E/INFT/Sem-VI-CBSGS/Software Engineering/May-16.

QP Code : 31643

TIME 3 hours **MARKS 80**

Note
Q1 is compulsory
Attempt any three questions from the remaining Questions

Q1 20

a) What are the different levels of Capability Maturity Model (CMM)?
b) Compare agile and traditional Software Development models.
c) What are the different probable Origins of changes that are requested for software?
d) With suitable examples, explain the differences between 'known risks' and predictable risks'.

Q2

a. Explain waterfall model give its advantage and disadvantages 10
b. List evolutionary models and explain any one in detail 10

Q3

a) Draw the DFD up to Level 2 for a Restaurant Management System which has food ordering, food delivering, invoice creation, and payments subsystems. 10
b) Prepare a sample risk table and explain the RMMM plan for the same. 10

Q4

a. What are different requirements engineering tasks? Why identifying software requirements is difficult 10
b. Explain software design concepts 10

Q5 Write note on (any two) 20

i Component Based Development
ii Software Reliability measurements
iii Deployment-Level design elements
iv SQA activities

Q6

a. What are different attributes of software quality? 10
b. Identify any two risks for your exam. Perform risk assessment and prepare the RMMM plan. 10

FW-Con.8166-16.

T.E / sem VI / CBSGS / I.T / Distributed systems / May 2016

Q.P. Code : 594801

(3 Hours) **[Total Marks : 80**

N.B. : (1) Question **1** is **Compulsory.**
(2) Attempt any **3** questions out of the rest
(3) Figure to the right indicate **full** marks.
(4) All question carry **equal** marks.

1. Attempt the following: **20**
   (a) Explain implementation of sequential consistency with non replicating migrating blocks strategy.
   (b) Which .Net component makes .NET platform and language independent? Exlpain how it works.
   (c) Explain Parameter passing Semantics in RPC.
   (d) Compare Bully election algorithm with Ring based election algorithm.

2. (a) Name four different distributed deadlock detection algorithms. Explain probe-based distributed deadloack detection algorithm (CMH) with example. **10**
   (b) Explain RPC Communication Protocol **10**

3. (a) Define Happened-Before relationship. Explain implementation of logical clocks with an example **10**
   (b) Describe .NET architecture with neat labeled diagram **10**

4. (a) Explain migration in heterogeneous system. **10**
   (b) Explain desirable features of a good message passing system. **10**

5. (a) Explain with respect to EJB -Roles in EJB and types of Beans **10**
   (b) Explain various distributed computing models. **10**

6 Write notes on following : **20**
   (a) RMI Execution
   (b) Components of EJB framework
   (c) Message Buffering in IPC
   (d) SOA lifecycle

E/Sem-VI (CBSGS)/INFT/System & Web Security/May-2016.

Q.P. Code : 594900

(3 Hours) **[Total Marks : 80**

N.B. : (1) Question No. **1** is **compulsory**.
(2) Attempt any **THREE** Questions out of remaining **FIVE** questions.

1. (a) For an online shopping system identify vulnerability, threat and attack. **5**
   (b) What is IP spoofing? How does it lead to Denial of service attack? **5**
   (c) What are the different modes of authenticating a user? **5**
   (d) What are the different phases of a virus? How does a virus propagate? **5**

2. (a) Differentiate between :- **10**
      (i) Access control list and capability list
      (ii) Firewall and IDS.
   (b) Explain RSA algorithm for public key encryption. Given modulus N = 143 and public key = 7, find the values of p, q, phi (n), and private key d. Can we choose value of e=5? Justify. **10**

3. (a) What is session hijacking? How does it occur? Give two ways to prevent a session hijack. **10**
   (b) How is single sign on achieved in Kerberos protocol? What is the concept of a ticket in this protocol? **10**

4. (a) Compare the different types of firewalls that can be used to secure a network. **10**
   (b) List the different protocols of SSL and explain the working in detail. **10**

5. (a) What are the different approaches to software reverse engineering? **10**
   (b) What are the file system vulnerabilities for a Linux system? **10**

6. Write short notes on (**any four**) : **20**
   (a) Secure email
   (b) Multi level access control
   (c) Digital Right Management
   (d) Non-malicious programming errors
   (e) Federated Identity Management

TE/INFT/SEM-VI(CBSGS)/Data Mining and Business Intelligence

MAY-16

Q.P. Code : 595002

(3 Hours) **[Total Marks : 80**

N.B. : (1) **Q1** is **compulsory**.
(2) Attempt any **three** from the remaining.
(3) Assume suitable data.

