

Time: 3 Hours

Max. Marks: 80

**N.B. (1) Question one is Compulsory.**

**(2) Attempt any 3 questions out of the remaining.**

**(3) Assume suitable data if required.**

**Q. 1 Solve any Four out of the following (5 marks each)**

**20M**

- a. Explain Software Process Umbrella Activities
- b. Explain software reengineering
- c. What is Capability Maturity Model (CMM) Explain different CMM levels
- d. Design User Interface for Online Shopping System
- e. Discuss limitations of Waterfall model & Spiral Model
- f. Draw Use Case Diagram for Hospital Management System

**Q. 2**

**10M**

- a. What is Agile Process? Explain SCRUM Process Model with all activities
- b. What do you mean by Cohesion & Coupling? Explain different types of cohesion & Coupling

**10M**

**Q. 3**

**10M**

- a. What is Software Testing? Explain different types of software testing
- b. Define Risk? What are different categories of risks? Explain RMMM plan with suitable example.

**10M**

**Q. 4**

**10M**

- a. Explain & compare FTR & Walkthrough.
- b. Explain change control & Version Control

**10M**

**Q. 5**

**10M**

- a. Explain different types of software maintenance.
- b. What is SRS? Prepare a SRS for Online Movie Booking System.

**10M**

**Q. 6**

**10M**

- a. List different metrics used for software measurement? Explain function point-based estimation technique in detail.
- b. Explain software design principles in detail illustrating with example

**10M**

TE/comp/sem-IV/CBCGS/R-19/c-scheme/SE/SH-24

VII

**Time: 3 Hours****Max. Marks: 80**

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- N.B. (1) Question one is Compulsory.  
 (2) Attempt any 3 questions out of the remaining.  
 (3) Assume suitable data if required.

**Q. 1 Solve any Four out of the following (5 marks each)****20**

- Explain the CMM model.
- Explain the Requirements model.
- Explain the LOC.
- Different between Alpha and Beta testing
- Discuss the different level of DFD.

**Q. 2 a Explain Risk and its types? Explain the steps involved in setting up or generating RMMM plan.****10****b. Explain the Spiral model of software development****10****Q. 3 a) Explain the general format of SRS for Hospital Management system.****10****b) Explain the FP Estimation techniques in details.****10****Q. 4 a) Explain cohesion and Coupling. Explain different types with detailed example.****10****b) Explain the different techniques in white box testing.****10****Q. 5 a) Explain steps in version and change control.****10****b) Explain software Re- engineering in detail.****10****Q. 6 Solve any Four****20**

- Compare FTR and Walkthrough
- What are the different types of maintenance?
- Explain the tracking and scheduling.
- Explain the Use Case Diagram.
- Different between White box and Block box Testing.



Time: 3 hours

Max. Marks: 80

**N.B. (1) Question one is Compulsory.****(2) Attempt any 3 questions out of the remaining.****(3) Assume suitable data if required.**

Q. 1 Solve any Four out of the following 20M

- a. Explain the Software Process Framework.
- b. Explain the Waterfall model.
- c. Explain the Functional requirements.
- d. Explain 3Ps in software project spectrum.
- e. Explain the software testing process.

Q2 a. Explain SQA and its types? 10 M

b. Explain the Agile process model of software development 10 M

Q. 3 a) Explain the any five characteristics of SRS 10M

b) Explain the COCOMO model. 10M

Q. 4 a) Explain Coupling. Explain different types with detailed example. 10M

b) Explain the principles of software testing. 10 M

Q. 5 a) Explain requirement model. 10M

b) Explain software Re-engineering . 10M

Q. 6 Solve any Four 20M

- a. Explain the XP.
- b. Explain the development of use case.
- c. Different between Alpha and Beta Testing.
- d. What is SCM?
- e. Explain the Six Sigma for software Engin

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**Time: 3 Hours**

**Marks : 80**

**N.B. (1) Question one is Compulsory.**

**(2) Attempt any 3 questions out of the remaining.**

**(3) Assume suitable data if required.**

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**Q. 1 Solve any Four out of the following (5 marks each) 20M**

- a) Explain Scrum Methodology with suitable diagram.
- b) Write short note on FTR
- c) Explain Project Tracking
- d) Write a short note on UML diagrams
- e) How risk analysis is important in project, can it harm budgets or project deployment status?

