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SEAT No. :

P493

[5842]-201

[Total No. of Pages : 3

M.Sc. (Computer Applications)

**CA - CCTP - 4 : DATA MINING AND DATA WAREHOUSING
(2019 Pattern) (Semester - II)**

Time : 3 Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Question 1 is compulsory.*
- 2) *Solve any five questions from Q2 to Q7.*
- 3) *Questions 2 to 7 carry equal marks.*

Q1) Solve any Five of the following: [10]

- a) Define summarization.
- b) Define data warehousing.
- c) What is Graph Mining?
- d) Define classification.
- e) Define precision.
- f) Define clustering.

Q2) Attempt the following: [12]

- a) i) What is data preprocessing? [2]
- ii) Explain any one data preprocessing technique in detail. [5]
- b) What are various advantages and disadvantages of FP Tree algorithm? [5]

Q3) Attempt the following: [12]

- a) i) What is Decision Tree? [2]
- ii) Explain the major steps of decision tree construction. [5]
- b) What do you understand by bootstrap? [5]

P.T.O.



Q4) Attempt the following: [12]

a) i) What is Bayes Theorem? [2]

ii) Consider the following dataset. [5]

Example No.	Color	Type	Origin	Stolen?
1	Red	Sports	Domestic	Yes
2	Red	Sports	Domestic	No
3	Red	Sports	Domestic	Yes
4	Yellow	Sports	Domestic	No
5	Yellow	Sports	Imported	Yes
6	Yellow	SUV	Imported	No
7	Yellow	SUV	Imported	Yes
8	Yellow	SUV	Domestic	No
9	Red	SUV	Imported	No
10	Red	Sports	Imported	Yes

Apply Naive Bayes classifier and classify the following tuple whether it belongs to class stolen or not

$X = \{\text{Color} = \text{Red}, \text{Type} = \text{SUV}, \text{Origin} = \text{Domestic}\}$

b) What are various applications of clustering? [5]

Q5) Attempt the following: [12]

a) i) What is OLAP? [2]

ii) Differentiate between OLAP and OLTP. [5]

b) Consider the following items [5]

{2, 4, 10, 12, 3, 20, 30, 11, 25}

Assume $K = 2$ (number of clusters)

Apply K - means algorithm to find out the two clusters.

Q6) Attempt the following: [12]

a) i) What is Apriori Property? [2]

ii) Consider the following set of transactions and generate candidate itemsets and frequent itemsets with minimum support count of 2. Apply Apriori algorithm to find out frequent itemset. [5]

TID	Items
1	{Bread, Milk}
2	{Bread, Diaper, Beer, Eggs}
3	{Milk, Diaper, Beer, Coke}
4	{Bread, Milk, Diaper, Beer}
5	{Bread, Milk, Diaper, Coke}

b) Explain Linear and non-Linear Regression. [5]

Q7) Write a short Note on any two of following. [12]

a) KDD process in data mining. [6]

b) SVM [6]

c) Expectation Maximization (EM) Algorithm. [6]



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P494

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[Total No. of Pages : 2

**M.Sc. (Computer Applications)
CA - CCTP - 5 : OPERATING SYSTEMS
(2019 Pattern) (Semester - II)**

Time : 3 Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Question 1 is compulsory.*
- 2) *Solve any five questions from Q2 to Q7.*
- 3) *Questions 2 to 7 carry equal marks.*

Q1) Solve any five of the following:

[5×2=10]

- a) Explain command mode of vi editor.
- b) What is use of 'test' command? Give example.
- c) What is mean by orphan and zombie process?
- d) Explain in short about 'type' command.
- e) What is use of grep and egrep command?
- f) What is system call? List out types of system call.

Q2) Attempt the following:

[12]

- a) i) Explain following command with example: **[2]**
passwd, echo, date
- ii) Explain process states in detail. **[5]**
- b) Explain methods of changing file permission with example. **[5]**

Q3) Attempt the following:

[12]

- a) i) What is command? Explain types of command with example. **[2]**
- ii) Explain is command with option. **[5]**
- b) Explain architecture of Unix with diagram. **[5]**

P.T.O.



Q4) Attempt the following: [12]

- a) i) Which are the three types of account in Unix system? Explain. [2]
- ii) Describe different types of wild card character used for File name generation. [5]

- b) Explain mechanism of process creation with example. [5]

Q5) Attempt the following: [12]

- a) i) Explain structure of PCB with diagram. [2]
- ii) Explain following command: [5]
cat, od, rm, mv

- b) Write shell script to reverse the number and check whether it is pallindrome or not. [5]

Q6) Attempt the following: [12]

- a) i) Explain with diagram : Shell interpretive cycle. [2]
- ii) Explain 'man' command with option. [5]

- b) Explain following command: [5]
tail, head, cut, paste, set

Q7) Attempt any two of the following. [2×6=12]

- a) Explain various ways of invoking and quitting vi editor.
- b) Explain control structure in shell programming.
- c) What is file? Explain different types of Unix file.



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P495

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M.Sc.

COMPUTER APPLICATIONS

CA-CCTP-6: Computer Networks

(2019 Pattern) (Semester - II)

Time : 3 Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Question 1 is compulsory.*
- 2) *Solve any Five questions from Q.2 to Q.7.*
- 3) *Questions 2 to 7 carry equal marks.*

Q1) Attempt any Five of the following :

[10]

- a) What is Latency?
- b) What is DNS?
- c) What is Asynchronous Transmission?
- d) What is WDM?
- e) What is demultiplexing in computer network?
- f) What is web documents?

Q2) Attempt the following :

- a) Explain different switching techniques in computer networks? **[7]**
- b) What is UDP protocol? Explain in detail. **[5]**

P.T.O.



