III B.Tech. II Semester Supplementary Examinations October 2020
Cryptography and Network Security
(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 the challenges of computer security? 7M
   b) Explain the OSI security architecture. 7M

OR

2. a) What is Computer Security? Explain CIA triad in detail. 7M
   b) Describe security mechanisms in detail. 7M

UNIT–II

3. a) Explain symmetric encryption principles with neat diagram. 7M
   b) Describe the types of attacks on encrypted messages. 7M

OR

4. With a neat diagram, explain the steps involved in SHA algorithm for encrypting a message. 14M

UNIT–III

5. Elaborately explain Kerberos authentication mechanism with suitable diagrams. 14M

OR

6. a) Explain Public-Key Management in PGP 7M
   b) Describe in detail S/MIME Functionality and Messages 7M

UNIT–IV

7. a) Draw the IP security authentication header and describe the functions of each field 7M
   b) Describe the SSL Specific protocol – Handshake action in detail 7M

OR

8. Explain Dual Signature in SET protocol? 14M

UNIT–V

9. a) Explain intrusion detection systems in detail 7M
   b) List and briefly define three classes of intruders 7M

OR

10. a) What is the difference between statistical anomaly detection and rule-based intrusion detection? 7M
    b) What is the difference between rule-based anomaly detection and rule-based penetration identification? 7M

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III B.Tech. II Semester Supplementary Examinations October 2020
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) What are data mining tasks? Explain.   7M
    b) What are various types of datasets? Explain.   7M

OR

2. a) What is data preprocessing? Explain in detail.   7M
    b) Explain different multidimensional data operations.   7M

UNIT–II

3. a) Explain about evaluating the performance of a classifier.   7M
    b) What are the measures for selecting the Best split? Explain.   7M

OR

4. a) Discuss about classification by Back Propagation.   7M
    b) Briefly explain about Prediction.   7M

UNIT–III

5. a) What are the measures for selecting the Best split? Explain.   7M
    b) Explain the data classification process with a neat diagram.   7M

OR

6. Write Bayes theorem. Explain classification by using the Bayes theorem.   14M

UNIT–IV

7. a) Describe Bayes error rate with example.   7M
    b) Explain the following with respect to Bayesian Belief Network Model representation and
        Model building   7M

OR

8. Explain frequent item set generation in the Apriori algorithm with one example. 14M

UNIT–V

9. a) What are different types of clustering? Explain.   7M
    b) Write the basic K-means algorithm and explain.   7M

OR

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

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Code: 5G169

III B.Tech. II Semester Supplementary Examinations October 2020

Distributed Systems

(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 in detail about challenges of Distributed Systems?   8M

    b) Write about Resource Sharing and the web?   6M

OR

2. a) Explain in detail about Architectural Models?   7M

    b) Explain in detail about Client-Sever Communication   7M

UNIT–II

3. "Communication between Distributed Objects" Explain?   14M

OR

4. a) Write about File Service Architecture?   7M

    b) Explain in detail about Remote procedure call?   7M

UNIT–III

5. a) Discuss about name spaces in detail.   7M

    b) How Global Name Service support the restructuring of the database to accommodate
       organizational change? Explain with a case study.   7M

OR

6. a) Differentiate between IP and overlay routing for peer-to-peer applications.   7M

    b) Briefly explain about Napster's architecture.   7M

UNIT–IV

7. a) Write about the following:
       i)   Clocks
       ii) Events and
       iii) Process states   7M

    b) Explain in detail about logical time and logical clocks   7M

OR

8. a) Explain about Distributed mutual exclusion?   7M

    b) Write about the following:
       i) Elections
       ii) Multicast communication   7M

UNIT–V

9. a) Write about deadlocks in distributed transactions.   7M

    b) Explain about the failure model for transactions.   7M

OR

10. a) Explain about two-phase commit protocol for nested transactions.   7M

    b) Discuss about the architectures for replicated transactions.   7M

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R-15

Code: 5G16C

III B.Tech. II Semester Supplementary Examinations October 2020

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) Define Internet of Things? Explain about things/objects in Internet of Things with example?

    b) Explain in detail IOT architecture with neat diagram?

