(Please write your Exam Roll No.) *Exam Roll No. .....*

END TERM EXAMINATION

SIXTH SEMESTER [BCA] MAY 2018

Paper Code: BCA-302 ***Subject: Data Warehouse and Data Mining***

Time: 3 Hours ***Maximum Marks: 75***

Note: Attempt any five questions including Q.no.1 which is compulsory. Select one question from each unit.

Q1 Answer the following questions in brief: **(2.5x10=25)**

(a) What do you mean by Frequent Pattern mining in databases?
(b) Define Quantile plot and scatter plot.
(c) What do you mean by data transformation? Explain.
(d) Define Regression technique for predictive analysis of data.
(e) Explain support and confidence in relation to association rule mining.
(f) What is a data warehouse?
(g) What is Starnet Query Model for querying multidimensional databases?
(h) What are the applications of data mining?
(i) What is accuracy and error measure in relation to classification?
(j) What are data mining task primitives?

Unit-I

Q2 (a) Discuss the benefits of data mining. **(6.5)**
(b) How can you measure dispersion of data? Explain the concept of Range, Quartiles, Outliers, and Boxplots. **(6)**

Q3 (a) How are missing values and noisy data handled in data cleaning step of data mining? **(6.5)**
(b) Define Knowledge Discovery in Databases with suitable diagram. **(6)**

Unit-II

Q4 (a) Explain star, snowflake schema for multidimensional data models. **(6.5)**
(b) Compare OLAP and OLTP systems. **(6)**

Q5 (a) What are typical OLAP operations? Explain in brief. **(6.5)**
(b) Explain Apriori Algorithm of association rule mining. **(6)**

Unit-III

Q6 (a) Explain decision tree in classification. **(6.5)**
(b) Explain k-means algorithm in detail with suitable diagram. **(6)**

Q7 (a) Differentiate between eager and lazy learners? Explain their different types. **(6.5)**
(b) Explain k-medoid algorithm in detail with suitable diagram. **(6)**

Unit-IV

Q8 (a) What are the major issues in data mining? Explain. **(6.5)**
(b) What are data mining applications in Telecom industry? **(6)**

Q9 (a) Discuss social impacts of data mining in detail. **(6.5)**
(b) Write short notes on: **(6)**
(i) Mining the World Wide Web
(ii) Mining spatial databases.

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(Please write your Exam Roll No.) *Exam Roll No. .....*

END TERM EXAMINATION

SIXTH SEMESTER [BCA] MAY 2018

Paper Code: BCA-304 ***Subject: Mobile Computing***

Time: 3 Hours ***Maximum Marks: 75***

Note: Attempt five questions in all including Q.no.1 which is compulsory. Select one question from each unit.

Q1 Answer the following: **(2.5x10=25)**

(a) "Antenna is an isotropic radiator." Explain. Name different types of antenna.
(b) What is delay spread? What are its consequences?
(c) What is meant by MEO? What are the advantages of it?
(d) What is Handover? Explain in brief.
(e) What is WAP Gateway? Explain.
(f) What are the capabilities of WML Script?
(g) Write the attributes of "Template" Tag in WML.
(h) Explain in brief the key services of mobile Internet.
(i) Explain the concept of attenuation and shadowing of radio signals.
(j) Explain in brief the applications of wireless communications.

Unit-I

Q2 What is Multiplexing? Explain various types of multiplexing in detail. **(12.5)**

Q3 Explain the mechanism of spread spectrum. What is its importance? Explain its types in detail. **(12.5)**

Unit-II

Q4 (a) What do you mean by authentication in GSM? **(6.5)**
(b) Explain how a mobile terminated call is routed in GSM with diagram. **(6)**

Q5 (a) Explain hidden and exposed terminal problem in WLAN. **(6.5)**
(b) Explain DAMA and PRMA. **(6)**

Unit-III

Q6 Explain WML events with the help of suitable examples. **(12.5)**

Q7 (a) Write WML Script to check a date. **(6.5)**
(b) Write a WML Script function to calculate the factorial of a number and show its usage in WML Program. **(6)**

Unit-IV

Q8 (a) What are the challenges and pitfalls in making the internet mobile? **(6.5)**
(b) Draw WAP architecture. Explain the WSP and WTP layers. **(6)**

Q9 (a) What are pragmas in WMLScript? Explain meta pragma and access pragma with suitable example. **(6.5)**
(b) Explain WML Document Prologue and Text Formatting Tags with suitable examples. **(6)**

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(Please write your Exam Roll No.) *Exam Roll No. .....*

END TERM EXAMINATION

SIXTH SEMESTER [BCA] MAY- JUNE 2018

Paper Code: BCA-306 ***Subject: Linux Environment***

Time: 3 Hours ***Maximum Marks: 75***

Note: Attempt any five question including Q.No1 which is compulsory.

Q1 Answer following in brief **(Any five)** **(5x5=25)**

(a) Why is Linux more portable than other operating system?

(b) What is Inode in Linux? Differentiate between Hard Link and soft Link.

(c) Explain the following process related commands.
(i) PS (ii) TOP (iii) Nice

(d) Differentiate between standard Input and Output.

(e) What is shell? What is difference between BASH and KSH?

(f) What is the role of the free software foundation in the development of Linux? Who developed the Linux kernel?

