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III/IV B.Tech (Supplementary) DEGREE EXAMINATION**October, 2016****Sixth Semester****Time:** Three Hours**Common for CSE & IT****Compiler Design****Maximum : 60 Marks***Answer Question No.1 compulsorily.*

(1X12 = 12 Marks)

Answer ONE question from each unit.

(4X12=48 Marks)

1. Answer all questions

(1X12=12 Marks)

- What is the role of Lexical analyzer?
- Define regular expression
- Define Finite Automata
- What is the role of a parser
- Write a context free grammar to represent a Palindrome
- Eliminate left recursion for the grammar $S \rightarrow Aa \mid b \quad A \rightarrow Ac \mid Sd \mid \epsilon$
- Define back patching
- Why quadruples are better than Triples in code optimization
- Define flow graph
- What are the uses of Address and Register Descriptors in code generation
- Define Peephole Optimization
- Define synthesized attributes?

UNIT –I

- Briefly explain Compiler construction Tools? 4M
 - Explain briefly about the phases of compiler and translate the statement
While $A > B$ do $A := A + B$ 8M

(OR)

- What are the issues in Lexical Analyzer? 4M
 - Construct the predictive Parsing table for the grammar
 $S \rightarrow iCtS \quad S \rightarrow iCtSeS \quad S \rightarrow a \quad C \rightarrow b$ 8M

UNIT-II

- compare and contrast SLR, CLR and LALR Parsing 4M
 - Construct LALR parsing table for the grammar
 $S \rightarrow L=R \quad S \rightarrow R \quad L \rightarrow *R \quad L \rightarrow id \quad R \rightarrow L$ 8M

(OR)

- Define Parser? What are the different kinds of parsing techniques? What are the difficulties Bottom Up Parsing? 6M
 - Construct the CLR parsing table for the grammar
 $S \rightarrow CC \quad C \rightarrow cC \mid d$ 6M

UNIT –III

- Discuss the simple stack allocation scheme for C Language? 6M
 - How to pass parameters in block structure Languages? Explain with suitable example? 6M

(OR)

- 7 (a) What is the use of Symbol table? What are the contents of Symbol Table?
What are the different kinds of operations can be performed on symbol table 6M
- (b) Discuss the Symbol table structure for Block structure Languages? 6M

UNIT IV

- 8 (a) Write the Syntax Directed Translation for Assignment Statements? 6M
- (b) What are the things to be considered before generating Code? 6M
- (OR)
- 9 (a) what are the different kinds of Intermediate codes? Compare and contrast
Quadruples, Triples, Indirect triples 6M
- (b) Write the simple code Generation Algorithm and generate the machine code
for the Three address code
- $P := A + B; Q := C + D; R := E - Q; S := P - R$ 6M

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III/IV B.Tech (Regular) DEGREE EXAMINATION

November, 2016
Second Semester

Common for CSE & IT
Introduction to Data Analytics & Cyber Security

Time: Three Hours**Maximum :** 60 Marks*Answer Question No.1 compulsorily.*

(1X12 = 12 Marks)

Answer ONE question from each unit.

(4X12=48 Marks)

1 Answer all Questions**(12M)**

- Define Data Science
- What is Normal Distribution?
- Differentiate Data Analysis Vs Data Analytics
- What is Business Intelligence?
- Expand S.M.R.A.T
- Describe Regression
- Define Integrity.
- Expand STRIDE.
- What is a Spoofing?
- What is Virus?
- Draw the hierarchy of COSO Internal Controls framework.
- What are the main goals of risk analysis?

UNIT I

- What is Data frame and how combining data frames in R, illustrate with suitable example. (6M)
 - Explain the significance of the Data Science for effective decisions making. (6M)

(OR)

- Explain the structure of the following data items in 'R' (12M)
 - Vector
 - Data Frame
 - List
 - Matrix

UNIT II

- Business Analysis (BA) process can solve problems and identify opportunities to improve business performance. Justify? (8M)
 - Explain Correlation Coefficient properties (4M)

(OR)

- 5 What is Regression Model? How an OLS regression model constructed in 'R', illustrated with suitable example. **(12 M)**

UNIT III

- 6 a. What is a Virus? Briefly explain the types of Viruses. **(6M)**
 b. Explain the elements of Information Security. **(6M)**

(OR)

- 7 What types of attacks are there in Cyber Security? Explain. **(12 M)**

UNIT IV

- 8 Explain the team structure of Information and Data Security. **(12M)**

(OR)

- 9 a. What are the key areas of Information Security Management? **(6M)**
 b. What are the Security Standards Organizations? **(6M)**

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IV/IV B.Tech (Supplementary) DEGREE EXAMINATION**October, 2016****Sixth Semester****Time:** Three Hours**Common for CSE & IT****Software Engineering****Maximum : 60 Marks***Answer Question No.1 compulsorily.**(1X12 = 12Marks)**Answer ONE question from each unit.**(4X12=48 Marks)*

1. Answer the following

(12X1=48 Marks)

- a) Define Software Engineering in IEEE terms.
- b) What is meant by Process assessment?
- c) Define Process Model?
- d) Which process framework activities involves in Construction model?
- e) List any three types of Requirements.
- f) What is Class based model?
- g) Define Software Architecture.
- h) What is an Object?
- i) Define an Interface.
- j) Write another name of White-Box testing.
- k) What is Software Quality Assurance?
- l) How will you define Software Metrics?

