F 3320

Reg. No.............................

Name.................................

B.TECH. DEGREE EXAMINATION, NOVEMBER 2014

Seventh Semester

Branch : Computer Science and Engineering

CS 010 701—WEB TECHNOLOGIES (CS)

(New Scheme—2010 Admission onwards—Regular/Supplementary)

Time : Three Hours

Maximum : 100 Marks

Part A

Answer all questions.
Each question carries 3 marks.

1. List the basic features of XHTML.

2. Define XML name spaces.

3. Define Hashes in Perl.

4. What is meant by a Cookie ? What are its features ?

5. List the features of Rails Framework.

(5 × 3 = 15 marks)

Part B

Answer all questions.
Each question carries 5 marks.

6. What are XHTML application to manipulate Tables ?

7. Briefly explain the creation of DTDs with an example.

8. Write a Perl application to read the contents of a text file.

9. Explain regular expressions in PHP with example.

10. What are the functions used for managing asynchronous requests in AJAX ? Explain.

(5 × 5 = 25 marks)

Part C

Answer all questions.
Each full question carries 12 marks.

11. Explain XHTML tags for processing hyperlinks, images and tables with examples.

Or

12. (a) Explain embedded style sheet with an example. (6 marks)

    (b) Write CSS code for managing font properties. (6 marks)

Turn over

13. Explain Schema for specifying XML document structure.

Or

14. Explain the features of XSL with examples.

15. What are the file handling functions in Perl ? Explain.

Or

16. Write CGI script using Perl to validate User name and Password entered through an HTML form.

17. (a) Explain various pattern matching functions in PHP.   (6 marks)

    (b) Write a PHP script to check whether a given number is prime or not.   (6 marks)

Or

18. (a) Explain various methods in PHP to process XHTML forms.   (6 marks)

    (b) Explain session handling in PHP.   (6 marks)

19. (a) Briefly explain Rails form processing.   (7 marks)

    (b) Write an AJAX application to display response sent by a server.   (5 marks)

Or

20. (a) Explain database access from Rails application.   (7 marks)

    (b) Briefly explain about Rails layouts.   (5 marks)

[5 × 12 = 60 marks]

F 3344

(Pages : 2)

Reg. No..............................

Name..............................

B.TECH. DEGREE EXAMINATION, NOVEMBER 2014

Seventh Semester

Branch : Computer Science and Engineering

CS 010 703—COMPUTER GRAPHICS (CS)

(New Scheme—2010 Admission onwards—Regular/Supplementary)

Time : Three Hours

Maximum : 100 Marks

Part A

Answer all questions.
Each question carries 3 marks.

1. Explain the working of a mouse.
2. What is cascading of 2D transformation ? Explain.
3. What is perspective projection ? Explain with figures.
4. What a polygon surface ? Explain.
5. What is Raycasting ? Explain.

(5 × 3 = 15 marks)

Part B

Answer all questions.
Each question carries 5 marks.

6. What are data generation devices ? Explain.
7. Explain spline-curves with diagrams, in 2D.
8. Explain cubic splines with diagrams.
9. Explain object-space method approach in visible surface detection.
10. Explain self-squaring fractals.

(5 × 5 = 25 marks)

Part C

Answer all questions.
Each question carries 12 marks.

11. Explain Raster Scan processors with diagrams.

Or

12. Explain the working principle of Hardcopy output devices.

Turn over

13. Explain Bresenhem's line drawing algorithm with an example.

Or

14. Explain Cohen Sutherland line clipping algorithm with an example.

15. Explain 3D transforms and derive their equations in matrix form.

Or

16. What are Octress ? Explain with diagrams.

17. Explain visible surface detection algorithm.

Or

18. Discuss scan-line method with an example.

19. Give a brief description of basic illumination models.

Or

20. Explain the geometric construction of deterministic self similar fractals and statiscally self similar fractals.

(5 × 12 = 60 marks)

F 3355 ② (Pages : 2) Reg. No.............................

