Hall Ticket Number :										

R-15

Code: 5G454

III B.Tech. I Semester Regular & Supplementary Examinations November 2018

Data Warehousing and Data Mining

(Information Technology)

Max. Marks: 70 Time: 3 Hours

Answer *all five* units by choosing one question from each unit (5 x 14 = 70 Marks)

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UNIT–I

1. a) Define Data Mining and explain different Data Mining functionalities. 7M
   b) Describe the architecture of typical data mining system with block diagram. 7M

OR

2. Discuss the following in detail with suitable illustration:
   (I) Discretization and concept hierarchy generation. 7M
   (II) Data transformation. 7M

UNIT–II

3. a) Explain about Data Warehouse schemas in detail. 7M
   b) Discuss the various OLAP operations in the multidimensional data model. 7M

OR

4. a) Write a short note on Mining Multidimensional Association Rules from Relational Databases and Data Warehouses. 7M
   b) Define a frequent set. Define an association rule. 7M

UNIT–III

5. a) Discuss about the issues regarding Classification and Prediction. 7M
   b) Write and explain Backpropagation algorithm. 7M

OR

6. a) Briefly outline the major steps of decision tree classification. 7M
   b) Why is tree pruning useful in decision tree induction? What is a drawback of using a separate set of tuples to evaluate pruning? 7M

UNIT–IV

7. a) What is Cluster analysis? What are the requirements for cluster analysis? 7M
   b) What is Outlier Discovery? Discuss two applications of Outlier Discovery. 7M

OR

8. Explain k-means partitioning method. Write k-means algorithm. Discuss about k-means partitioning drawbacks. 14M

UNIT–V

9. a) What are different types of web mining? 7M
   b) How is web usage mining different from web structure mining and web content mining? 7M

OR

10. a) What are different tasks of time-series mining? 7M
    b) Describe different similarity measures of time-series data. 7M

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Hall Ticket Number :										

R-15

Code: 5G356

III B.Tech. I Semester Regular & Supplementary Examinations November 2018

Microprocessors and Interfacing

(Common to CSE & IT)

Max. Marks: 70 Time: 3 Hours

Answer *all five* units by choosing one question from each unit (5 x 14 = 70 Marks)

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UNIT–I

1. a) Discuss the features of 8086 7M
   b) Explain how the pipelining is implemented in 8086 7M

OR

2. a) List different instruction groups and mention two examples in each 7M
   b) Develop 8086 alp to find the smallest word in a array of 100 words 7M

UNIT–II

3. a) Differentiate SRAM and DRAM 4M
   b) Interface two 8Kb ROM and four 16Kb RAM memories to 8086 10M

OR

4. a) Justify latches and buffers used for interfacing 4M
   b) Explain the architecture with different modes of 8255 10M

UNIT–III

5. a) How the DMA is faster than others. 4M
   b) Sketch and explain how to Interface 8257 with 8086 10M

OR

6. a) Arrange the sequence of actions in 8086 when interrupt occurs. 4M
   b) Develop the structure of cascading interrupt connection using 8259 10M

UNIT–IV

7. a) Give the importance of communication interface 4M
   b) Explain the architecture of 8251 with neat sketch 10M

OR

8. a) Give the structure how to connect the devices using RS232 4M
   b) Summarize the each pin function of RS232 10M

UNIT–V

9. a) Differentiate segmentation and paging 7M
   b) Explain the salient features of 80386 7M

OR

10. a) Discuss Salient features of Pentium processors 7M
    b) Explain the architectural features of Pentium pro processors 7M

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Hall Ticket Number :										

R-15

Code: 5G455

III B.Tech. I Semester Regular & Supplementary Examinations November 2018

Software Testing Methodologies

(Information Technology)

Max. Marks: 70 Time: 3 Hours

Answer *all five* units by choosing one question from each unit (5 x 14 = 70 Marks)

