Hall Ticket Number :										

R-15

Code: 5G46A

III B.Tech. II Semester Regular & Supplementary Examinations May 2019

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)

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UNIT–I

1. a) Define CSS. Explain inline, internal, external and embedded style sheets with examples 8M
   b) Show how group and alignment of tables, rows and columns is achieved using HTML? 6M

OR

2. a) Explain Date object in JavaScript with its properties and methods 7M
   b) Write a java script to find factorial of given number 7M

UNIT–II

3. a) Define an XML schema. Explain the creation of XML schema with an example 7M
   b) XML documents form a tree structure. Justify your answer with an example**.** 7M

OR

4. a) Describe the following:
   i) Bean Persistence ii). Bound Properties iii).Constrained properties 9M
   b) What things can be found through Introspection? Explain 5M

UNIT–III

5. a) Draw and explain Servlet Life Cycle. Explain the Servlet API packages in detail. 9M
   b) Explain cookies in servlet with suitable example. 5M

OR

6. a) How you can do Session Tracking in Servlets explain with a program**.** 8M
   b) Explain classes and interfaces of javax.servlet.http package 6M

UNIT–IV

7. a) List out objects associated with JSP and highlight the features of each object. Explain the various JSP elements. 9M
   b) Describe anatomy of a JSP page. 5M

OR

8. a) Develop JSP code to access a table and records from a student database to obtain the result of a student. 7M
   b) Discuss about the JSP Application based on MVC Architecture 7M

UNIT–V

9. a) Create a JSP page to use Java Bean and explain the process. 10M
   b) List the benefits of JSP over servlets. 4M

OR

10. a) Explain the methods of error handling and debugging routines of JSP application development environment 7M
    b) Describe various steps that are needed for accessing a database from a JSP page 7M

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Hall Ticket Number :										

R-15

Code: 5G161

III B.Tech. II Semester Regular & Supplementary Examinations May 2019

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) Discuss the role of security services and mechanism. Also define the relation between services and mechanisms. 7M

   b) What is Buffer Overflow? What are the tasks in exploiting the overflowable Buffer? 7M

OR

2. a) Illustrate with the help of neat diagram, passive and active security attacks. Discuss the various types of passive and active attacks in brief. 7M

   b) What is Hacking? Which of the following is the case of Hacking? Justify.

   (i) If you accidentally find someone's password and use it to get into a system.

   (ii) Someone sends you a "game". When you run it, it logs you into an IRS server.

   (iii) You have access to your home page on a server. By accident, you discover that if you hit a certain key, you can get into someone else's files. You spend just a few minutes looking around. 7M

UNIT–II

3. a) Explain the process of key generation in DES with a suitable diagram. Discuss the weaknesses of DES in the view of its design principles and cipher keys. 7M

   b) Give the structure of HMAC. List out the design objectives of HMAC. Explain the benefits/advantages of HMAC over other hash based schemes. 7M

OR

4. a) Briefly explain how diffusion and confusion are provided in DES using the S-boxes and P-boxes. Why does DES require 16 Rounds? 7M

   b) How do you convert a block cipher into a stream cipher by using the Cipher Feedback (CFB) mode? Explain 7M

UNIT–III

5. a) Describe the reasons for popularity and growth of PGP. Name seven types of packets used in PGP and explain their purpose. 7M

   b) What is MIME? MIME allows seven different types of data. Briefly explain each and its subtypes. 7M

OR

6. a) What are Kerberos? In Kerberos V4, the password of Alice is not transmitted in clear or encrypted form to the Ticket Granting server. Then, how can the user authentication be done by the system? 7M

   b) Why does PGP compress the message? What are the reasons for compressing the signature but before encryption? 7M

UNIT–IV

7. a) List the services provided by TLS. Describe the purpose of four protocols defined in TLS? 7M

   b) What are the services provided by IPSec? Where can be the IPSec located on a network? 7M