Name.................................

B.TECH. DEGREE EXAMINATION, NOVEMBER 2014

Seventh Semester

Branch : Computer Science and Engineering

CS 010 704—OBJECT-ORIENTED MODELING AND DESIGN (CS)

(New Scheme—2010 Admission onwards—Regular/Supplementary)

Time : Three Hours   Maximum : 100 Marks

Part A

*Answer **all** questions.*
Each question carries 3 marks.

1. What are abstract classes ? Explain.

2. Distinguish on event and state.

3. Why breaking of system into subsystem is necessary ? Explain.

4. Give a brief description of object representation.

5. What is a class diagram ? Explain.

(5 × 3 = 15 marks)

Part B

*Answer **all** questions.*
Each question carries 5 marks.

6. Explain links and associations.

7. Explain a sample dynamic model.

8. What are global resources ? Explain.

9. What are the steps needed for designing an algorithm ?

10. Explain an activity diagram.

(5 × 5 = 25 marks)

Part C

*Answer **all** questions.*
Each full question carries 12 marks.

11. Explain in detail the object oriented development and modeling concepts.

Or

12. Discuss with example generalization and inheritance.

Turn over

13. Explain advanced dynamic modeling concepts.

Or

14. Explain functional models and bring out constraints in functional modeling.

15. Discuss in detail the analysis in object modeling.

Or

16. In system design how will concurrency is identified ? Explain with an example.

17. Briefly explain documenting design decisions.

Or

18. Make a comparison of different methodologies avail in object design.

19. Draw the class diagram, object diagram and use case diagram of a simplified library system.

Or

20. Considering on ATM system construct a state diagram, activity diagram and component diagram.

(5 × 12 = 60 marks)

F 3365　　　　　　　　(Pages : 2)　　　　Reg. No..................................

　　　　　　　　　　　　　　　　　　　　　　　　Name.................................

B.TECH. DEGREE EXAMINATION, NOVEMBER 2014

Seventh Semester

Branch : Computer Science and Engineering

CS 010 705—PRINCIPLES OF PROGRAMMING LANGUAGES (CS)

(New Scheme—2010 Admission onwards—Regular/Supplementary)

Time : Three Hours　　　　　　　　　　　　　　　　　　　Maximum : 100 Marks

Part A

*Answer **all** questions.*
Each question carries 3 marks.

1. Why is readability important to writability ?
2. Define life time, scope, static scope and dynamic scope.
3. What are the design issues for selection structures ?
4. What are the design issues for functions ?
5. How are exceptions bound to handlers in C++ ?

(5 × 3 = 15 marks)

Part B

*Answer **all** questions.*
Each question carries 5 marks.

6. Briefly describe a hybrid implementation system.
7. What is a strongly typed language ? Explain with an example.
8. Explain the advantage of treating the assignment operator as if it were an arithmetic operator.
9. What is parametric polymorphism ? Explain with an example.
10. What is the difference between EQ ? EQU ? and = ?

(5 × 5 = 25 marks)

Part C

*Answer **all** questions.*
Each full question carries 12 marks.

11. Explain the attributes of a good programming language.

Or

12. Explain how the computer architecture and programming methodologies influence the basic design of a programming language.

Turn over

13. What is a primitive data type ? Explain the various primitive data types with suitable examples.

Or

14. Elaborate on the concept of binding with emphasis on type binding and storage binding.

15. What are iterative counter-controlled loops ? Explain the same with respect to various programming languages.

Or

16. Explain the various design issues with respect to arithmetic expressions.

17. What are the three semantic models of parameter passing ? Explain.

Or

18. (a) What are the two issues that arise when subprogram's names are parameters ? Explain.

(7 marks)

(b) Distinguish separate and independent compilation.

(5 marks)

19. Explain exception handling with respect to Java programming language.

Or

20. (a) Define PROLOG search trees with examples.

