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APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

THIRD SEMESTER M.TECH DEGREE EXAMINATION, DECEMBER 2017

Branch: Computer Science and Engineering

Stream: Computer Science and Engineering

Course Code & Name: 01CS7177 Advanced Software Project Management

Answer *any two full* questions from *each* part

Limit answers to the required points.

Max. Marks: 60 Duration: 3 hours

PART A

1. A public library is considering the implementation of a computer- based system to help administer book loans at libraries across the state. Identify the stakeholders in such a project. What might be the objectives of such a project and how might the success of the project be measured in practical terms? 9

2. a. Explain Product Breakdown Structure with an example. 4

   b. Briefly describe one Agile model and state for which application area it is ideal as a software process model. 5

3. Cash flow projections in Rupees (lakhs) for 5 years are given below for four projects A, B, C and D. Negative values represent expenditure and positive values income. Perform cost- benefit evaluation considering (a) Net Profit, (b) Payback period. 9

Year	Project A	Project B	Project C	Project D
0	-10	-1,00	-10	-12
1	1	20	3	2
2	1	20	3	2
3	1	20	3	2
4	2	20	3	2
5	8	30	3	7

PART B

4. Create a precedence activity network using the following details: 9

Activity	Depends on	Duration (weeks)
A		5
B	A	7
C	B	6
D	A	5
E	D	10
F	B	15
G	C	8
H	E,F,G	8

Include the earliest and latest start and end dates associated with each activity in the network. What is the project duration? What is the float for each activity? Identify the critical path.

5. a. What limitations of COCOMO-I model used for Effort estimation are overcome by COCOMO-II, and how? 5

b. Identify any four risks to be considered during a software development project and suggest a risk reduction technique that can be applied for each. 4

6. Consider a software development project with seven tasks T1-T7. The estimated duration of these given tasks in weeks are 3, 2, 3, 5, 2, 4 and 5 respectively. T2 and T4 can start when T1 is complete. T3 can start when T2 is complete. T5, T6 and T7 can start when both T3 and T4 are complete. If developer A is available from the start of the project and developer B and C become available after 3 weeks of the start of the project, schedule the project and show your results in the form of a bar chart and resource histogram. 9

PART C

7. What is the importance of monitoring progress of a project? With the help of diagrams highlight the features of Gantt chart and Slip chart. 12

8. a. Briefly describe recruitment process and activities for staff motivation? 6

b. What is the importance of Process capability models? Give the key process areas for the highest two levels of Capability Maturity Model (CMM). 6

9. a. What is Pareto analysis? How is it applied for software defect analysis? 6

b. Explain briefly the Change control procedure for an operational software system 6