Uka Tarsadia University

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Sr. No.	Practical	Submission Date	Signature
1	Identify the requirement and set objectives for the software projects. 1) Identify the requirements and list the key objectives for the mobile application project and Stock Inventory System. 2) Ensure that each objective follows the SMART criteria. 3) Create Epic, Stories and Tasks using Jira software.		
2	Categorization of software projects (select any two projects from annexure – I) 1) Study and Identify the requirements, modules and list the key objectives for the mobile application project 2) Study the different categories of software projects. 3) Categorize projects based on size, complexity, and criticality. 4) Justify your categorization decisions.		
3	Study cost-benefit evaluation Techniques and apply for Project Selection. 1) Study cost-benefit evaluation Techniques 2) Conduct a cost-benefit analysis for both projects by using techniques such as Return on Investment (ROI) and Net Present Value (NPV) to evaluate and compare the projects. 3) Make a recommendation on which project should be selected based on the analysis.		
4	Study and apply stepwise project planning activities Task: 1) Study the steps and activities involved in project planning. 2) Create project planning for a given scenario		
5	Select the most appropriate Process model Task: 1) Study the importance of selecting an appropriate process model for a given project.		

	2) Evaluate different process models based on project characteristics. 3) Choose the most appropriate process model for a given scenario. 4) Consider factors such as project size, requirements volatility, and the need for customer involvement.		
6	Study and apply software effort estimation techniques. Task: 1) Choose two estimation techniques from the list (e.g., Bottom-up estimating, Expert judgment, Function Point Analysis, COCOMO). 2) Draw up an outline program structure diagram for a given scenario. For each box on your diagram, estimate the number of lines of code needed to implement the routine in a programming language (eg.Java) (Use External input types none, External output types the report, that is, 1, Logical internal file types none, External interface file types payroll file, staff file (timetabling), courses file (timetabling), that is, 3, External inquiry types none) 3) Calculation of SLOC from Albrecht function points. 4)Apply COCOMO to estimate the effort.(Use Table C.7 Assessing scale factors)		
7	Consider a software development project with the following activities: Activity A: Define Requirements (Duration: 5 days) Activity B: Design Database (Duration: 8 days) Activity C: Develop Frontend (Duration: 10 days) Activity D: Implement Backend (Duration: 12 days) Activity E: Perform Testing (Duration: 6 days) Activity F: Deployment (Duration: 8 days) 1) Construct a Precedence Diagram. 2) Calculate Early Start (ES), Early Finish (EF), Late Start (LS), Late Finish (LF), and Total Float for each activity. 3) Determine the Critical Path.		

	4) Calculate the total project duration.		
8	Build PERT networks, estimate activity times, and calculate project durations and completion probabilities. 1) Consider a software development project with the following activities: A: Define Requirements, B: Design Database, C: Develop Frontend, D: Implement Backend, E: Perform Testing, F: Deployment. The dependencies are as follows: A depends on nothing, B depends on A,C depends on A,D depends on B and C,E depends on D,F depends on E, Construct a PERT network diagram for this project. 2) Consider the following PERT estimates for a software development project: Activity A: Optimistic Time = 5 days, Most Likely Time = 8 days, Pessimistic Time = 12 days, Activity B: Optimistic Time = 6 days, Most Likely Time = 10 days, Pessimistic Time = 15 days, Activity C: Optimistic Time = 4 days, Most Likely Time = 6 days, Pessimistic Time = 8 days Determine the Early Start (ES), Early Finish (EF), Late Start (LS), Late Finish (LF) times, total project duration, and the probability of completing the project within 20 days.		
9	Study the principles of resource allocation and scheduling in project management.		
10	Study the challenges and strategies in managing people in software development projects.		