(5 marks)

(b) Explain the use of cuts in Logic Programming.

(7 marks)

[5 × 12 = 60 marks]

F 3427

(Pages : 2)

Reg. No...............................

Name.................................

B.TECH. DEGREE EXAMINATION, NOVEMBER 2014

Seventh Semester

Branch : Computer Science and Engineering/Information Technology

OBJECT ORIENTED MODELLING AND DESIGN (R, T)

(Old Scheme—Prior to 2010 Admissions)

[Supplementary/Mercy Chance]

Time : Three Hours

Maximum : 100 Marks

Part A

Answer all questions.
Each question carries 4 marks.

1. Explain briefly object oriented themes.

2. What is the significance of candidate keys ? Explain.

3. What are the operations available in dynamic modeling ?

4. Discuss constraints in functional modeling.

5. Explain the procedure of dynamic modeling analysis.

6. How do you manage data stores in system design ?

7. Explain how adjustment of in heristance is carried out in object design.

8. What are the methods used for object representations in object design ?

9. Make a comparison between implementation model and test model.

10. Give brief description of relationships in UML.

(10 × 4 = 40 marks)

Part B

Answer all questions.
Each question carries 12 marks.

11. Briefly explain the advanced links and association concepts.

Or

12. Explain different abstract classes available in advanced object modeling.

13. Explain a sample dynamic model. Bring out a comparison between dynamic modeling and object modeling.

Or

14. Draw a data flow diagram for library management.

Turn over

15. Discuss in detail the analysis of dynamic modeling.

Or

16. Give a brief description about allocating subsystems to processors and tasks.

17. Discuss any one of the design algorithms and write the procedure for optimization.

Or

18. Describe in detail the documenting design decisions.

19. Give a brief description of analysis model and design model.

Or

20. Discuss the building blocks of UML in detail.

(5 × 12 = 60 marks)

F 3437

(Pages : 2)

Reg. No......................................

Name......................................

B.TECH. DEGREE EXAMINATION, NOVEMBER 2014

Seventh Semester

Branch : Computer Science and Engineering

COMPUTER GRAPHICS (R T)

(Old Scheme—Prior to 2010 Admissions)

[Supplementary]

Time : Three Hours

Maximum : 100 Marks

Part A

Answer all questions.
Each question carries 4 marks.

1. Explain DVST monitors advantages and disadvantages.

2. Discuss the working of plasma panels.

3. Derive the equations of 2D transformation matrix for rotating an object about an arbitrary point.

4. What is Windowing ? Explain.

5. Explain the properties of Bezier curves.

6. What are Hermite spline ? Explain.

7. What is diffuse reflection ? Explain.

8. Explain with figures perspective projections.

9. Explain general computer animation functions.

10. What are the classification of fractals ? Explain.

(10 × 4 = 40 marks)

Part B

Answer all questions.
Each question carries 12 marks.

11. With Block diagram explain a random scan system.

Or

12. Explain the following :—

    (a) Interactive graphic system.

    (b) Video display devices.

13. Explain with example Bresenhom's line drawing algorithm.

Or

14. With example explain Mid point circle algorithm.

Turn over

15. Give description about 3D object representation.

Or

16. Derive the equations of 3D transformation for scaling translation and rotation.

17. Briefly explain Gaurand Shading and phong shading in polygon rendering methods.

Or

18. Explain Depth-Buffer method in detail.

19. Explain geometric construction of statistically self-similar Fraclats.

Or

20. Give a brief description about design of animation sequences.

(5 × 12 = 60 marks)

F 3457

Reg. No..............................

Name..............................

B.TECH. DEGREE EXAMINATION, NOVEMBER 2014

Seventh Semester

Branch : Computer Science and Engineering

ADVANCED SOFTWARE ENVIRONMENTS (R)

(Old Scheme—Prior to 2010 Admissions)

[Supplementary/Mercy Chance]

Time : Three Hours

Maximum : 100 Marks

Part A

Answer **all** *questions.*
Each question carries 4 marks.