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UNIT–I

1. a) Define Dichotomies? What way it is useful in Software methodologies 7M
   b) Explain briefly about various Bugs? 7M

OR

2. a) Sketch the model for testing process and explain how various aspects are considered for testing using this model 5M
   b) Compare and contrast between block box testing and white box testing 9M

UNIT–II

3. a) What are predicates explain with an example 7M
   b) Construct path sensitizing with an example 7M

OR

4. What is meant by statement coverage(C1) and branch coverage(c2) explain with an example how to select enough paths to achieve c1+c2. 14M

UNIT–III

5. a) Compare Nice and ugly domains 5M
   b) Explain domains and interfaces testing 9M

OR

6. a) What are strategies in dataflow testing 7M
   b) Define Domains and paths 7M

UNIT–IV

7. a) How the flow anomaly is detected 5M
   b) Explain reduction procedure briefly 9M

OR

8. Explain Logical based testing overview 14M

UNIT–V

9. a) Define state and explain one-time ZCZC sequence detector in state graph 7M
   b) Explain matrix of graph with an example 7M

OR

10. Discuss the partition algorithm with a case study and also represent it relation, transitive closure and intersection matrices 14M

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Hall Ticket Number :										

R-15

Code: 5G452

III B.Tech. I Semester Regular & Supplementary Examinations November 2018

Automata and Compiler Design

(Information Technology)

Max. Marks: 70 Time: 3 Hours

Answer all five units by choosing one question from each unit (5 x 14 = 70 Marks)

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UNIT–I

1. a) Construct a Finite Automata equivalence to the regular expression (0+1)*(00+11)(0+1)* 7M

   b) Consider a language L*, where L={ab,cd} with ∑={a,b,c,d}.
      i. Write all words in L* that have six or less letters/symbols
      ii. What is the shortest string in ∑* that is not in the language L* 7M

OR

2. a) Construct an NFA that accepts the set of all strings over {0,1} that start with 0 or 1 and end with 10 or 01. 7M

   b) Construct NFA for recognizing the language generated by the regular expression. (a+b)*abb . Check the acceptance of the string abababb. 7M

UNIT–II

3. a) What do you mean by ambiguity in context free grammars? Give an example for ambiguous grammar. Show that the grammar in your example is ambiguous. 7M

   b) Consider following grammar S -> (L) | a , L -> L, S | S
   Draw parse trees for the sentences i) (a, (a,a)) ii) (a, (a,a), (a,a)) 7M

OR

4. What is a recursive descent parser? Construct recursive descent parser for the following grammar. Show the moves of the parser for the sample strings.
   S→0B/1A A→0/0S/1AA B→1/1S/0BB 14M

UNIT–III

5. a) Briefly explain the LR parsing algorithm. 7M

   b) Construct LALR parsing table for the grammar E→E+T/T, T→T*F/F,F→ (E)/id 7M

OR

6. a) Explain in brief about error recovery in LR parsing 7M

   b) Differentiate dynamic and static type checking 7M

UNIT–IV

7. a) Construct Quadruples, Triples and Indirect Triples of the following expression: I = - J * (K + W). 7M

   b) Write about the advantages of intermediate code. Discuss about three address code with examples. 7M

OR

8. a) What are self-organizing lists? How can this be used to organize a symbol table? Explain with an example. 7M

   b) Generate three address codes for the following code segment and write the corresponding triples.
   for (i=1; i<=10;i++) { a[i] = a[i+1] * 2; b[i] = a[i]; } 7M

UNIT–V

9. a) Distinguish machine dependent and machine independent optimization 7M

   b) Explain in detail about the basic blocks and flow graphs. Construct the flow graph for the following code fragment.

```
i = m-1; j = n; v = a[n];
while(1)
{
do
{
i = i+1;
}while(a[i] < v);
do
{
j = j -1;
}while(a[j] > v);
if ( i>= j)
break;
x = a[i]; a[i] = a[j]; a[j] = x;
}
x = a[i]; a[i] = a[n]; a[n] = x;
```