UNIT I

2. a) State and explain about Software Myths. 6 M
- b) Differentiate Team process model and Personal process model. Suggest which one is best? 6 M

(OR)

3. a) Describe in detail about Evolutionary process models. 6 M
- b) What is Agility? Explain in detail about agile process model. 6 M

UNIT II

4. a) Explain about Communication practices and Construction practices. 6 M
- b) Discuss about various System modeling concepts. 6 M

(OR)

5. a) Construct an Analysis model with possible requirements. 6 M
- b) Describe in detail about Class based modeling. 6 M

UNIT III

6. a) Discuss about Design process and Design quality. 6 M
- b) How do you assess alternative architecture design? 6 M

(OR)

7. a) How can we design Class based model? 6M
- b) Explain about Golden rules of user interface design. 6 M

UNIT IV

8. a) Explain about Metrics process and project domains. 4 M
- b) What is SQA? Describe about ISO 9000 quality standards. 8 M

(OR)

9. a) Discuss any three of software testing techniques. 8 M
- b) Briefly describe about metrics for source code. 4 M

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III/IV B.Tech (Supplementary) DEGREE EXAMINATION**October, 2016****Sixth Semester****Time:** Three Hours**Common for CSE & IT****Enterprise Programming****Maximum : 60 Marks***Answer Question No.1 compulsorily.**(1X12 = 12Marks)**Answer ONE question from each unit.**(4X12=48 Marks)***1. Write short notes on the following:***(12X1=48 Marks)*

- (a) What is a tier?
- (b) Give an example of Deployment descriptor.
- (c) Define Design Pattern. What are the advantages of it?
- (d) What is difference between scriptlet and expression?
- (e) Give any two differences between Javabeen and EJB.
- (f) Draw the Life Cycle of Entity bean.
- (g) What do you mean by bean Persistence?
- (h) Define the term MDB with an example.
- (i) Define IIOP.
- (j) List out the tags used in SOAP.
- (k) What data structure is used in Point-to-point messaging model?
- (l) Mention any two advantages of Web Services.

UNIT I

2. (a) Describe about different J2EE Component technologies in detail. (6M)
- (b) What are the various ways for achieving session tracking in Servlets?
How do you implement session tracking? Give an example. (6M)

(OR)

3. (a) Distinguish between Servlets and JSPs. (6M)
- (b) Explain Servlet life cycle with neat sketch and discuss life – cycle methods. (6M)

UNIT II

4. (a) Explain about the Architecture of Java Server Pages and its applications? (6M)
- (b) What are the implicit objects in JSP? Explain each one of them with suitable examples. (6M)

(OR)

5. (a) Explain EJB Architecture with a neat diagram. (6M)
- (b) With an example program explain stateful session bean. (6M)

UNIT III

6. (a) Define CORBA and ORB. Explain about ORB implementation with an example. (6M)
- (b) Describe about Java Mail Architecture and its protocols in detail. (6M)

(OR)

7. (a) Explain Java Interface definition language with an example. (6M)
- (b) Discuss the need for JMS in transactions. (6M)

UNIT IV

8. (a) Explain the working procedure and to implement a SOAP Message with an example. (6M)
- (b) Explain about Web service using an example. (6M)

(OR)

9. (a) Explain briefly about electronic business XML in detail. (6M)
- (b) Explain the overview of WDSL. What are the types and services of WDSL? (6M)

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III/IV B.Tech (Supplementary) DEGREE EXAMINATION**October, 2016****Sixth Semester****Time:** Three Hours**Common for CSE & IT****.NET Technologies****Maximum : 60 Marks***Answer Question No.1 compulsorily.*

(1X12 = 12 Marks)

Answer ONE question from each unit.

(4X12=48 Marks)

1. Answer the following

(12X1=12Marks)

- a) What is CLR?
- b) Differentiate between Websites and Webprojects.
- c) What are the List controls available in ASP.NET?
- d) What is Session state and Application state?
- e) List any four members of Calendar control class.
- f) What are the Styles that can be used to create a website?
- g) Write an example of SQL Update statement.
- h) What is the purpose of DataSource control?
- i) Differentiate GridView and DetailsView controls.
- j) What is Internet Information Service (IIS)?
- k) Define Web service.
- l) List the advantages of MVC.

UNIT – I

2. a) Explain .NET Framework. (4M)
 - b) Design ASP.NET application that demonstrates HTML control classes and explain them. (8M)
- (OR)**
3. a) Explain the concept of Page processing in ASP.NET with an example application. (6M)
 - b) With an example explain how to handle an Exception in ASP.NET application. (6M)

UNIT – II

4. a) Explain Transfer of information between web pages using Cross-page post back technique. (4M)
 - b) Discuss Validation controls and design a registration form with appropriate validations. (8M)
- (OR)**
5. a) Explain Wizard control and its events and demonstrate with an example application. (6M)
 - b) Design an ASP.NET application that demonstrates the advanced Master page concept. (6M)

UNIT – III

6. a) Discuss how to access data directly using Connection, Command, DataReader ADO.NET objects with an appropriate example application. (6M)
 - b) What is Data Binding with a Dictionary Collection and explain with an example. (6M)
- (OR)**
7. a) Design an application to retrieve data from a database into a GridView control. (8M)
 - b) Explain LINQ to DataSet with an example. (4M)

UNIT – IV

8. a) Explain the process of deploying ASP.NET website. (6M)
 - b) Explain in detail about WCF Service. (6M)
- (OR)**
9. a) Explain why Microsoft has created ASP.NET MVC. (6M)
 - b) Design a simple data-entry ASP.NET MVC web application. (6M)