Q2 (a) What is ordinary file system? Difference between ext3 & ext4. **(8)**

(b) Explain the following commands. **(4.5)**
(i) whoami (ii) man (iii) bc

Q3 (a) Describe briefly the UNIX architecture. Explain any four directory structure. **(8)**

(b) Explain the navigation commands. **(4.5)**
(i) mv (ii) rm (iii) cat

Q4 (a) What is an archieve file. How do you create archives? Write the advantages of using gzip & bzip2 . What is tar, gunzip? **(6.5)**

(b) Define the three modes of vi. How you can switch from one mode to another? **(6)**

Q5 (a) Explain the changing permissions & default permission. How do you copy the file? **(8)**

(b) What are pipes? Write some pipe commands. **(4.5)**

Q6 (a) Explain the following commands: **(7.5)**
(i) tail (i) wc (iii) init o (iv) sort (v) diff

(b) Which two environment variables are set by reading/etc/passwd? **(5)**

Q7 (a) What is the difference between an interactive and non-interactive shell? Define significant features in an interactive shell. **(7.5)**

(b) Find the special permissions of SUID and SGID. **(5)**

Q8 (a) What is the process of Linux? Explain the role of process descriptor in Linux. **(6)**

(b) What is system call? Explain any four system calls in Linux. **(6.5)**

Q9 (a) Explain the process state in Linux. **(6)**

(b) Explain the Linux Kernel in brief. Explain the Kernel debuggers. **(6.5)**

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Please write your Exam Roll No.) *Exam Roll No. .....*

END TERM EXAMINATION

SIXTH SEMESTER [BCA] MAY- JUNE 2018

Paper Code: BCA-308 ***Subject: Multimedia and its application***

Time: 3 Hours ***Maximum Marks: 75***

Note: Attempt any five question including Q.No 1 which is compulsory.

Q1. Attempt **any ten**:- **(2.5x10=25)**

(a) Which are the various Media elements required to develop Multimedia?
(b) Explain the Applications of Multimedia in the field of:-
  (i) Travel and Tourism
  (ii) Engineering Applications
(c) Explain the types of Multimedia projects.
(d) What is meant by Quality of Service in MMDB systems?
(e) Explain the requirements of CODEC.
(f) What is MP3 and how it is different from MP1 and MP2?
(g) Differentiate between HTML and XML.
(h) Which are the various editors available to develop Web pages?
(i) List any four ways in which digital communication and new media can be useful.
(j) What is Keyfram Animation?
(k) What is the special requirement with respect of processor and memory for multimedia projects? Why?

Q2 (a) What is meant by Authoring System? Explain the various types of Authoring Tools. **(6.5)**
(b) Which are the various steps required to develop Multimedia Project. **(6)**

Q3 (a) What is Data Compression? Differentiate beween Lossless and Lossy Data Compression. Explain the various Lossy Data compression Techniques. **(6)**
(b) Explain the steps required for the process of Digitization in detail with the help of diagram representing each phase. **(6.5)**

Q4 (a) What are the various Tangible and Intangible requirements for developing Multimedia Projects? **(7.5)**
(b) Differentiate between Media Communication and Media Consumption. **(5)**

Q5 (a) What is meant by Virtual Reality? What are its different forms? **(6)**
(b) What are the advantages of Multimedia conferencing? **(6.5)**

Q6 (a) Differentiate between Shannon-Fano coding and Huffman coding. **(5)**
(b) A document contains letters A through F with frequencies as indicated: **(7.5)**

A	B	C	D	E	F
0.2	0.1	0.15	0.13	0.3	0.12

(i) Derive a code word set using Huffman Coding.
(ii) Find average number of bits per code word.
(iii) Find the minimum number of bits required assuming fixed length code words.

Q7 (a) What is WEB 2.0? Explain various WWW Tools. **(6)**
(b) What is the role of HTML and HTTP in delivering and launching Multimedia on web? **(6.5)**

Q8 Write short notes on the following:- **(4.5)**
(a) Working of CD **(4)**
(b) Plugins **(4)**
(c) Interactive Television

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END TERM EXAMINATION

SIXTH SEMESTER [BCA] MAY JUNE 2018

Paper Code: BCA-312 **Subject: Artificial Intelligence**

Time: 3 Hours **Maximum Marks: 75**

Note: Attempt five questions in all including Q.no.1 which is compulsory. Select one question from each unit.

Q1 Write short notes **(Any five):-** **(5x5=25)**

(a) Heuristic Approach
(b) Task domain
(c) Expert System
(d) Hill Climbing
(e) Role Learning
(f) Robotic Architecture
(g) DFS (Depth First Search)

UNIT-I

Q2 (a) What is the importance of Artificial Intelligence? Describe it. **(6.5)**
(b) Discuss issues in design of search program. **(6)**

Q3 (a) Explain the various categories of Production System. **(6)**
(b) What are the elements of AI? Discuss various Application areas of AI. **(6.5)**

UNIT-II

Q4 (a) What are the qualities of a good Knowledge Representation System? **(6)**
(b) What is predicate logic? How Knowledge Representation can be achieved using predicate logic? Illustrate. **(6.5)**

Q5 (a) Differentiate between Inheritable Knowledge & Inferential Knowledge. **(6)**
(b) Describe mapping between facts & representation. **(6.5)**

UNIT-III

Q6 (a) Describe Natural Language Processing. Explain various types of NLP techniques. **(6)**
(b) What is learning? Explain how learning is helpful for AI? **(6.5)**

Q7 (a) Comparison between Syntactic Processing & Semantic Processing. **(6.5)**
(b) Explain discourse & pragmatic processing. **(6)**

UNIT-IV

Q8 Why LISP is considered to be appropriate language for AI technique? Write a LISP program to print factorial of a given number. **(12.5)**

Q9 What is Expert System? What are the characteristics of a good Expert System? Explain MYCIN expert system. **(12.5)**

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