   7M

OR

10. a) Construct quadruples and DAG for the following expression:

   A = B * -C + B * -C 9M

   b) Discuss in brief about register allocation and assignment 5M

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Hall Ticket Number :										

R-15

Code: 5G451

III B.Tech. I Semester Regular & Supplementary Examinations November 2018

Android Application Development

(Information Technology)

Max. Marks: 70 Time: 3 Hours

Answer *all five* units by choosing one question from each unit (5 x 14 = 70 Marks)

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UNIT–I

1. Describe the architecture of android with a neat diagram 14M

OR

2 Name the steps & Considerations involved for creating your first android application 14M

UNIT–II

3. Recall the life cycle of an activity with a neat diagram and an example 14M

OR

4. Relate the life cycle of a fragment with an application 14M

UNIT–III

5. Analyze Linear, Absolute and Relative layouts for creating a personal details form 14M

OR

6. Create and analyze the functionality of Time Picker and Date Picker views for a clock app 14M

UNIT–IV

7. Generate a simple data and save using the shared preferences object? 14M

OR

8. Elaborate content providers and how to use a content provider for managing contact of your phone 14M

UNIT–V

9. Construct a simple Google app to perform the following operations: a) Changing views from satellite view to a map view b) Obtaining Latitude and Logitude of a location c) Geocoding and Reverse Geocoding of a location d) Add a marker to show your college location 14M

OR

10. Assume music player and Google maps (Drive Option Mode) are running in your phone. Describe the foreground and background tasks by using Threads 14M

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Hall Ticket Number :										

R-15

Code: 5G152

III B.Tech. I Semester Regular & Supplementary Examinations November 2018

Computer Networks

(Common to CSE & IT)

Max. Marks: 70 Time: 3 Hours

Answer *all five* units by choosing one question from each unit (5 x 14 = 70 Marks)

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UNIT–I

1. a) List two ways in which the OSI references model and the TCP/IP reference model are the same. Also list two ways in which they differ. Discuss the layered architecture of TCP/IP reference model. 10M

   b) If a binary signal is sent over a 3-kHz channel whose signal to noise ratio is 20 dB, what is the maximum achievable data rate? 4M

OR

2. a) What are two reasons for using layered protocols? What is one possible disadvantages of using layered protocols? 7M

   b) Make a comparison between the fiber optics and copper wire. 7M

UNIT–II

3. a) An 8 bit byte with binary value 10101111 is to be encoded using an even parity hamming code. What is the binary value after encoding? 5M

   b) Explain about pure ALOHA and slotted ALOHA 9M

OR

4. a) With the help of neat diagram, explain the architecture of classical Ethernet. 7M

   b) In the binary countdown protocol, explain how a lower numbered station may be starved from sending a packet. 7M

UNIT–III

5. a) Describe the major differences between the ECN method and the RED method of congestive avoidance. 5M

   b) Explain in detail about the Link State Routing Algorithm with an example. 9M

OR

6. a) What is a Routing protocol? List and explain the principles of routing 9M

   b) Convert the IP address whose hexadecimal representation is C22F1582 to dotted decimal notation. 5M

UNIT–IV

7. Explain the following transport layer protocols. 14M
   a) Simple protocol
   b) Stop and wait protocol
   c) Go-Back-N protocol
   d) Selective Repeat Protocol

OR

8. a) Draw TCP header format. Write the significance of the components in TCP header format 9M

   b) Discuss the advantages and disadvantages of Delay Tolerant Networks. 5M

UNIT–V

9. a) Can a computer have two DNS names that fall in different top level domains? If so give a plausible example. If not explain why not. 9M

   b) Compare and contrast JPEG and MPEG standard. 5M

OR

10. Write a short notes on the following:
    a) Web Proxies
    b) Server Farms
    c) SIP 14M

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