Code: 5G164

III B.Tech. II Semester Regular Examinations May 2018

Artificial Intelligence

(Computer Science and Engineering)

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) Explain A* algorithm with an example. What are the limitations of A* algorithm?   7M
    b) Illustrate the four types of agent programs.   7M

OR

2. a) Compare and contrast DFS versus BFS.   7M
    b) Describe the heuristic search technique applied to a hill-climbing problem with an example?   7M

UNIT–II

3. a) Discuss generalized modus ponens.   7M
    b) Differentiate between Forward Vs Backward reasoning.   7M

OR

4. a) Give the complete grammar of first order logic using BNF.   7M
    b) Elucidate the completeness of resolution.   7M

UNIT–III

5. a) Describe the organization of objects into categories as part of knowledge representation.   7M
    b) Discuss the basic representations for planning.   7M

OR

6. a) Explain propositional altitudes and referential transparency.   7M
    b) Demonstrate a partial order planning example.   7M

UNIT–IV

7. a) Illustrate prior probability and conditional probability with an example.   7M
    b) Show the use of Bayes' rule with a suitable example.   7M

OR

8. a) Demonstrate joint probability distribution with a suitable example.   7M
    b) Discuss conditional independence relations in belief networks.   7M

UNIT–V

9. a) Write the practical uses of decision tree learning.   7M
    b) Distinguish between single layer and multi-layer perception neural networks?   7M

OR

10. a) Write the back propagation algorithm for updating weights in a multilayer network.   7M
     b) Explain passive learning in a unknown environment.   7M

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III B.Tech. II Semester Regular Examinations May 2018
Cryptography and Network Security
(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) Differentiate between active and passive attacks   6M
   b) What are the different security services provided by ITUT – Standardization
      sector and illustrate different mechanisms used to implement those services   8M

OR

2. a) Explain in brief Internet RFC publication process with diagram   6M
   b) Explain network security model with a neat diagram   8M

UNIT–II

3. a) With the help of a neat diagram, explain the data flow process in conventional
      encryption process   6M
   b) Explain key distribution policy used for end to end encryption (connection oriented) .   8M

OR

4. a) Discuss cipher block chaining mode with diagram in detail   8M
   b) Illustrate Design objectives of HMAC   6M

UNIT–III

5. a) Explain different authentication procedures used in X.509   6M
   b) Discuss operation of PGP   8M

OR

6. a) Differentiate between Kerberos V4 and V5   6M
   b) What is S/MIME and explain in detail   8M

UNIT–IV

7. a) With a neat diagram explain a typical scenario of IPSec usage   3M
   b) What are the different IPSec services   4M
   c) Explain Dual Signature in SET protocol   7M

OR

8. a) What selectors are used in SPD entry   6M
   b) List the different message types in SSL Handshake Protocol   8M

UNIT–V

9. a) Write short notes on
       (i) Trojan Horses
       (ii) Back Door
       (iii) Zombies   6M
   b) Explain Network Management Architecture   8M

OR

10. a) List the design goals of a firewall and what are the different types of firewalls   8M
    b) What are the different approaches to intrusion detection   6M

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III B.Tech. II Semester Regular Examinations May 2018
Data Mining & Data Warehousing
(Computer Science and Engineering)

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) Explain about the classification of Data Mining systems.   8M
   b) Discuss the three tier data ware housing architecture.   6M

OR

2. a) Explain with examples the need of preprocessing   7M
   b) Explain about data cleaning   7M

UNIT–II

3. a) Explain classification by Decision Tree Induction.   8M
   b) How do you Evaluate the performance of a classifier?   6M

OR

4. a) Discuss about classification by Back Propagation.   8M
   b) Briefly explain about Prediction.   6M

UNIT–III

5. a) Differentiate between Bayesian classification and Rule-based classification.   6M
   b) Explain the data classification process with a neat diagram.   8M

OR

6. a) Define Support Vector machines and Explain associative Classification   8M
   b) Briefly explain the Ensemble methods   6M

UNIT–IV

7. a) Discuss Constraint based Association Mining.   8M
   b) Explain the iceberg query with an example.   6M

