Hall Ticket Number :										

Code: 5G161

R-15

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)

****

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

***

Hall Ticket Number :										

R-15

Code: 5G464

III B.Tech. II Semester Regular Examinations May 2018

Human Computer Interaction

(Information Technology)

Max. Marks: 70 Time: 3 Hours

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

****

UNIT–I

1. a) Define user interface and give its importance 7M
   b) Justify that the technical characteristics and limitations of the computer hardware and software must also be considered in HCI design. 7M

OR

2. a) Discuss the benefits of good design and also its impact on Processing Time. 7M
   b) Present the evolutionary approach to Graphical User Interface in screen designing. 7M

UNIT–II

3. a) Theoretically prove that Perception, Memory and Visual Acuity are the important Human characteristics in graphical user interface designing. 7M
   b) Illustrate the principles of User interface proposed by Xerox STAR 7M

OR

4. a) As a part of business definition and requirements analysis, discuss some of the techniques for determining requirements using direct methods. 7M
   b) Graphics revolutionized design and the user interface with popularity of graphics. Judge the statement is true. 7M

UNIT–III

5. a) Present common information ordering schemes. 7M
   b) Propose the browsing guidelines for Information retrieval on web. 7M

OR

6. a) Elaborate the process of testing for a Good Design 7M
   b) Explain the technological consideration in interface design 7M

UNIT–IV

7. a) Classify various menus and explain them pictorially. 7M
   b) Justify that the Multimedia is a a double-edged sword in information flow 7M

OR

8. a) Identify the characteristics and capabilities of various device-based controls 7M
   b) Discuss various components related to text and messages 7M

UNIT–V

9. a) List out the steps to be followed in choosing and creating images 7M
   b) Give a brief note on the features of user interface building tools? 7M

OR

10. a) Advantages and disadvantages of Automatic speech recognition by the computer system. 7M
    b) Present the characteristics and capabilities of various pointing devices 7M

***

Hall Ticket Number :										

R-15

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)

****

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

***

Hall Ticket Number :										

R-15

Code: 5G468

III B.Tech. II Semester Regular Examinations May 2018

Python Programming

(Information Technology)

Max. Marks: 70 Time: 3 Hours

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

****

UNIT–I

1. a) Discuss in brief about operators in python with an example? 7M
   b) List any four built-in String functions in Python 7M

OR

2. a) Write a Python program to swap two variables without using temporary variable. 7M
   b) Discuss about the advantages and applications of Python in detail. 7M

UNIT–II

3. a) Write a Python program using while loop to print n numbers divisible by 5. 7M
   b) Write a Python program to find factorial of first n numbers. 7M

OR

4. a) What is a List in Python? Discuss about any three methods of list with example 7M
   b) Discuss about iterative statements with an example program 7M

UNIT–III

5. What is a function? What are function arguments? Explain different kinds of arguments with an example program. 14M

OR

6. a) What is an object? How they are represented in python, give an instances. 10M
   b) Explain about memory deallocation and Garbage collection in python? 4M

UNIT–IV

7. a) What are the two ways of importing a Module? Which one is more beneficial? 7M
   b) Write a Python program to copy a file from another file 7M

OR

8. a) How do we create Strings? Discuss about String Methods in brief 7M
   b) What is an Exception? How do we create user defined Exception? Explain with an example program. 7M

UNIT–V

9. a) What is Inheritance? Explain inheritance in Python with an example 7M
   b) Discuss about Iteration and Recursion with suitable example 7M

OR

10. a) What is a Dictionary? How do we create it? How do we access elements from Dictionary? Explain with an example. 7M
    b) What is Polymorphism? Discuss about Polymorphism with a function with suitable example. 7M

***

Hall Ticket Number :										

Code: 5G469

R-15

III B.Tech. II Semester Regular Examinations May 2018

Unix and Shell Programming

(Information Technology)

Max. Marks: 70 Time: 3 Hours

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

****

UNIT–I

1. a) Differentiate textual, Disk utility commands with any 3 example commands 7M
   b) How Symbolic method to establish security different from octal method? Elaborate with examples? 7M

OR

2. a) Differentiate between soft linking and hard linking Methods while establishing link among two files? 7M
   b) Briefly discuss operations on directories with examples and write a command to forcefully delete a directory consists of another sub directory? 7M

UNIT–II

3. a) Differentiate background process and foreground process with suitable examples? 7M
   b) Explain in detail about head and tail command operations with examples? 7M

OR

4. a) Draw the flow model of an Unix session with brief view and elaboration 7M
   b) What is a job? Discuss job control mechanism with practical scenario? Differentiate fore ground and Back ground jobs? 7M

UNIT–III

5. a) Write an awk script whose input is two files and output is a single merged file (line1 in file1 followed by line1 in file2 and so on)? 8M
   b) Write an awk script which calculates the average marks of all the students in an class room consists of ‘n’ number of students? 6M

OR

6. a) Discuss various remote access methods in Unix 7M
   b) Highlight the key features of grep, egrep and fgrep with examples? 7M

UNIT–IV

7. a) Differentiate user defined and environmental variables in K Shell? Write a program to perform swapping operation on two variables with environmental variables? 7M
   b) Write a korn shell script to evaluate roots of a quadratic equation using environmental variables. 7M

OR

8. a) Explain Startup Script, Command history and Execution process in K shell 8M
   b) Write a korn shell script to verify the equivalence of two strings 6M

UNIT–V

9. a) Explain control structures involved in C shell with examples 10M
   b) Write a C shell script to extract back up data from achieve file 4M

OR

10. a) Elaborate on (i) History (ii) Exit Status in C Shell 8M
    b) Write a C shell script to retrieve the login sessions from Monday to Friday? 6M

***

Hall Ticket Number :										

R-15

Code: 5G46A

III B.Tech. II Semester Regular Examinations May 2018

Web Technologies

(Information Technology)

Max. Marks: 70 Time: 3 Hours

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

****

UNIT–I

1. a) How DHTML is different from HTML? Explain in detail.
   b) Explain about CSS in detail. Create a CSS file with different properties.

OR

2. a) Describe different layouts available in creating web pages.
   b) Explain the following terms related to CSS.
   (i) Font Size
   (ii) Font weight
   (iii) Font stretch
   (iv) Text decoration
   (v) Text transformation
   (vi) Text alignment
   (vii) Padding

UNIT–II

3. a) Describe the elements in XML and also different types of content of elements.
   b) List and explain the Advantages of Java Beans.

OR

4. a) Explain how an XML Schema is created.
   b) Write acronym for XML? Why XML is used? Explain

UNIT–III

5. a) Explain how the HTTP POST request is processed using servlets.
   b) With the help of a neat diagram, explain the servlet architecture.

OR

6. a) Discuss the javax. Servlet. Http Package
   b) What is session tracking? Explain different mechanisms of session tracking

UNIT–IV

7. a) Discuss about various categories of JSP tags. Explain each of them with syntax and suitable examples.
   b) Write a JSP to demonstrate the usage of the page and include directives

OR

8. a) Explain the JSP Application Design with MVC.
   b) How to deal with syntax errors in JSP page? Explain.

UNIT–V

9. a) Describe the Sharing Data Between JSP Pages.
   b) Explain the Error Handling and Debugging in JSP.

OR

10. a) Is it possible for one JSP to extend another Java class if yes how? Explain
    b) Give a brief note on implicit JSP objects.

***