QUESTION PAPER

Name of the Examination: WIN SEM (2023-2024) – CAT-1

Course Code: CSE1005

Set number: I

Duration:90 minutes

Course Title: Software Engineering

Date of Exam: 05/02/2024 (AN)(A₂)

Total Marks: 50M

Instructions:

1. Assume data wherever necessary.
2. Any assumptions made should be clearly stated.

Q1. "Particularly useful when staffing is unavailable for a complete implementation by the business deadline". The above narration is well suited for a process model for software development.

    i) Identify the model and explain with a neat sketch.

    ii) Give an example, that clearly demonstrates the working principle of the model

(10M)

Q2. a) List and explain various process framework activities in SDLC.

    b) Explain the about concept of layered engineering in software development.

(10M)

Q3. A university plans to manage Enterprise resource planning like VTOP through online application.

    i) Identify the actors, functions/requirements for the above case study and sketch use case diagram.

    ii) Illustrate the requirement model using class diagram   **(10M)**

Q4. Prepare a SRS Document for the E-commerce website with the Purpose, Scope, Intended audience, Modules required etc.,   **(10M)**

Q5. Umbrella activities occur throughout the software process. Do you think they are applied evenly across the process, or are some concentrated in one or more framework activities?

(10M)

Q1. Need of the Online bus Reservation System is that the manual system of bus ticket reservation takes more time and the number of reservations per day is limited. To increase the efficiency of the process, we go for online bus ticket reservation system. This system is built for user to directly access the system online to book bus tickets. The user can book, print, delete bus tickets without the help of a clerk. The administrator has control over the adding buses available for booking and has control over deleting buses that are not necessary. The administrator and user can both enter the system using their respective login details.

  i) Discuss and Apply framework activities of Software Engineering in the above scenario. **(5M)**
  ii) Discuss and Apply Umbrella activities in the above scenario. **(5M)**

Q2. Why the Spiral model is called as a combination of iterative development process model and sequential linear development model i.e. the waterfall model with a very high emphasis on risk analysis? Explain the model in details with diagram. **(10M)**

Q3. Develop a project E-Book Management system, the website must be maintained properly since the whole e-book purchase process can be improved. E-Book management in this project gives the idea about how E-Book are maintained in a particular concern. The book details include the number of books available, no of pages and price. E-Book management system is understood by going through the modules that is being involved. Developer can collect requirements again during implementation based on their requirement.

Discuss and apply suitable software development lifecycle model. **(10M)**

Q4. The management and authority of Manipal Hospital has decided to manage and improve the Hospital Management System (HMS) through online application to reduce the chaos between the patients and the staff of the hospital.

  i) Analysis the case study and identify the actors, functions and draw usecase diagram. **(5M)**
  ii) Sketch class diagram to represent the requirement model. **(5M)**

Q5. Licious is your online-stop fresh meat delivery application. The customers can get the fresh meat & seafood, delivered straight to your doorstep. Customers can place order, edit order cancel order and track the order through the application. Sketch sequence diagram to represent the requirement model. **(10M)**

QUESTION PAPER
Name of the Examination: WIN (2023-24) Semester Seniors CAT-1

Course Code: CSE1005

Set number: 3

Duration: 90 mins

Course Title: Software Engineering

Date of Exam: 05/02/2024 (FN)(A)

Total Marks: 50

Q1) Consider a scenario where a company is currently using a manual inventory management process and is looking to transition to an automated system to enhance accuracy, reduce errors, and improve overall inventory control. Discuss and Apply framework activities of Software Engineering in the above scenario. Discuss and Apply Umbrella activities in the above scenario. **(10M)**

Q2) Shreya and Aditya are entrepreneurs who are launching a startup focused on developing mobile applications for event planning and management. They are looking for a software development approach that allows for quick iterations and concurrent development of various system components. As the head of the software team, recommend and justify an appropriate software process model for their project. **(10M)**

Q3) Priya and Rohit are aspiring entrepreneurs and they have outlined a phased approach for the development of their software application. Initially, they want basic functionalities like user registration, product browsing, and order placement. Over time, they intend to add secondary features such as seller analytics, customer reviews, and advanced search options. As the head of the software development team, recommend and justify a suitable process model for their project. **(10M)**

Q4) ABC HealthTech is aiming to develop a healthcare management system that streamlines patient appointments, medical records, and billing processes. The system should involve interactions between patients, healthcare providers, and administrators. As the software team lead, create a use case diagram and class diagram to illustrate the primary functionalities and essential classes. **(10M)**

Q5) Imagine that you are the lead software engineer for a project to develop an online bookstore for a company called "BookBazaar." The platform aims to provide users with a seamless experience for browsing, purchasing, and managing their book orders. The system should also include features for user registration, online payment processing, and secure access to digital book downloads. As the lead software engineer, outline the key requirements for the Online Bookstore system in the form of an SRS document. Highlight considerations related to user experience, security, and payment processing. **(10M)**

QP MAPPING

Q. No.	Module Number	CO Mapped	PO Mapped	PEO Mapped	PSO Mapped	Marks
Q1	1	1	1	2	1	10
Q2	1	1	1	2	1	10
Q3	1	1	1	2	1	10
Q4	2	2	4	-	1	10
Q5	2	2	4	-	1	10

Course Code: CSE1005

Set number: 5

Duration: 90 minutes

Course Title: Software Engg.

Date of Exam: 06/02/2024 (AN)(CB2)

Total Marks: 50

Instructions:

1. Assume data wherever necessary.

2. Any assumptions made should be clearly stated.

Q1. Is software engineering applicable when WebApps are built? If so, how might it be modified to accommodate the unique characteristics of WebApps? **(10M)**

Q2. Consider about an AI based software product to be developed. The customer is not completely aware of the requirements initially; however, subsequently it is well comprehended and managed. Describe the process framework activities and umbrella activities to be carried out for this project. **(10M)**

Q3. Consider the development of an online food delivery app, which deals with addressing customers requests to deliver food at the mentioned location. The app employs an intelligent algorithm to give specific discounts to frequently visiting customers. Is it possible to combine process models to develop such an app? Please explain. **(10M)**

Q4. Consider an ATM where the user can check balance in the account, withdraw and deposit money. Also the user can change his mobile number subject to OTP verification. Draw the usecase and class diagram for the said requirement. **(10M)**

Q5. Why do we say that the requirements model represents an overview of a system? Describe about the importance of verification and validation in requirements analysis. **(10M)**

QP MAPPING

Q. No.	Module Number	CO Mapped	PO Mapped	PEO Mapped	PSO Mapped	Marks
Q1	1	1	1, 4, 3	1	1	10
Q2	1	1	1, 4, 2	1	1	10
Q3	1	1	1, 2	2	1	10
Q4	2	2	2, 4	2	1	10
Q5	2	2	2, 3	2	1	10