OR

2. a) Define RFID? Explain principles of RFID?

    b) Discuss various components of RFID system?

UNIT–II

3. a) With neat sketches, demonstrate enterprise IoT stack and it role in designing of IoT applications.

    b) Demonstrate Solutions Layer and it roles and responsibility in enterprise IoT stack.

OR

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

UNIT–III

5.   Explain in detail application areas of IoT in different industry manufacturing domains with example?

OR

6. a) With an example explain the general connectivity pattern which allows devices to communicate to the core platform?

    b) Explain about the role of IoT in connected car solutions?

UNIT–IV

7. a) With a neat sketch explain the architecture of 6LOWPAN?

    b) List out the various benefits from 6LoWPAN?

OR

8. a) Briefly explain about Zigbee Compact Application Protocol Stack (CAP)?

    b) With a neat sketch explain about Wireless RFID Infrastructure?

UNIT–V

9. a) What are the factors considered when you choosing your platform?

    b) Write short note on:
         i) Microcontrollers
         ii) System-on-chips.

OR

10. a) Discuss Why Arduino is most preferable IoT Kit for many applications justify your answer with example?

    b) Create a Program for LED blinking in Arduino IDE?

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Code: 5G16B

R-15

III B.Tech. II Semester Supplementary Examinations October 2020
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) Delineate the process of reducing software product size.
    b) Discuss in detail about engineering artifacts.

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) Explain in detail about test artifacts.
    b) Discuss about transitioning to an iterative process.

UNIT–III

5. In detail write about the major milestones evaluation across plans, requirements, and products.

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) What is WBS? Explain about Evolutionary WBS.
    b) What are the primitive components of a Software change order?

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) Mention the differences in artifacts between small and large projects
    b) List the top 10 software management principles

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Code: 5G163

III B.Tech. II Semester Supplementary Examinations October 2020
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 = 70 Marks)
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UNIT–I

1. a) What is an Activity in android application, Explain the Activity life cycle?

   b) How can you call built in applications using intents. Explain with an example?

OR

2. Explain steps to create an android application and discuss the anatomy of the application

UNIT–II

3. a) How can you add items to android application Action Bar, explain with an example?

   b) Write a program to create user interface with different VIEWs?

OR

4. Explain in detail about different layout managers in android application with an example?

UNIT–III

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

OR

6. a) Discuss about the process of saving data in internal storage and external storage with sample code snippets.

   b) Illustrate with example the usage of sharedpreferences object in saving data.

UNIT–IV

7. How can you create user defined content provider, explain with an example?

OR

8. How can you send SMS with android application programmatically?

UNIT–V

9. a) Illustrate with code snippets the process of adding Markers to the google maps.

   b) Write about building location tracker.

OR

10. a) Explain about the following methods related to creating a service:
    i) onBind()   ii) onStartCommand()   iii)onDestroy()

    b) Write a Activity file, Manifest file, Layout file demonstrating the creation of a service.

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Code: 5G164

III B.Tech. II Semester Supplementary Examinations October 2020
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)	Define artificial intelligence? Explain in brief about PEAS description	5M
	b)	Explain in detail about the problem characteristics	9M

OR

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

UNIT–II

3.	a)	What is knowledge based agent? Explain	7M
	b)	Write the syntax rules for propositional logic	7M

OR

4.	a)	Explain in brief about the syntax and semantics of first order logic	7M
	b)	Discuss briefly about forward chaining in first order logic	7M

UNIT–III

5.	Explain in detail about actions, situations and events in ontological engineering	14M

OR

6.	a)	What are the two approaches for searching a plan? Explain them	7M
	b)	Discuss about conditional planning in fully observable environment	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)	Present a comparative discussion on learning a decision tree and learning multilayer feed forward networks	7M
	b)	Explain in brief about decision trees	7M

OR

10.	a)	Describe feed forward multilayer neural networks giving details of computations	10M
	b)	Discuss about applications of artificial neural networks	4M

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