

**G 5092**

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Reg. No.....

Name.....

**B.TECH. DEGREE EXAMINATION, MAY 2013**

**Seventh Semester**

Branch—Computer Science and Engineering/Information Technology

**OBJECT ORIENTED MODELLING AND DESIGN (RT)**

(Improvement/Supplementary)

Time : Three Hours

Maximum : 100 Marks

**Part A**

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

1. List and explain the functions of object oriented models.
2. Give a brief idea about grouping constructs.
3. Distinguish between events and states.
4. What is constraint ? Explain.
5. What are the methods for identifying concurrency ? Explain.
6. Explain how boundary conditions are handled.
7. Explain briefly the design options.
8. Give a brief description about physical packaging.
9. Explain when and where use-cases are applicable.
10. Explain the advantages of using unified modelling language.

(10 × 4 = 40 marks)

**Part B**

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

11. (a) Explain with examples advanced links and association concepts.

*Or*

(b) Write notes on :

(i) Abstract classes.

(ii) Candidate keys.

12. (a) Explain with an example a sample dynamic model.

*Or*

(b) Describe the relation of functional to objects and dynamic models.

**Turn over**

13. (a) Explain in detail the analysis in object modelling.

*Or*

(b) Describe in detail the handling of global resources and boundary conditions in system design.

14. (a) Explain any *two* designing algorithms used in object design.

*Or*

(b) Write notes on the following :—

(i) Design of association.

(ii) Adjustment of Inheritance.

15. (a) Describe in detail the Booch's methodology.

*Or*

(b) Write notes on :

(i) Design model.

(ii) Notations.

[5 × 12 = 60 marks]

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**B.TECH. DEGREE EXAMINATION, MAY 2013**

**Seventh Semester**

Branch : Computer Science and Engineering

**THEORY OF COMPUTATION (R)**

(Improvement/Supplementary)

Time : Three Hours

Maximum : 100 Marks

*Answer all questions.*

**Part A**

*Each question carries 4 marks.*

1. What are computable functions ?
2. Briefly explain equinumerous sets.
3. Write the properties of transition functions.
4. State the formal definition of an E-NFA.
5. Define push-down automate.
6. Let  $L = \{a^m b^n \mid n < m\}$  construct a context free grammar accepting L.
7. Briefly explain representation of turing machine by transition diagram.
8. Design a Turing machine to recognize all strings consists of even number of 1's.
9. What is meant by interactable problem ?
10. Briefly explain NP-hard problem.

(10 × 4 = 40 marks)

**Part B**

*Each full question carries 12 marks.*

11. Write note on :

- (i) Primitive recursive function.
- (ii) Diagonalization principle.

*Or*

12. What is a recursive function ? Show that the function  $f(x, y) = x - y$  is partial recursive.
13. Differentiate between deterministic and non deterministic finite automata.

*Or*

14. Explain the different applications of finite automata.

**Turn over**

15. Briefly explain bottom-up parsing.

Or

16. Differentiate between deterministic and non deterministic PDA.

17. What is Turing machine? Explain the language acceptability by Turing machine.

Or

18. Design a Turing machine that computes a function,  $f(m, n) = m + n$  is addition of two integers.

19. Explain the complexity of different classes :

— class P

— class NP.

Or

20. Let L be an NP – Complete language. Then  $P = NP$  if and only if L is in P.

[5 × 12 = 60 marks]

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**B.TECH. DEGREE EXAMINATION, MAY 2013**

**Seventh Semester**

Branch : Computer Science Engineering

**ADVANCED SOFTWARE ENVIRONMENTS (R)**

(Improvement/Supplementary)

Time : Three Hours

Maximum : 100 Marks

**Part A**

*Answer all questions.*

*Each question carries 4 marks.*

1. How do you distinguish ordinary programs and windows programs ?
2. What is a button ? Explain its uses.
3. List and explain the advantages of MFC.
4. Explain the procedure for handling keyboard events.
5. What are the features of CORBA ? Explain.
6. What are the functions of IDL stub and IOL skeleton ?
7. Give a brief description of CORBA exceptions.
8. What are the procedures for destroying CORBA objects ?
9. Briefly explain command line options.
10. How do you handle events in X-windows.

(10 × 4 = 40 marks)

**Part B**

*Each question carries 12 marks.*

11. (a) List the features of windows programming and explain the components of windows API.