OR

8. a) What are multilevel association rules? Explain with an example.   8M
   b) Explain about mining distance based association rule.   6M

UNIT–V

9. a) Explain the categories of major clustering methods.   7M
   b) Explain about Partitioning methods.   7M

OR

10. a) Explain about the Hierarchical methods for clustering.   7M
    b) Explain about the Outlier analysis.   7M

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Code: 5G16C

III B.Tech. II Semester Regular Examinations May 2018
Internet of Things
(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) Who is making Internet of Things? Explain each roles and responsibilities.   7M
    b) Demonstrate design principles of connected devices in the Internet of Things.   7M

OR

2. a) Discuss in detail about Radio Frequency Identification Technology.   10M
    b) With neat diagram, explain generic block diagram of Internet of Things.   4M

| UNIT–II |

3. a) With neat sketches, demonstrate enterprise IoT stack and it role in designing
        of IoT applications.   7M
    b) Demonstrate Solutions Layer and it roles and responsibility in enterprise IoT stack. 7M

OR

4. Discuss the following in detail
        a) IoT security
        b) Cognitive Platform Layer
        c) Communication Layer
        d) Analytics Platform Layer   14M

| UNIT–III |

5. a) Draw a flow chart and explain, the functionality of the home intrusion
        detection IoT system "to send email alert when an intrusion is detected".   8M
    b) With neat sketches, explain an IoT application based on Asset Management.   6M

OR

6. a) Draw the domain model of Smart parking Internet of Things system in smart
        cities application.   7M
    b) Discuss about how IoT is used in Condition Based Maintenance application   7M

| UNIT–IV |

7. a) Illustrate Wireless Radio Frequency Identification (RFID) Infrastructure for
        wireless embedded internet in IoT.   7M
    b) Write in detail about ZigBee compact application protocol.   7M

OR

8. a) With neat sketches explain The 6LoWPAN Architecture.   7M
    b) Write short note on:
            i.   6LoWPAN Format
            ii. 6LoWPAN Addressing   7M

| UNIT–V |

9. a) Design a Led lamp IoT application. "The LED lamp on or off state is depends
        on the IoT application".   7M
    b) What is Arduino? Explain the role of Arduino in development of Internet of
        Things application.   7M

OR

10. a) What are the major factors that are influences the design an Internet of
        Things application?   7M
    b) Write short notes on the following:
            i.   Microcontrollers
            ii. Raspberry Pi   7M

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Code: 5G168

R-15

III B.Tech. II Semester Regular Examinations May 2018
Software Project Management
(Computer Science and Engineering)

Max. Marks: 70   Time: 3 Hours
Answer all five units by choosing one question from each unit (5 x 14 = 70Marks)
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UNIT–I

1. a) What are the five necessary improvements for Waterfall model?
   b) What do you mean by software Project and How does it differ from any other project?

OR

2. a) Discuss about the evolution of Software Project Economics?
   b) Discuss about conventional software management performance?

UNIT–II

3. a) Discuss in detail about the Life cycle phases of the software projects?
   b) Explain about the properties of modern software management?

OR

4. a) Discuss and write about Artifact sets by focusing upon pragmatic artifacts?
   b) What is the Iterative process and write about the phenomena for transitioning to an Iterative process?

UNIT–III

5. a) What are the different aspects of and architecture from a management perspective and explain about it?
   b) Explain about the Workflows of the Software process?

OR

6. a) Discuss the typical sequences of Life-cycle check points?
   b) Define about WBS and explain the evolutionary work break down structure?

UNIT–IV

7. a) Discuss about Process Automation   Building Blocks?
   b) Explain the default roles in a software Line of business Organization?

OR

8. a) Discuss in detail about the pragmatic planning?
   b) Discuss about Iterative Planning process and planning guidelines?

UNIT–V

9. a) Discuss about the problems and Risks associated with Estimating of the software size?
   b) Write and Discuss about Modern Project profile?

