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**KADI SARVA VISHWAVIDYALAYA**  
**B.E. Semester-V Examination (April-2022)**

**SUBJECT CODE: CT501-N**

**SUBJECT NAME: Software Engineering**

**DATE: 08/04/2022**

**TIME: 12.30 P.M. to 3:30 P.M.**

**TOTAL MARKS: 70**

**Instructions:**

1. Answer each section in separate Answer Sheet.
2. All questions are compulsory.
3. Indicate clearly, the options you attempted along with its respective question number.
4. Use the last page of main supplementary for rough work.

**SECTION -I**

- Q-1.** A) List and explain Requirement Engineering tasks. [5]  
B) Explain Incremental Model. [5]  
C) Explain Functional and Non Functional Requirement for ATM in Banking System [5]

**OR**

- C) How are Software Myths affecting Software Process? Explain it in brief. [5]
- Q-2.** A) Explain Software engineering as a Layered technology. [5]  
B) Explain the Spiral Model in detail. [5]

**OR**

- Q-2.** A) Explain Generic Software Process Framework Activities. [5]  
B) Explain Requirement Elicitation Technique for requirement gathering. [5]

- Q-3.** A) What is Agility? Explain Extreme Programming in detail. [5]  
B) Draw Sequence Diagram for Hospital Management System. [5]

**OR**

- Q-3.** A) Explain Emerging Trends in software Engineering. [5]  
B) Draw Class Diagram for Railway Reservation System. [5]

**P.T.O**

4/2

## SECTION - 2

- Q-4. A) What is Risk Management? Explain RMMM Plan. [5]  
B) Explain Software Testing Strategy for Conventional Software Architecture. [5]  
C) Explain Component Level Design Elements. [5]

OR

- C) Explain Elements of Software Quality Assurance. [5]

- Q-5. A) Explain Unit Testing in detail. [5]  
B) Explain the Capability Maturity Model Integration (CMMI). [5]

OR

- Q-5. A) Explain Coding Standards in detail. [5]  
B) Explain Verification and Validation with example. [5]

- Q-6. A) What is the difference between software architecture and software design? Explain any two architectural styles of software. [5]  
B) Explain COCOMO - II Model with Example. [5]

OR

- Q-6. A) Compare: Black Box Testing and White Box Testing. [5]  
B) Explain ISO 9000 Quality Standards. [5]

\*\*\*\*\*BEST OF LUCK\*\*\*\*\*

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**KADI SARVA VISHWAVIDYALAYA**  
**B.E. Semester-V Examination (November/2021)**

**SUBJECT CODE: CT501-N**  
**DATE: 15/11/2021**

**SUBJECT NAME: Software Engineering**  
**TIME: 10.00 A.M. to 01:00 P.M. TOTAL MARKS: 70**

**Instructions:**

1. Answer each section in separate Answer Sheet.
2. All questions are compulsory.
3. Indicate clearly, the options you attempted along with its respective question number.
4. Use the last page of main supplementary for rough work.

**SECTION – 1**

- Q-1.** A) List and explain Requirement Engineering tasks. [5]  
B) Explain Waterfall Model. [5]  
C) Explain how to translate the analysis model into design model. [5]

**OR**

- C) How are Software Myths affecting Software Process? Explain it in brief. [5]

- Q-2.** A) Explain Software engineering as a Layered technology. [5]  
B) Explain the Spiral Model in detail. [5]

**OR**

- Q-2.** A) Explain Generic Software Process Framework Activities. [5]  
B) Explain Requirement Elicitation Technique for requirement gathering. [5]

- Q-3.** A) Explain Scrum Process Flow with figure. [5]  
B) Draw Sequence Diagram for Facebook User Authentication. [5]

**OR**

- Q-3.** A) Explain Emerging Trends in software Engineering. [5]  
B) Draw Class Diagram for Library Management System. [5]

**P.T.O**



## SECTION - 2

Q-4. A) What is Risk Management? Explain RMMM Plan. [5]

B) Define the Following Terms: [5]

- 1) Information Hiding
- 2) Functional Independence
- 3) Refactoring
- 4) Software Abstraction
- 5) Refinement

C) Explain Component Level Design Elements. [5]