**Q. 2 a) Design the test cases for Medical Management Application 10M**

- b) Explain COCOMO model in detail 10M

**Q.3 a) Write an SRS for University Management Website 10M**

- b) Design the DFD for Library Management System 10M

**Q.4 a) How User Interface Design helps web technology or IT Industry? 10M**

- b) What are different metrics used for software measurement? Explain function Point-based estimation technique in detail 10M

**Q5 a) List out different software testing strategies? Compare White box testing & Black box testing 10M**

- b) What are different categories of risks? Explain RMMM plan with suitable example 10M

**Q6 a) Explain Cohesion & Coupling? Explain different types of cohesion 10M**

- b) Explain SQA in detail. 10M
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<b>Q1.</b>	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	Which of the following properties does not correspond to a good Software Requirements Specification (SRS)?
Option A:	Verifiable
Option B:	Ambiguous
Option C:	Complete
Option D:	Traceable
2.	The 3 P's in Project management are
Option A:	Process, Performance and Product
Option B:	Process, Product and People
Option C:	Product, Performance and People
Option D:	People, Process and Performance
3.	Which of following is useful measure for measuring quality of system
Option A:	integrity, sales, usability, maintainability
Option B:	stakeholders, integrity, usability, sales
Option C:	correctness, usability, maintainability, integrity
Option D:	correctness, size, usability, maintainability
4.	Which of the following is size oriented Metric?
Option A:	Function Point
Option B:	Line of Code
Option C:	COCOMO Model
Option D:	Cost Estimation
5.	Which of the following tasks is not part of Software Configuration Management (SCM)?
Option A:	Change control
Option B:	Version control
Option C:	Configuration status reporting
Option D:	Planning
6.	According to Pareto's principle, x% of defects can be traced to y% of all causes. What are the values of x and y?
Option A:	60, 40
Option B:	70, 30
Option C:	80, 20
Option D:	No such principle exists
7.	Which of the following does not fall under project scheduling
Option A:	Effort validation
Option B:	Market assessment
Option C:	Compartmentalization

Option D:	Time allocation
8.	<p>Which of the following are objectives of FTR?</p> <p>Option A: Determining who introduced the error in the program.      Option B: Assess programmer productivity.      Option C: Determining who introduced an error into the program.      Option D: Uncover errors in software work products</p>
9.	<p>Match the Following :</p> <p>A Performance risk      B Cost risk      C Support risk      D Schedule risk</p> <p>1. The degree of uncertainty that the product will meet its requirements and be fit for its intended use.</p> <p>1. The degree of uncertainty that the project budget will be maintained.</p> <p>1. The degree of uncertainty that the resultant software will be easy to correct, adapt, and enhance.</p> <p>1. The degree of uncertainty that the project schedule will be maintained and that the product will be delivered on time.</p> <p>Option A: A-1 , B-2 , C-3 and D-4      Option B: A-2 , B-1 , C-4 and D-3      Option C: A-3 , B-4 , C-1 and D-2      Option D: A-4 , B-3 , C-2 and D-1</p>
10.	<p>Which of the following is an incorrect design heuristic?</p> <p>Option A: Attempt to minimize structures with high fan-out; strive for fan-in as depth increases.      Option B: Keep the scope of effect of a module within the scope of control of that module.      Option C: Define modules whose function is predictable, but avoid modules that are overly restrictive.      Option D: Evaluate the first iteration of the program structure to reduce cohesion and increase coupling.</p>

Please use either of the 3 option given below while setting up the subjective/descriptive questions

### Option 1

<b>Q2, (20 Marks Each)</b>	Solve any Four out of Six	<b>5 marks each</b>
A	Explain Agile Process Model.	
B	Differentiate between White Box Testing and Black Box Testing	
C	What is Cost Estimation? Explain LOC Method	
D	List the principals of Software Design.	
E	What is Change Control. How it is different than version control	
F	Describe boundary value analysis with suitable example.	

### Option 2

<b>Q3 (20 Marks Each)</b>	Solve any Two Questions out of Three	<b>10 marks each</b>
A	Develop a SRS for Hospital Management System	
B	Explain Coupling and Cohesion	
C	Explain Different Types of Testing	

### Option 3

<b>Q4. (20 Marks Each)</b>	<i>Please delete the instruction shown in front of every sub question</i>	
A	Solve any Two	<b>5 marks each</b>
i.	Explain Software Configuration Process	
ii.	What are the different types of Risk?	
iii.	Explain Reverse Engineering.	
B	Solve any One	<b>10 marks each</b>
i.	Draw the Data Flow Diagram (upto 2 Level) for the Safe home Software	
ii.	Explain Software Quality Assurance. What is FTR?	



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Marks: 80

Note: 1. Question No. 1 is compulsory  
2. Attempt any Three Questions Out of remaining five questions.  
3. Draw neat diagrams wherever necessary.

Q1. Solve any Four 20

- a. Explain the CMM model
- b. Explain the Requirements model.
- c. Explain the LOC.
- d. What are the design principles.
- e. Explain the software testing process.
- f. Discuss the different level of DFD.

Q2. A. Explain Risk and its types? Explain the steps involved in setting up or generating RMMM plan. 10

B. Explain the Spiral model of software development. 10

Q3. A. Explain the general format of SRS. 10

B. Explain the FP Estimation techniques in details. 10

Q4. A. Explain cohesion and Coupling. Explain different types with detailed example. 10

B. Explain the different techniques in white box testing. 10

Q5. A. Explain steps in version and change control. 10

B. Explain software reverse engineering in detail. 10

Q6. Solve any Four 20

- a. Compare FTR and Walkthrough
- b. What are the different types of maintenance?
- c. What are the design Principles.
- d. Explain the tracking and scheduling.
- e. Explain the Scenario based model.
- f. Compare Scrum and Kanban