# KADI SARVA VISHWAVIDYALAYA

B.E Semester: VI Computer Engineering

**Subject Code: CE – 603** **Subject Name:** Software Engineering

**Date: 01/05/2015** **Total Marks: 70**

**Instructions:**

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

## Section-I

Q-1 (A) How to collect Requirements? Explain different methods to collect Software Requirements. 5

(B) Do as Directed. 5

i) Which model incurs more cost?

a) RAD b) Prototyping c) Spiral d) All of these

ii) What is the full form of MTBF?

iii) Define Measure and Metrics.

iv) Define and Relate Error, Mistake, Bug, Fault and Failure.

v) Which is not a size metric?

(a) LOC (b) Function count (c) Program length (d) Cyclomatic complexity

(C) Define module coupling and cohesion. Explain different types of coupling and cohesion. 5

**OR**

(C) What is the difference between software architecture and software design? Explain any two architectural styles of software.

Q-2 (A) Explain SQA and its Importance. 5

(B) Explain Software Engineering as a Layered Technology. 5

**OR**

Q-2 (A) Explain CMM Levels. 5

(B) Describe Coding Standards. 5

Q-3 (A) What is Risk Management? Explain RMMM Plan. 5

(B) Explain Verification and Validation with example. 5

**OR**

Q-3 (A) What do you mean by risk? What is software risk? Explain all type of Software risk. 5

(B) Explain Unit Testing and Integration Testing Strategy. 5

**[P.T.O.]**

## Section-II

| | | | |
|---|---|---|---|
| Q-4 | (A) | Explain the Software Prototype Model. | 5 |
| | (B) | Define Software Engineering. Explain different types of Software. | 5 |
| | (C) | What is SRS? Explain various characteristics of SRS. | 5 |
| | | **OR** | |
| | (C) | Explain Functional and Non Functional Requirements of Hospital Management System. | 5 |
| Q-5 | (A) | Explain COCOMO – II Model with Example. | 5 |
| | (B) | How are Software Myths affecting Software Process? Explain it in brief. | 5 |
| | | **OR** | |
| | (A) | Explain EVA (Earn Value Analysis) with Example. | 5 |
| | (B) | Draw a DFD for result preparation automation system of B. Tech. courses of any university. Also mention all assumptions made by you. | 5 |
| Q-6 | (A) | Explain FP based Software Project Estimation Model with Example. | 5 |
| | (B) | Consider a project with the following functional units:<br>Number of user inputs = 60<br>Number of user outputs = 50<br>Number of user enquiries = 40<br>Number of user files = 08<br>Number of external interfaces = 05<br>Assume all complexity adjustment factors and weighting factors are Average. Compute the function points for the project. | 5 |
| | | **OR** | |
| | (A) | Explain LOC based Software Project Estimation Model with Example. | 5 |
| | (B) | What is Cyclomatic Complexity? Define steps to find Cyclomatic Complexity using flow graph. | 5 |

# KADI SARVA VISHWAVIDYALAYA

## B.E Semester: VI Computer Engineering

**Subject Code: CE – 603** **Subject Name:** Software Engineering

**Date: 03/11/2015** **Total Marks: 70**

**Instructions:**

1. Answer each section in separate Answer sheet.
2. All questions are **compulsory**.
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4. Use the last page of main supplementary of **rough work**.

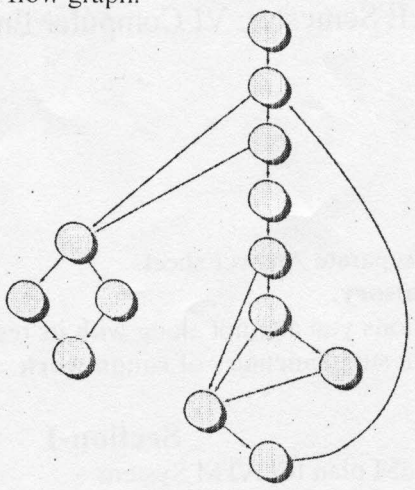
### Section-I

| | | | |
|---|---|---|---|
| Q-1 | (A) | Create RMMM plan for ATM System | 5 |
| | (B) | Explain Following:<br>Functional Independence<br>Cohesion<br>Information Hiding<br>Software Patterns<br>Refinement | 5 |
| | (C) | Explain Alpha testing and Beta testing with example. | 5 |
| | | **OR** | |
| | (C) | Explain Black Box and White Box testing with example. | |
| Q-2 | (A) | Explain Requirement gathering technique to collect the requirements from customer. | 5 |
| | (B) | What is SRS? Explain the importance of SRS. | 5 |
| | | **OR** | |
| Q-2 | (A) | What is SQA? Explain tasks of SQA. | 5 |
| | (B) | Explain CASE tools for software projects. | 5 |
| Q-3 | (A) | What is Data Dictionary? State the model of a data dictionary and its Contents. What are its advantages? | 5 |
| | (B) | What are the characteristics to be considered for the selection of the life Cycle Model? | 5 |
| | | **OR** | |
| Q-3 | (A) | What is DFD? Draw the DFD for any system with justifications. | 5 |
| | (B) | Explain the software project model which is focused on Risk. | 5 |

**[P.T.O.]**

## Section-II

Q-4 (A) What is Cyclomatic Complexity? Define steps to find Cyclomatic Complexity of given flow graph. 5



(B) Explain Software Project Management and W$^5$HH Principle. 5

(C) Consider a project with the following functional units: 5

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

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

**OR**

(C) Compute the function point FP for a payroll program that reads a file of Employee and a file of information for the current month and prints Cheque for all the employees. The program is capable of handling an interactive command to print an individually requested cheque immediately. 5

Q-5 (A) Explain Constructive Cost Model. 5

(B) Draw and explain Gantt Chart and PERT Chart. 5

**OR**

(A) Explain BVA (Boundary Value Analysis) with Example. 5

(B) Explain Functional and Non Functional Requirement for Hotel Management System. 5

Q-6 (A) Explain LOC based Software Project Estimation Model with Example. 5

(B) Explain key issues in Software Design 5

**OR**

(A) Explain Design Rules for User Interface (UI) with example of internal UI and external UI. 5

(B) Explain Software Prototype Model. 5