OR

C) Explain Elements of Software Quality Assurance. [5]

Q-5. A) Explain Equivalence Partitioning Black box testing with example. [5]

B) Explain Functional and Non Functional Requirement for E-commerce Web Site. [5]

OR

Q-5. A) Explain Coding Standards in detail. [5]

B) Explain Design Pattern with simple Template. [5]

Q-6. A) Explain FP based Software Project Estimation Model with example. [5]

B) Explain COCOMO - II Model with Example. [5]

OR

Q-6. A) What is Software Testing? What is the role of a Software Tester? Compare: Black Box Testing and White Box Testing. [5]

B) Explain ISO 9000 Quality Standards. [5]

\*\*\*\*\*BEST OF LUCK\*\*\*\*\*

**KADI SARVA VISHWAVIDYALAYA**  
**B.E. SEMESTER – V EXAMINATION NOVEMBER – 2022**

Subject Code: CT501-N

Subject Name: Software Engineering

Date: 02/11/2022

Time: 10:00 am to 01:00 pm

Total Marks: 70

- Instructions:**
- 1) All questions are compulsory.
  - 2) Figures to the right indicate full marks.
  - 3) Indicate clearly, the options you attempt along with its respective question number.
  - 4) Use the last page of main supplementary for rough work.

**Section – 1**

**Marks**

- Q.1 (A)** At which stages of software development projects would you use the following software metrics and software quality 'measures':

**5**

- (i) Function Points
- (ii) Lines of Code Count (LOC)
- (iii) Cyclomatic Complexity
- (iv) Coupling and Cohesion?

Explain why.

- Q.1 (B)** Draw and explain Gantt Chart and PERT Chart.

**5**

- Q.1 (C)** Explain Software Project Management and WSHH Principle.

**5**

**OR**

- Q.1 (C)** Why Software Quality matters? Which are different measure for Software Quality? Explain all.

**5**

- Q.2 (A)** Consider a project with the following functional units:

**5**

Number of external interfaces = 02  
Number of user outputs = 12  
Number of user files = 04  
Number of user enquiries = 16  
Number of user inputs = 20

Assume Functional units with weighting factors as below:

| Functional Unit                | Weighting Factors |         |     |
|--------------------------------|-------------------|---------|-----|
|                                | High              | Average | Low |
| External Inputs (EI)           | 6                 | 4       | 3   |
| External Output (EO)           | 7                 | 5       | 4   |
| External Inquiries (EQ)        | 6                 | 4       | 3   |
| External logical files (ILF)   | 15                | 10      | 7   |
| External Interface files (EIF) | 10                | 7       | 5   |

Assume all complexity adjustment factors complex and weighting factors are high.

Compute the function points for the project.

**5**

- Q.2 (B)** Explain Unit Testing and Integration Testing.

**OR**

- Q.2 (A)** Consider a project with the following functional units:

**5**

Number of user enquiries = 08  
Number of user outputs = 42  
Number of external interfaces = 06  
Number of user inputs = 30  
Number of user files = 07

Assume Functional units with weighting factors as given in Q.2 (A) as above.

Assume all complexity adjustment factors are moderate and weighting factors are average. Compute the function points for the project.

- Q.2 (B)** Explain basis path testing.

**5**

**PTO**

- Q.3 (A) What is SQA? Explain SQA Tasks. 5
- Q.3 (B) What is Risk? Explain Risk Management activities. 5
- OR**
- Q.3 (A) What is boundary value analysis? Consider a program for determining the Previous date. Its input is a triple of day, month and year with the values in the range (1 <= month <= 12, 1 <= day <= 31, 1900 <= year <= 2025). The possible outputs would be Previous date or invalid input date. Design Boundary Value Test Cases. 5
- Q.3 (B) Design RMMM Plan for your Project. 5