1. (a) Define "Data Mining". Enumerate five example applications that can benefit by using Data Mining. **5**

(b) What is Data Preprocessing? Explain the different methods for the Data Cleansing phase. **5**

(c) What is hierarchical clustering? Explain any two techniques for finding distance between the clusters in hierarchical clustering. **5**

(d) Explain the concept of a decision support system with the help of an example application. **5**

2. (a) Partition the given data into 4 bins using Equi-depth binning method and perform smoothing according to the following methods. **10**
Smoothing by bin mean
Smoothing by bin median
Smoothing by bin boundaries

Data: 11,13,13,15,15,16,19,20,20,20,21,21,22,23,24,30,40,45,45, 45, 71, 72, 73, 75

(b) For the same set of data points in question 2. (a) **10**
(a) Find Mean, Median and Mode.

(b) Show a boxplot of the data. Clearly indicating the five- number summary.

[TURNOVER

3. (a) The table below shows a sample dataset of whether a customer responds to a survey or not. **"Outcome"** is the class label. Construct a Decision Tree Classifier for the dataset. For a new example **(Rural, semidetached, low, No)**, what will be the predicted class label? **10**

District	House Type	Income	Previous Customer	Outcome
Suburban	Detached	High	No	Nothing
Suburban	Detached	High	Yes	Nothing
Rural	Detached	High	No	Responded
Urban	Semi-detached	High	No	Responded
Urban	Semi-detached	Low	No	Responded
Urban	Semi-detached	Low	Yes	Nothing
Rural	Semi-detached	Low	Yes	Responded
Suburban	Terrace	High	No	Nothing
Suburban	Semi-detached	Low	No	Responded
Urban	Terrace	Low	No	Responded
Suburban	Terrace	Low	Yes	Responded
Rural	Terrace	High	Yes	Responded
Rural	Detached	Low	No	Responded
Urban	Terrace	High	Yes	Nothing

(b) Briefly explain Bagging and Boosting of Classifiers **10**

4. (a) Use the Apriori algorithm to identify the frequent item-sets in the following database. Then extract the strong association rules from these sets. **10**

Min. Support = 30% Min. Confidence = 75%

TID	Items
01	A, B, D, E, F
02	B, C, E
04	A, B, D, E
04	A, B, C, E,
05	A, B, C, D, E, F
06	B, C, D
07	A, B, D, E

(b) Explain multidimensional and multi level Association rules with examples. **10**

5. (a) Use any hierarchical clustering algorithm to cluster the following 8 examples into 3 clusters : **10**

A1= (2, 10), A2= (2, 5), A3= (8,4), A4 = (5, 8),
A5= (7, 5), A6= (6, 4), A7= (1,2), A8= (4,9)

(b) What is an outlier? Describe methods that can be used for outlier analysis. **10**

6. (a) Consider the following case study: An International chain of hotels wants to analyze and improve its performance using several performance indicators -quality of room, service facilities, check in, breakfast, popular time of visits, duration of stay etc. **10**
For this case study design a BI system, clearly explaining all steps from data collection to decision making.

(b) Clearly explain the working of the DB_SCAN algorithm using appropriate diagrams. **10**

TE/INFT/SEM-VI(CBSGS)/Advance Internet Technology/

MAY-16

Q.P. Code : 595102

(3 Hours) **[Total Marks :80**

N.B. : (1) Question **1** is **compulsory**.
(2) Attempt any **three** from remaining Questions.
(3) Assume suitable data wherever necessary.
(4) **Figure** indicates marks.

1. (A) Create a web page to show how you can apply the transformation effects so that the image rotates by 75 degree. Assume suitable parameters if required. **10**
   (B) Explain in detail Architecture of a simple Mashup on the web server. List out its advantages and disadvantages. **10**

2. (A) Define Media Query ? Explain Media Query with an example. **10**
   (B) Discuss in detail Algorithm-Based Ranking System. **10**

3. (A) Discuss the strengths and weaknesses of SWOT analysis. **10**
   (B) Discuss Fixed-width layouts and Fluid layouts with example. **10**

4. (A) List and explain the audio and video file formats used in RWD. **10**
   (B) Explain in detail the different CSS3 style sheet with an example. **10**

5. (A) Explain the different types of CSS3 selectors with an example. **10**
   (B) Explain in detail SEQ objectives. **10**

6. (A) Explain in detail RUI implementation using AJAX with neat diagram. **10**
   (B) Define DOM. Explain in detail Node tree for HTML Document. Also explain the different levels of DOM. **10**