1. Explain the characteristics of Windows programming.

2. What is a button ? Explain its uses.

3. List and explain MFC features.

4. Explain the procedure for handling mouse.

5. With figure illustrate the structure of CORBA stub.

6. Explain the functions of ORB in CORBA.

7. How do you manage references at server ?

8. Explain CORBA object creation in C++.

9. Give a brief description of the functions of clients and servers.

10. Explain the steps for creating child windows.

(10 × 4 = 40 marks)

Part B

Answer **all** *questions.*
Each question carries 12 marks.

11. Describe with examples the event driven programming.

Or

12. Briefly explain windows procedures and explain how drawing is done on windows.

13. Explain different MFC classes with examples.

Or

14. Write the procedures for drawing on MFC windows.

15. Describe the fundamental concepts in distributed objects.

Or

16. Write the implementation of CORBA server with C++.

17. Explain CORBA object creation in C++.

Or

18. With Block diagram, explain the architecture of CORBA.

19. Describe the basic architecture of X windows systems and its layers.

Or

20. Explain the procedure for creating windows and graphics context.

(5 × 12 = 60 marks)

F 3500 (Pages : 2) Reg. No..................................

Name....................................

B.TECH. DEGREE EXAMINATION, NOVEMBER 2014

Seventh Semester

Branch : Computer Science and Engineering

MOBILE COMPUTING (Elective I) (RT)

(Old Scheme—Prior to 2010 Admissions)

[Supplementary/Mercy Chance]

Time : Three Hours   Maximum : 100 Marks

Part A

Answer **all** *questions.*
Each question carries 4 marks.

1. List the limitations of wireless communication.

2. What is APCP ?

3. Describe Multi carrier modulation.

4. What is Mobile IP ?

5. Write briefly on GSM features.

6. What is HTTP ?

7. Discuss the advantages of cellular systems.

8. List the features of WML.

9. Compare Infrared and Radio transmission.

10. List the requirements of a good routing protocol.

(10 × 4 = 40 marks)

Part B

Answer **all** *questions.*
Each question carries 12 marks.

11. Explain :

    (a) Cellular systems.   (6 marks)

    (b) Multi carrier modulation.   (6 marks)

Or

12. Explain the simplified Reference model.

Turn over

13. (a) Explain the different satellite sysems.   (6 marks)

    (b) List the advantages of wireless communication systems.   (6 marks)

Or

14. (a) Explain Multimedia object Transfer protocol.   (6 marks)

    (b) Write briefly on Digital video broadcasting.   (6 marks)

15. (a) What are Adhoc networks ? Explain their features.   (6 marks)

    (b) Explain the Blue booth architecture.   (6 marks)

Or

16. (a) Explain the functions of wireless ATM.   (6 marks)

    (b) Discuss the Handover scenarios of wireless ATM.   (6 marks)

17. (a) Explain the features of IPV6.   (6 marks)

    (b) Explain DSDV and DSR algorithms.   (6 marks)

Or

18. Explain :

    (a) Indirect TCP.   (4 marks)

    (b) Snooping TCP.   (4 marks)

    (c) Mobile TCP.   (4 marks)

19. What is HTML ? Explain the usage of HTML.

Or

20. Explain www system architecture.

                                          [5 × 12 = 60 marks]

F 3332 ⊘   (Pages : 3)

B.TECH. DEGREE EXAMINATION, NOVEMBER 2014

Seventh Semester

Branch : Computer Science and Engineering

CS 010 702—COMPILER CONSTRUCTION (CS)

(New Scheme—2010 admission onwards)

[Regular / Supplementary]

Time : Three Hours   Maximum : 100 Marks

Part A

Answer **all** *questions.*

Each question carries 3 marks.

1. Write a regular expression to describe an IP address.

2. $L \rightarrow P$ S) | P)
   $P \rightarrow ($
   $S \rightarrow aa | aL | LaLL$

   Obtain a precedence matrix for this grammar.