Q3) Attempt the following :

- a) Explain the various fields of TCP header with the help of a neat diagram. [7]
- b) Explain hamming code with example. [5]

Q4) Attempt the following :

- a) Explain ISO/OSI reference model with neat diagram. [7]
- b) What are the design issues of network layer? Explain in detail. [5]

Q5) Attempt the following :

- a) What are the different types of topologies? Explain any two topologies in detail. [7]
- b) Explain different types of addressing in networking. [5]

Q6) Attempt the following :

- a) What is FTP? Explain FTP architecture in detail with neat diagram? [7]
- b) What is a Computer network? Explain different types of Computer networks. [5]

Q7) Write short note on any Two of the following : [12]

- a) Service Primitives.
- b) HTTP.
- c) Random Access Protocols.

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M.Sc. (Computer Applications)
CA-CBOTP-2A: Java Programming
(2019 Pattern) (Semester - II)

Time : 2 Hours]

[Max. Marks : 35

Instructions to the candidates:

- 1) *Question 1 is compulsory.*
- 2) *Solve any three questions from Q2 to Q5.*
- 3) *Questions 2 to 5 carry equal marks.*

Q1) Solve any Five of the following :

[5]

- a) List any two Java buzz words.
- b) What is an assertion?
- c) Name the package which contains the Applet class?
- d) What is the purpose of the Class.forName() method?
- e) What is the use of finalize() method.
- f) Write the syntax for creating a package.

Q2) Attempt the following :

[10]

- a) i) State two types of exceptions. **[2]**
ii) Write a short note on the collections frameworks. **[4]**
- b) Write a Java program to create an applet which contains a list of courses. Display the selected course in a textbox. **[4]**

P.T.O.



Q3) Attempt the following : **[10]**

- a) i) List any four listeners. **[2]**
- ii) Explain the types of inheritance supported by Java. **[4]**
- b) Define an abstract class shape and calculate the area of circle and rectangle.
Write a Java program to accept the values from user. **[4]**

Q4) Attempt the following : **[10]**

- a) i) What is scriptlet? **[2]**
- ii) Write a Java program to accept directory name and extension through command line argument and display names of all files in a directory having specific extension & Delete those files. **[4]**
- b) Write a note on garbage collector in Java. How can it be invoked? **[4]**

Q5) Attempt any two of the following : **[10]**

- a) Differentiate between DatabaseMetaData and ResultSetMetaData. **[5]**
- b) What is a cookie? Explain how a cookie can be created and accessed in a servlet. **[5]**
- c) Explain JSP Directives. **[5]**

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**M.Sc. (Computer Applications)
CA-CBOTP-2B: Web Services
(2019 Pattern) (Semester - II)**

Time : 2 Hours]

[Max. Marks : 35

Instructions to the candidates:

- 1) *Question 1 is compulsory.*
- 2) *Solve any three questions from Q2 to Q5.*
- 3) *Questions 2 to 5 carry equal marks.*

Q1) Solve any Five of the following : **[5]**

- a) State classic example of stateless property of Web service.
- b) State any one feature of SOAP.
- c) What is DII?
- d) Give one example where SOAP is used.
- e) State communication styles supported by SOAP.
- f) State methods commonly used in REST architecture.

Q2) Attempt the following :

- a) i) State WSDL key structural elements. **[2]**
ii) What are various challenges of using Web Services? **[4]**
- b) Write disadvantages of SOAP. **[4]**

Q3) Attempt the following :

- a) i) State the role played by SOAP between two conversing end points. [2]
- ii) Explain core architectural elements of a Restful system. [4]
- b) What do you mean by WSDL bindings? [4]

Q4) Attempt the following : [10]

- a) i) State any two kind of operations supported for publishing API on UDDI. [2]
- ii) What is the procedure to send the call and get the response from the client to server using SOAP? [4]
- b) How can we secure Restful Web Services? [4]

Q5) Attempt any two of the following : [10]

- a) Explain RPC based communication model of Web Services. [5]
- b) Explain SOAP Envelope element. [5]
- c) What are data structures used in UDDI? [5]

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M.Sc. (Computer Applications)
CA-CBOTP-2C: Software Testing (Automation)
(2019 Pattern) (Semester - II)

Time : 2 Hours]

[Max. Marks : 35

Instructions to the candidates:

- 1) *Question 1 is compulsory.*
- 2) *Solve any three questions from Q2 to Q5.*
- 3) *Questions 2 to 5 carry equal marks.*

Q1) Solve any Five of the following : **[5]**

- a) Mention what is the use of X-path?
- b) What is Selenium web driver?
- c) What is Selenese and what are the types of Selenese?
- d) In which format does source view shows your script in Selenium IDE?
- e) What is TestNG?
- f) What is the difference between Page Object Model (POM) and Page Factory?

Q2) Attempt the following :

- a) i) List advantages of Selenium. **[2]**
ii) What are the Selenium suite components? **[4]**
- b) What is Web Inspector? Explain in detail. **[4]**

Q3) Attempt the following :

- a) i) What are the limitations of Selenium IDE? [2]
- ii) Explain classification of Selenium commands. [4]
- b) How to handle Alert in Selenium Web Driver? Explain. [4]

Q4) Attempt the following :

- a) i) What is the difference between Selenium Web Driver and Selenium Grid? [2]
- ii) What is TestNG Annotation? Mention list of TestNG Annotations.[4]
- b) How to set Test Case priority in TestNG with Selenium? [4]

Q5) Attempt any two of the following :

- a) List and explain different types of locators in automation testing. [5]
- b) Write a note on POM. [5]
- c) What is Maven Surefire plugin?. Why we need Maven with TestNG integration? [5]

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