OR

8. a) What is the purpose of Record Protocol? Describe the fields in Record protocol general headed. 7M

   b) What protocols comprise SSL? What is the difference between an SSL connection and an SSL session? 7M

UNIT–V

9. a) Describe specifications of encapsulated SNMP message using a diagram 7M

   b) Write briefly about the signature based Intrusion Detection Systems. 7M

OR

10. a) Explain web interface to SNMP management along with a diagram. 7M

    b) What are the contents of an audit record? How it is useful in intrusion detection? 7M

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Hall Ticket Number :										

R-15

Code: 5G464

III B.Tech. II Semester Regular & Supplementary Examinations May 2019

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)

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UNIT–I

1. a) Explain the different screens in various decades 8M
   b) Define and Discuss the importance of User Interface design 6M

OR

2. a) Discuss the impacts of inefficient screen design on processing times 7M
   b) Write the chronological history of the Internet. 7M

UNIT–II

3. a) What are design standards? Explain. 7M
   b) Explain in detail various human aspects that are important and must be considered in designing a good interface. 7M

OR

4. a) Why the user's knowledge and experience are to be considered in designing a good interface? Explain. 6M
   b) Explain the concept of Direct manipulation 8M

UNIT–III

5. a) Discuss in detail about visually pleasing composition 7M
   b) Discuss various technological considerations involved in designing an interface 7M

OR

6. a) With a neat example, Explain how the ordering of screen data and content affects the performance 6M
   b) Explain the importance of statistical graphics in screen design. With neat diagrams, List various statistical graphics 8M

UNIT–IV

7. a) Give the advantages and disadvantages of keyboard and mouse? 6M
   b) Write the various factors that must be considered in choosing colors for information. 8M

OR

8. a) What is an Icon? What are the types of Icons? What are the characteristics of Icons and list the factors that influence icon's usability 8M
   b) Explain the various types of windows with suitable examples 6M

UNIT–V

9. a) What is meant by digitization? Explain various issues in continuous speech generation and recognition 7M
   b) Explain in detail about interface-building tools. 7M

OR

10. a) What are six main criteria for finding the right tool? Explain in detail 5M
    b) What is the function of an input device? List various input devices. Explain in detail about the function of Key board and its function keys. 9M

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Hall Ticket Number :										

R-15

Code: 5G16C

III B.Tech. II Semester Regular & Supplementary Examinations May 2019

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) Discuss about RFID architecture in detail. 7M
   b) Explain about the history of IoT in detail. 7M

OR

2. a) Explain about identifier in IoT. 7M
   b) Explain in detail IoT architecture with neat diagram? 7M

UNIT–II

3. a) Explain about different types of layers with Enterprise IoT Stack. 7M
   b) Discuss the security mechanism with IoT stack. 7M

OR

4. a) Draw the architecture of Enterprise IoT. Explain briefly. 7M
   b) Explain about the basic terms in Enterprise IoT. 7M

UNIT–III

5. Explain in detail application areas of IoT in different industry manufacturing domains with example? 14M

OR

6. a) What is meant by Condition Based Maintenance? Explain. 7M
   b) Briefly explain about Monitoring & Utilization. 7M

UNIT–IV

7. a) Differentiate between MQTT-S architecture and 6LoWPAN. 7M
   b) Write the applications of 6LoWPAN. 7M

OR

8. a) Explain about addressing in 6LoWPAN. 7M
   b) Discuss about ZigBee compact application protocol. 7M

UNIT–V

9. a) Write the minimum requirements needed for Internet of Things. 7M
   b) Explain micro controllers and system-on-chips in detail. 7M

OR

10. a) Write the applications of Arduino board. 7M
    b) Explain about the architecture of Arduino board. 7M

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Hall Ticket Number :										

R-15

Code: 5G468

III B.Tech. II Semester Regular & Supplementary Examinations May 2019

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)

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UNIT–I

1. a) What is python? Why is it most popular programming language? Describe the features of python programming language? 10M

   b) Write a python program to find sum of all even digits except 2 and 4 of any 4 digit number without using looping? 4M

OR

2. a) What is the difference and similarities between python identifiers and reserved keywords? What is the role of lines and indention in python programming? Explain with suitable example? 7M

   b) How single quote, double quote and triple quote are used to represent a string? Explain with writing a program to display your bio data using all of these quotes? 4M

   c) What is comments? Why is it required? How it is implemented in python? 3M

UNIT–II

3. a) What is nested if? Write a python program to find greatest among three numbers? 5M

   b) Write a python program to compute result of following series and take a number num from user?

