additional profits.

Taking the time value of money into account, find the NPV of the project with a discount rate of **10%**. With the help of a decision tree decide whether, Stephanie should buy the hardware store or not?

6. (a) Draw an arrow diagram following the table below: [5

Activity	Predecessor	Time (days)
A	-	4
B	-	10
C	-	12
D	A	6
E	A	8
F	C	8
G	D	10
H	B, E	10
I	F, H	8
J	G, F, H	10
K	I, J	6

b) What are the steps required for dealing with risk? Explain briefly the different steps involved in risk planning. [5

7. (a) Explain the steps with a suitable diagram how the errors are removed while the developing a software product. [5

(b) Draw an activity network and calculate the earliest finish for the following project. [5

Activity	Duration (days)	Depends on	Resource type
A	3		SA
B	1	A	SD
C	2	A	SD
D	4	A	SD
E	3	B	SC
F	3	C	SC
G	6	D	SC
H	3	E, F, G	SA

8. Answer <u>any four</u> In brief: [2 × 5

(a) F'unction point Mark II

(b) Schedule compression

(c) Project termination review

(d) How to shorten the critical path?

(e) The expectancy theory of motivation

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