*Or*

(b) Explain different window procedures available in windows programming.

12. (a) Describe the life cycle of an MFC application.

*Or*

(b) Explain CWINAPP classes with examples.

**Turn over**

13. (a) Draw the architecture of CORBA and explain the functions of each components.

Or

(b) Discuss the various steps in implementing a simple CORBA server with C++.

14. (a) Explain CORBA object reference.

Or

(b) Explain Object creation in JAVA and CORBA exceptions.

15. (a) Describe the basic Architecture of X-windows systems and its layers.

Or

(b) Briefly explain the steps for creating windows and graphics context.

(5 × 12 = 60 marks)

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**B.TECH. DEGREE EXAMINATION, MAY 2013**

**Seventh Semester**

Branch : Computer Science and Engineering/Information Technology

WEB TECHNOLOGIES (RT)

(Improvement/Supplementary)

Time : Three Hours

Maximum : 100 Marks

*Answer all questions.*

**Part A**

*Each question carries 4 marks.*

1. What is JSP?
2. Explain scriptlets.
3. List the features of Java Beans.
4. What is EJB?
5. What is a stylesheet?
6. Describe SGML.
7. What are Attributes?
8. List the different types of Bean properties.
9. Explain the features of XML.
10. List the features of Entity Beans.

(10 × 4 = 40 marks)

**Part B**

*Each question carries 12 marks.*

11. (a) Compare XML and HTML. (6 marks)
  - (b) Explain the features of SGML. (6 marks)
- Or*
12. Explain briefly :
    - (a) Attributes of Tags. (4 marks)
    - (b) Entity References. (4 marks)
    - (c) CDATA section. (4 marks)

**Turn over**

13. (a) Explain document type declaration in XML. (6 marks)  
(b) How can XML data be stored in HTML? (6 marks)

Or

14. List the various applications of XML. (12 marks)

15. Explain Java Beans. How can Java Beans be designed? Explain the bound and constrained properties. (12 marks)

Or

16. Explain Introspection and customization in detail. (12 marks)

17. Explain how Java Beans can be used in JSP. (12 marks)

Or

18. (a) Explain Request and Response objects of JSP. (6 marks)

- (b) Explain Serialized beans. (6 marks)

19. Discuss the steps involved in creating and implementing interfaces. (12 marks)

Or

20. Explain the development of a stateful session bean. (12 marks)

[5 × 12 = 60 marks]



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**B.TECH. DEGREE EXAMINATION, MAY 2013**

**Seventh Semester**

Branch.: Computer Science and Engineering/Information Technology

**MOBILE COMPUTING (Elective I) (RT)**

(Improvement/Supplementary)

Time : Three Hours

Maximum : 100 Marks

*Answer all questions.*

**Part A**

*Each question carries 4 marks.*

1. What is DHCP ?
2. Explain cellular systems.
3. What is WAP ?
4. Discuss the features of IPV6.
5. Distinguish between LEO and HEO system.
6. Compare 802.11 and 802.16.
7. Write the features of WHL.
8. What is Multicarrier modulation ?
9. Explain Handover.
10. What are Broadcast systems ?

(10 × 4 = 40 marks)

**Part B**

*Each question carries 12 marks.*

11. Explain briefly :

(a) Mobile Telephone System.

(6 marks)

(b) Applications of cellular systems.

(6 marks)

*Or*

12. Explain the simplified Reference Model.

(12 marks)

13. Explain briefly the GSM system architecture.

(12 marks)

*Or*

**Turn over**

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14. (a) Explain Multimedia object Transfer protocol. (6 marks)  
(b) Write briefly on Broadcast transmission. (6 marks)
15. Explain the architecture of Bluetooth. (12 marks)

Or

16. Explain the services of wireless ATM. Explain its reference model and Handover scenarios. (12 marks)
17. (a) Explain the goals and requirements of Mobile IP. (6 marks)  
(b) Discuss IP pocket delivery in a mobile network. (6 marks)

Or

18. Explain :  
(a) DSDV. (4 marks)  
(b) Hierrarchial Routing. (4 marks)  
(c) Mobile TLP. (4 marks)
19. Explain the architecture of WAP. (12 marks)

Or

20. Explain www system architecture. (12 marks)

[5 × 12 = 60 marks]