## Section – 2

- Q.4 (A) What is Modeling? Explain how modeling can play an important part in designing a system. 5
- Q.4 (B) **Do as directed** 5
- (1) Which is not part of operating procedure manuals?
- (a) Installation Guide (b) Test Plan
- (c) Reference Guide (d) System Administration Manual
- (2) Which one is true among following:
- (a) Customers are persons who approve and pay for the system and users are persons who use the system ✓
- (b) Users are persons who approve and pay for the system and customers are persons who use the system
- (c) Customers are persons who develop the system and users are persons who use the system
- (d) Customers are persons who develop and use the system
- (3) Explain expected requirements and excited requirements.
- (4) Write about drivers and stubs.
- (5) Function point analysis (FPA) method decomposes the system into functional units. The total number of functional units are
- (a) 2 (b) 5
- (c) 4 (d) 1
- Q.4 (C) Explain twelve principles of Manifesto for Agile Software Development. 5
- OR**
- Q.4 (C) Describe the XP concepts and pair programming in your own words. 5
- Q.5 (A) Why do requirements change so much? After all, don't people know what they want? Explain in your words. 5
- Q.5 (B) Develop Data Flow Diagram up to level 3 for Web-based order-processing system for a computer store. 5
- OR**
- Q.5 (A) Explain different requirement elicitation techniques? According to you which is best? Justify your answer 5
- Q.5 (B) Develop an entity-relationship diagram that describes data objects, relationships, and attributes for Web-based order-processing system for a computer store. 5
- Q.6 (A) Explain three golden rules for User Interface Design. 5
- Q.6 (B) Explain Incremental Process Models. 5
- OR**
- Q.6 (A) How are the concepts of coupling and software portability related? Provide examples to support your discussion. 5
- Q.6 (B) Describe Coding Standards. 5



**KADI SARVA VISHWAVIDYALAYA**  
**LDRP INSTITUTE OF TECHNOLOGY AND RESEARCH, GANDHINAGAR.**  
**B.E. SEM - V (CE-IT) MID SEMESTER EXAM – September '22**

Date : 22 /09/2022

Time : 09:20 a.m. to 10:50 a.m.

Day : Thursday

Subject : Software Engineering

Subject Code : CT501-N

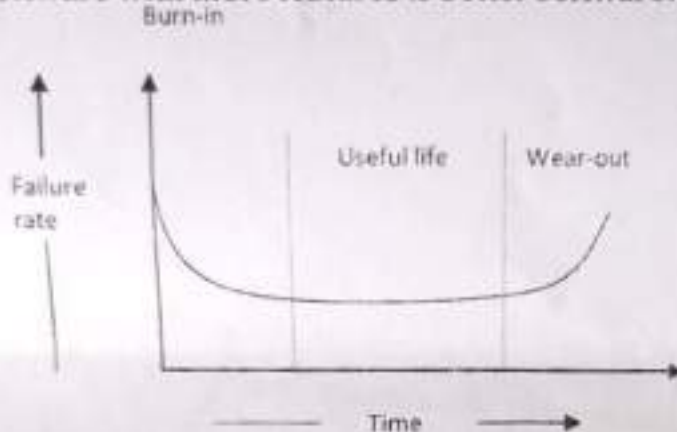
Marks : 30

**Instructions:**

- 1) All questions are compulsory.
- 2) Figures to the right indicate full marks.
- 3) Draw figures and give example where necessary

**Que 1: Do as directed**

- (A) (1) What is the main disadvantage of prototype model? [5]  
(2) Software with more features is better software? Answer Yes or No. Justify your answer.



- (3) Explain meaning of the above diagram.  
(4) What is meaning of stack holder?  
(5) Which of the following is not included in SRS?  
(a) Performance (b) Functionality (c) Design solutions (d) External Interfaces
- (B) How to collect Requirements? Explain different methods to collect Software Requirements. [5]

**Que 2:**

- (A) Explain the spiral model. [5]  
(B) Discuss the difference between the following: [5]  
(a) Coupling and Cohesion  
(b) Validation and Verification

**OR**

- (A) Explain the difference between Agile and Waterfall model. [5]  
(B) Explain Integration Testing. Explain the various strategies. [5]

**Que 3:**

- (A) Consider the process of ordering a pizza over the phone. Draw a Use Case diagram representing each step of the process, from the moment you pick up the phone to the point where you start eating the pizza. [5]  
(B) Explain the criteria for the selection of a software process model. [5]
- OR**
- (A) Draw the Data Flow Diagram of the pizza ordering system as mentioned in the above question. [5]  
(B) What is Software Engineering? Explain properties of a Software. [5]