3. Define S-attributed definition and L-attributed definition.

4. Explain the need for code optimization.

5. What is the significance of symbol table at runtime ?

(5 × 3 = 15 marks)

Part B

Answer **all** *questions.*

Each question carries 5 marks.

6. What are the issues in the design of a lexical analyzer ?

7. $E \rightarrow E \ [E]$
   $E \rightarrow E + E$
   $E \rightarrow (E)$
   $E \rightarrow id$

Turn over

Write an unambiguous grammar for the same language such that array accesses have higher precedence than assignments and both array accesses and assignments have higher precedence than addition. Addition is left-associative and assignment is right-associative.

8. What are synthesized and inherited attributes ? Give an example based on a programming language construct for each of these.

9. Explain how a code sequence may be converted into a Basic Block.

10. Describe how peephole optimization can be used in code generation.

$$(5 \times 5 = 25 \text{ marks})$$

Part C

Answer **all** *questions.*
Each full question carries 12 marks.

1. (a) Construct NFA and then optimized WFA for the following regular expression :

$ab(a|b)^*a^*$.

Or

(b) Explain in detail about the various phases of a compiler.

2. (a) Consider the following grammar :

S → aA | b | cB | d
A → aA | b
B → cB | d

construct an operator precedence parses for the above grammar and show the moves of the parser on the string aaab. Also write down the algorithm to implement operator precedence parsing.

Or

(b) Obtain the SLR (1) parsing table for the following grammar :

X → a | aY | bZ
Y → b | bY | aX
Z → aZ | bX

3. (a) Describe the type checking of expressions and statements.

Or

(b) (i) Describe heap storage allocation.

(5 marks)

(ii) What is meant by block structured programming ?

(7 marks)

4. (a) Write the translation scheme for the following statement and also produce three-address code for that statement $c = a + B[i][j]$.

Or

(b) Explain the various optimizations that can be done on a loop with examples for each.

5. (a) Discuss the various data structures used for symbol table organization.

Or

(b) Explain a simple code generation algorithm with example.

$$[5 \times 12 = 60 \text{ marks}]$$

F 3385   (Pages : 2)   Reg. No................................

Name................................

B.TECH. DEGREE EXAMINATION, NOVEMBER 2014

Seventh Semester

Branch : Computer Science and Engineering

CS 010 706 L06 – CLIENT-SERVER ARCHITECTURE AND APPLICATIONS (Elective II) [CS]

(New Scheme – 2010 Admission onwards)

[Regular/Supplementary]

Time : Three Hours   Maximum : 100 Marks

Part A

*Answer **all** questions.*

Each question carries 3 marks.

1. List the advantages and disadvantages of client computing.

2. Explain the fundamentals of Client-Server design.

3. What are threads? Explain.

4. What is a semaphore? Explain.

5. What is UDP? Explain.

                                                    (5 × 3 = 15 marks)

Part B

*Answer **all** questions.*

Each question carries 5 marks.

6. Explain heterogeneous computing in detail.

7. Explain the steps of execution of requests.

8. What is a child processor? Explain.

9. What is meant by context switching? Explain.

10. Explain interprocess communication.

                                                    (5 × 5 = 25 marks)

Part C

*Answer **all** questions.*

Each full question carries 12 marks.

11. What is cross platform computing? Compare it with distributed computing.

Or

12. Explain Client-Server databases and its uses.

                                                    Turn over

13. With an example, explain the client-server implementation procedure.

Or

14. Explain request acceptance dispatching and execution requests in detail.

15. Discuss in detail the different types of processors available for multi task system.

Or

16. Briefly explain the Novell Netware implementation and its advantages.

17. With an example, explain critical section.

Or

18. Discuss the steps for Semaphore implementation in NT.

19. Explain the steps for building portable client-server applications.

Or

20. Discuss client-server security concepts in detail.

(5 × 12 = 60 marks)