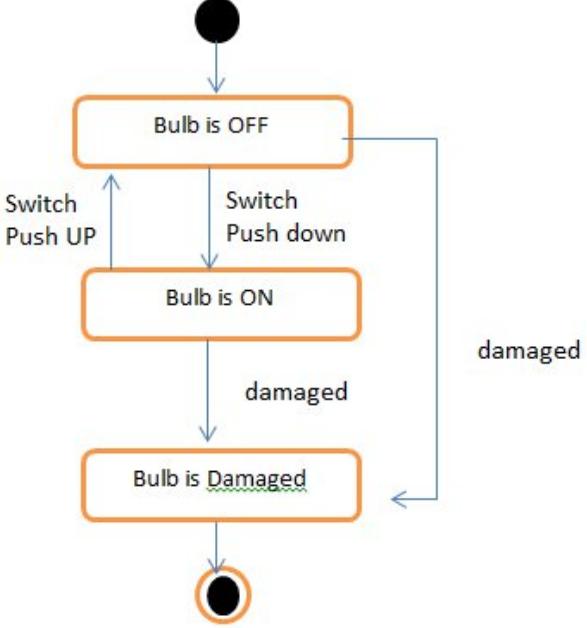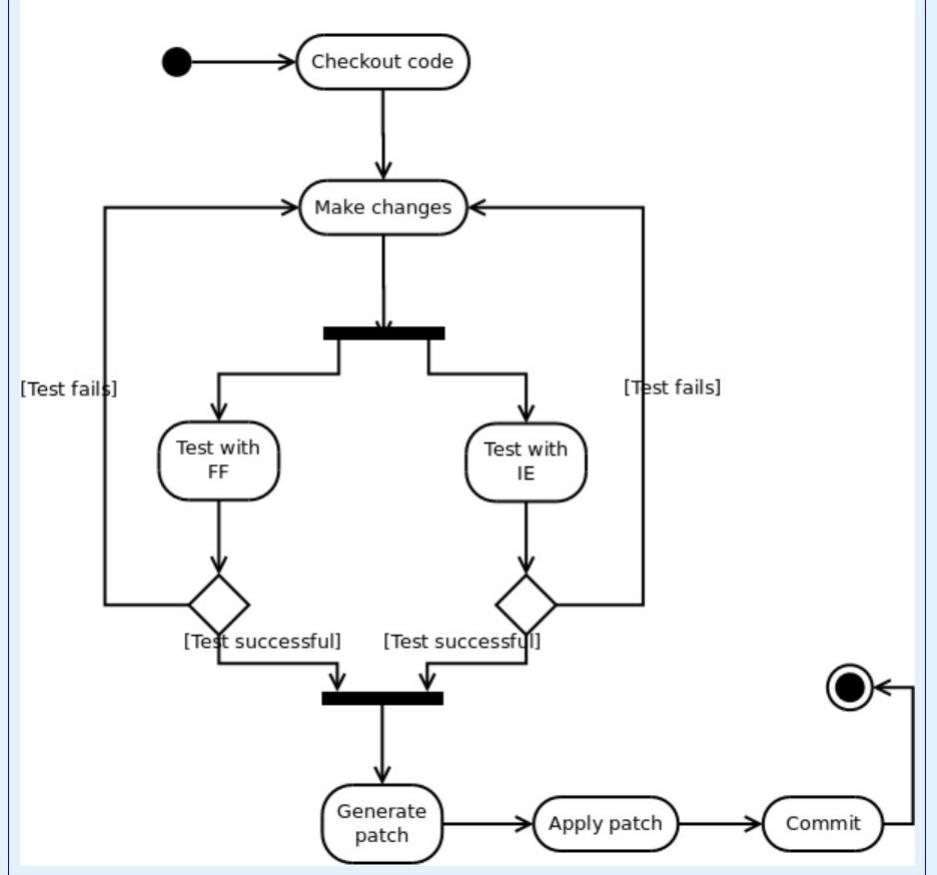| Semester: July 2024-October 2024		
Examination: In-Semester Examination		
Programme code: Programme:	Class: TY	Semester: V (SVU 2020)
Name of the Constituent College: K. J. Somaiya College of Engineering	Name of the department: COMP	
Course Code: 116U01C501	Name of the Course: Software Engineering	

Question No.		Max. Marks
Q1	Draw a state chart diagram to graphically represent the following system Consider a bulb with a push down switch. The bulb initially remains off. When the switch is pushed down, the bulb is on. Again when the switch is pushed up, the bulb turns off. The lifecycle of the bulb continues in this way until it gets damaged.	10 Marks
Q1		10 Marks
	OR	
	Explain Pattern based Software Design with respect to a safe home systems application. Introduction to Design Patterns (2M) • Creational Patterns: Deal with object creation mechanisms. • Structural Patterns: Focus on organizing different classes and objects. • Behavioural Patterns: Concern the interaction between objects. Creational Patterns in Safe Home Systems(2M) Explain types in detail(6M)	
Q2	You are appointed as a developer for designing and implementing online airline ticket booking website not mobile application, estimate the effort and cost of development using Function point estimation technique with necessary diagram. Ans: Introduction to Function Point Estimation (1 Mark)	10 Marks

Q2	Identification of Function Types (2 Marks)	10 Marks
	Assigning Complexity and Weighting Factors (2 Marks)	
	Calculating Adjusted Function Points (FP) (2 Marks)	
	Effort and Cost Estimation (2 Marks)	
	OR	
	Draw an activity diagram to graphically represent the following workflow Let us consider the development activities of SE Virtual Labs. The process begins by checking out the code from Subversion repository. Necessary modifications are then made to the checked out code (local copy). Once the developer is done with his changes, the application has to be tested to verify whether the new functionality is working fine. This test has to be performed with two of the more popular web browsers: Firefox and Internet Explorer, to support cross-browser accessibility. If testing fails in at least one of the two browsers, developer goes back to his code, and fixes it. Only when all the browsers pass the test, a patch is generated from the local copy, and applied to the production code. The local copy is then committed resulting in update of the SVN repository. Note that, if the local copy is committed before generating a patch file, then local changes would get registered, and one won't be further able to generate the patch file.	
	Note: For further clarification, at any point of time there exist three versions of the source code: Production copy, local copy, and copy in SVN repository.	
	Ans:	
Q3	Explain the Scrum framework, outline the key roles in Scrum and provide a detailed explanation of the specific responsibilities associated with each role in Scrum project management?	10 Marks

| | Ans:
Explanation of the Scrum Framework (4 Marks)
Key Roles in Scrum (6 Marks)
Product Owner
Scrum Master
Development team | |