

**Note: Question No. 1 is Compulsory
Attempt any 3 Questions from the Remaining Questions.**

- Q.1** **20**
- a) What is the difference between Prescriptive & Evolutionary model ?
 - b) What are the different probable Origins of Changes that are requested for software?
 - c) List & Elaborate Software Engineering Practice core principles.
 - d) Explain following design Concepts: Abstraction & Modularity.
- Q.2**
- a) Explain different metrics for size estimation with their advantages and disadvantages. **10**
 - b) Explain Agile methodology with XP Agile Development Process. **10**
- Q. 3**
- a) What is the importance of Requirement Analysis? Explain different Requirement Engineering tasks. **10**
 - b) Draw Control Flow Graph and find Cyclomatic Complexity for the following PDL : **10**
if (c1 or c2 and c3) s1;
else s2;
while (c4) s3; s4;
do s5; while (c5);
s6
- Q.4**
- a) Explain how Change Control & Version Control are carried out in Software Configuration Management. **10**
 - b) What is Evolutionary model? List Evolutionary models. Explain any one in detail. **10**
- Q.5.**
- a) What are the Risks associated with software Projects? How do Project Managers manage such Risks? **10**
 - b) Explain the relationship among scope, schedule and budget. **5**
 - c) Explain Object oriented Testing. **5**
- Q.6.**
- a) What is CMMI? How it is different from CMM. Explain all levels of CMMI. **10**
 - b) Draw DFD upto Level 2 for Restaurant Management System which has Food Ordering , Food Delivering , Invoice Creation and Payments subsystem **10**

N. B. (1) Question 1 is compulsory

- (2) Attempt any 3 from remaining questions
- (3) Assume suitable data wherever necessary
- (4) Figure indicate marks

- Q. 1 A. Create a responsive web page to display time table. 10
 B. List and explain different ways to add CSS in the web page. 10
- Q. 2 A. Demonstrate CSS3 animations with an example. 10
 B. Explain responsive web and comment on need for responsive web. 10
- Q. 3. A. Explain new tags in HTML5. Comment on various ways to optimize your website. 10
 B. Explain CSS3 media queries in relation to responsive web design. 10
- Q. 4 A. Explain the features used to increase accessibility of a website to search engine. 10
 B. Discuss in detail REST and WS. 10
- Q. 5 A. Explain query selector with example. 10
 B. List top ranking factors for SEO. 10
- Q. 6. A. Explain transformation and animation with the help of example. 10
 B. List and explain different applications of SEO. 10

3 hours

[80 marks]

N. B.:

- (1) Question no **1** is **compulsory**.
- (2) Attempt **any three** questions out of remaining five.
- (3) Figures to the right indicate full marks.
- (4) Assume suitable data wherever necessary

- Q.1 .a Differentiate between Statefull & Stateless server **5M**
 b Assume a client calls an asynchronous RPC to a server, and subsequently waits until the server returns a result using another asynchronous RPC. Is this approach the same as letting the client execute a normal RPC? What if we replace the asynchronous RPCs with synchronous RPCs? Discuss **10M**
 c In the two-phase commit protocol, why can blocking never be completely eliminated, even when the participants elect a new coordinator? **5M**
- Q.2.a Explain Distributed Computing model with the help of example. **10M**
 b Explain implementation of sequential consistency model with non replicating migrating blocks strategy. **10M**
- Q.3 a. What is physical clock synchronization? Explain any one in details. **10M**
 b Explain the issues to be handled While designing DSM? **10M**
- Q.4.a Explain Code Migration & role of mobile agent. **10M**
 b Write a note on Group Communication. **10M**
- Q.5.a. Explain Distributed algorithm for mutual exclusion. What are the advantage and disadvantage of it over Centralized algorithm **10M**
 b What are the Purpose of WSDL? Explain WSDL document structure using Block diagram. **10M**
- Q.6 Write a short note on (**any two**) **20M**
- a. .NET Remoting
 - b. SOA lifecycle
 - c. Network Operating system
 - d. Corba

Note: 1) Question 1 is compulsory.

2) Solve any 3 questions from remaining questions.

1. a) Explain with example Vulnerability, Threat and Attack. (5)
- b) What are different ways of authenticating a user? (5)
- c) Explain ARP Spoofing. (5)
- d) What is IP Spoofing & IP Sniffing? (5)

2. a) Explain RSA algorithm steps with an example and list real time applications where RSA can be used. (10)
- b) Explain different types of Firewalls that can be used to secure a network with advantages and disadvantages. (10)

3. a) What is the need of SSL? Explain all phases of SSL Handshake Protocol in detail. (10)
- b) Briefly explain types of Malicious Codes with example. Explain methods of malware detection. (10)

4. a) What is the need of Intrusion Detection System (IDS)? Explain different types of IDS with advantages and disadvantages. (10)
- b) Explain Secure Email protocols and S/MIME. (10)

5. a) What is SSO? Explain the working of Kerberos Authentication Protocol (KAP). (10)
- b) What is Digital Certificate? Explain the process of the generation & verification of digital certificate. (10)

6. Write short notes on: (Any Four) (20)
 - a) ACM,ACL & C-List
 - b) Federated Identity Management
 - c) Distributed Denial of Service (DDoS) Attack
 - d) Honey pots
 - e) Windows Security Model

(3 HOURS)

[TOTAL MARKS:100]

- N.B.** 1.Question 1 is compulsory
2.Attempt any four question out of the remaining six question.
3.All Question carry equal marks.
4.Illustrate answers with neat sketches whenever required.

- Q.1(a)** List and describe five primitives for specifying data mining task **10**
(b) Explain Data mining as a step in KDD. Give the architecture of typical Data Mining system. **10**
- Q.2 (a)** Explain BIRCH algorithm with example **10**
(b) Explain Hoeffding tree algorithm with example **10**
- Q.3 (a)** Explain Multilevel association rules with suitable example **10**
(b) Define classification , issues of classification and explain ID3 classification with example **10**
- Q.4(a)** Explain Data integration and data transformation w.r.t data warehouse **10**
(b) What is text mining ? Explain different approaches to text mining **10**
- Q.5 (a)** Explain Buisness Intelligence Issues **10**
(b) What is clustering? Explain k- means clustering algorithm. Suppose the data for clustering - {2,4,10,12,3,20,11,25}
Consider k=2, cluster the given data using above algorithm. **10**
- Q.6(a)** Explain sequence mining in Transactional databases **10**
(b) Explain periodic crawler and incremental crawler **10**
- Q.7** Write short note on (Any two) **20**
(a) Web Usage mining
(b) Data Discretization and Summarization
(c) Spatial data cube and spatial OLAP