   $R=1-x^2/2! + x^4/4! - x^6/6! + x^8/8! - x^{10}/10! + \text{--------} + x^n/n!$

   x=sum of all even digits of a number num

   n= sum of all odd digits of a number num 9M

OR

4. a) Write a python program to do following

   I. Create a list of list of 10 user defined numbers

   II. Find minimum and maximum of list

   III. Sort elements in descending order

   IV. Display the content of list 10M

   b) Write a python program to check whether a number is palindrome or not using for loop? 4M

UNIT–III

5. a) Define Function? Mention need of function? Describe syntax of function with one example? Write a python program to find LCM and GCD using function? 9M

   b) Describe anonymous Function? 5M

OR

6. Describe turtle Graphics? 14M

UNIT–IV

7. a) i) What is package? What is the need of package? How it is created and used?
   ii) Write a python program to find factorial of a number using package? 9M

   b) What is the difference between globals() and locals() function? 5M

OR

8. a) Define File? Describe various functions used to create, open and close file as well as the functions required to put contents to file and retrieved contents from file with example? 10M

   b) Write a python program to create a text file then put your bio data as contents to file then display the contents of file? 4M

UNIT–V

9. a) What do you mean by recursive function? Write a python program to find summation of two numbers using recursive function? 6M

   b) Define polymorphism? Why and how method overloading is used to implement polymorphism? Write a python program to find perimeter of rectangle, square and triangle using method overloading? 8M

OR

10. Write short notes on any two of the following (2 X 7M = 14M)
    a) Dictionary
    b) Sets
    c) Strings
    d) Exception Handling

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Hall Ticket Number :										

R-15

Code: 5G469

III B.Tech. II Semester Regular & Supplementary Examinations May 2019

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)

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UNIT–I

1. a) Explain structure of UNIX 8M
   b) Discuss the various modes in vi editor with examples 6M

OR

2. a) Write about a UNIX file system 6M
   b) i. How can you see hidden files in UNIX?
      ii. Whenever you create a directory two hidden files are created. What are they?
      iii. How can you get a inode number of a file in UNIX?
      iv. What is command to confirm each file before deleting it? 8M

UNIT–II

3. a) write a shell program to count number of lines and spaces in a given file 8M
   b) Discuss about any three filter commands with examples 6M

OR

4. a) What is meant by pipe in UNIX? Explain any two commands with pipe 6M
   b) What are various redirection commands in a shell and explain them with examples 8M

UNIT–III

5. a) i. Replace a Windows with a UNIX globally in a text file using vi editor
      ii. Write any two differences between vi editor and ex editor
      iii. Give an example to display value of a variable in shell script 6M
   b) Write an awk program to find total number of records and total marks of all students (Assume record format is student name and marks) 8M

OR

6. a) Write a grep command that counts the number of blank lines in any file? 6M
   b) Write about ftp and rlogin commands in UNIX 8M

UNIT–IV

7. a) What are various numerical operators available in KORN shell 6M
   b) Write a shell script to take name of a file and find out which type of file it is 8M

OR

8. a) What are various file operators available in KORN shell 6M
   b) write a shell script to Take 3 numbers input and find out largest number 8M

UNIT–V

9. a) Write about features C shell in UNIX 6M
   b) Explain Decision Making commands in C shell 8M

OR

10. a) Explain Decision Making commands in C shell 8M
    b) Describe mathematical expressions of C Shell Program? 6M

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