OR

10. a) Give and explain about the overview of the Seven Core Metrics?
    b) write a short notes on the following
       i) process Discriminators   ii) Next – Generation –cost Model

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Code: 5G163

R-15

III B.Tech. II Semester Regular Examinations May 2018
Smart Phone Programming
(Computer Science and Engineering)

Max. Marks: 70   Time: 3 Hours
Answer all five units by choosing one question from each unit (5 x 14 = 70Marks)
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UNIT–I

1. a) Outline the different features supported by Android and explain about them. 10M
   b) List and write about different versions of Android   4M

OR

2. a) Elaborate about the following:
       i.   Activity
       ii. layout file
       iii. Manifest file   6M
   b) Draw the sketch of Android Activity Life cycle and explain different phases of
   activity life cycle.   8M

UNIT–II

3. a) Demonstrate with example how we can arrange GUI elements in an android
   application layout using
       i.   Linear Layout
       ii. Relative Layout.   10M
   b) Write about common attributes used in views and viewgroups.   4M

OR

4. Explain the usage of following basic views with examples:
       i) Button
       ii) EditText
       iii) Image Button
       iv) CheckBox   14M

UNIT–III

5. Demonstrate with example how to use Gallery, ImageView and GridView in
   developing android application.   14M

OR

6. a) Discuss about the process of saving data in internal storage and external
   storage with sample code snippets.   8M
   b) Illustrate with example the usage of sharedpreferences object in saving data. 6M

UNIT–IV

7. a) Write about various content providers supported by Android and explain the
   process of sharing data in android.   8M
   b) State the purpose of URI. Write the format of URI and explain the various
   components of URI with examples.   6M

OR

8. Explain the process of sending sms. Discuss about the sendTextMessage(),
   Smsmanager and its various methods.   14M

UNIT–V

9. Explain about the following with respect to displaying maps:
       i.   How to change the views of google maps.
       ii. How to obtain the latitude and longitude of location in google maps.
       Write sample code snippets also.   14M

OR

10. Explain the process of communication between a service and activity. Write
    sample required code snippets.   14M

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Hall Ticket Number :

R-15

Code: 5G167

III B.Tech. II Semester Regular Examinations May 2018
Software Testing Methodologies
(Computer Science and Engineering)

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) What are different types of testing? Explain them briefly   7M
    b) What are control and sequence bugs? How they can be caught?   7M

OR

2. a) Demonstrate test bug remedies and illustrate requirement bugs?   6M
    b) To what extent can testing be used to validate that the program is fit for its purpose.
        Discuss?   8M

UNIT–II

3. a) Define Path Sensitization. Explain heuristic procedure for sensitizing paths with the
        help of an example.   7M
    b) Illustrate with an example, how statement and branch coverage can be achieved
        during path selection. Write all steps involved in it.   7M

OR

4. a) Explain about multi entry and multi exit routines and fundamental path selection criteria?   7M
    b) Define path testing and explain about decision and case statements?   7M

UNIT–III

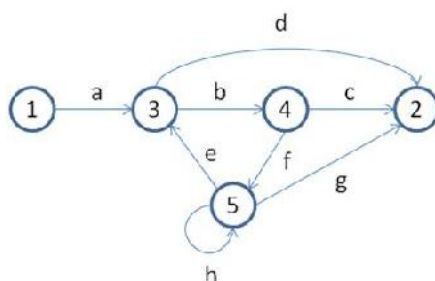5. a) The transaction flows are often ill structure. Discuss its reasons.   7M
    b) Explain Nice & Ugly Domains   7M

OR

6. a) Distinguish between control flow and transaction flow?   7M
    b) Explain the terms inspections, reviews and walkthroughs?   7M

UNIT–IV

7.   Find the path expression for the given flow graph by applying node-by-node
        removal algorithm

                                                                                           14M

OR

8 a) What is a regular expression? Explain its role in flow anomaly detection with
       suitable examples   7M
   b) Discuss the significance of decision tables in logic based testing   7M

UNIT–V

9. a) Discuss briefly about good state graphs and bad state graphs.   7M
    b) How do you represent graphs in matrix formats? Discuss with examples.   7M

OR

10. a) What is meant by transition testing? With suitable state graphs explain transition testing.   8M
    b) What are graph matrices and their applications?   6M

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