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06CS71

Seventh Semester B.E. Degree Examination, June 2012
Object Oriented Modeling and Design

Time: 3 hrs.

Max. Marks: 100

*Note: Answer FIVE full questions, selecting
atleast TWO questions from each part.*

PART – A

- 1 a. Explain how systems are modeled from different viewpoints. (10 Marks)
b. Elaborate on the major themes that are well supported in object oriented technology. (10 Marks)
- 2 a. List and explain the various restructuring techniques used with respect to workarounds (10 Marks)
b. What is a constraint with respect to a class modeling? Explain.
i) Constraints on generalization sets
ii) Constraints on links. (10 Marks)
- 3 a. Describe the two kinds of sequence models. What are the guidelines for sequence models? (12 Marks)
b. How an activity diagram differs from a traditional flowchart? Give the activity diagram for stock trade processing. (08 Marks)
- 4 a. What is system conception? List and explain questions that must be answered by a good system concept. (10 Marks)
b. Describe the steps performed in constructing a domain state model. (10 Marks)

PART – B

- 5 a. Describe the steps involved to allocate each concurrent subsystem to a hardware unit, either a general purpose processor or a fractional unit. (12 Marks)
b. What is an interactive interface? Explain in brief steps in designing an interactive interface. (08 Marks)
- 6 a. Elaborate three tasks involved in design optimization. (10 Marks)
b. What are the outputs from reverse engineering? In brief, discuss reverse engineering tips. (10 Marks)
- 7 a. What is a pattern? Explain the model view controller design pattern for software architecture with OMT class diagram. (10 Marks)
b. Describe three categories of patterns. (10 Marks)
- 8 a. Along with neat diagram and necessary steps, describe a typical scenario of the command processor pattern implementing an undo mechanism. (10 Marks)
b. Write a note on :
i) Benefits of view handler pattern
ii) Liabilities of view handler pattern. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.

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06IS72

Seventh Semester B.E. Degree Examination, June 2012

Software Architecture

Time: 3 hrs.

Max. Marks:100

Note: Answer FIVE full questions, selecting at least TWO questions from each part.

PART – A

- 1 a. Define software architecture. What is architecture business cycle? Explain with a neat diagram. (10 Marks)
- b. Define architectural patterns, reference models and reference architectures and bring out the relationships between them. (06 Marks)
- c. Explain the various process recommendations as used by an architect while developing software architectures. (04 Marks)
- 2 a. Explain the process control paradigm with various process control definitions. (06 Marks)
- b. List the basic requirements for mobile robot architecture. (04 Marks)
- c. Explain the process control view of cruise control architectural style and obtain the complete cruise control system. (10 Marks)
- 3 a. What is quality attribute scenario? List the parts of scenario, with an example. (04 Marks)
- b. What is availability? Explain the general scenario for availability. (08 Marks)
- c. Classify security tactics. What are the different tactics for resisting attacks? (08 Marks)
- 4 a. List the components of pipe and filters architectural pattern. With sketches, explain the CRC cards for the same. (08 Marks)
- b. Define blackboard architectural pattern. Briefly explain the steps used to implement the blackboard pattern. (08 Marks)
- c. Write a note on the Hearsay – II system. (04 Marks)

PART – B

- 5 a. Define broker architectural pattern. Explain with a diagram the objects involved in a broker system. (07 Marks)
- b. Depict the dynamic behavior of MVC with any one scenario. (07 Marks)
- c. Give the CRC cards for top level, intermediate level and bottom level PAC agents. (06 Marks)
- 6 a. What are the steps involved in implementing the microkernel system? (08 Marks)
- b. Explain the known uses of reflection pattern. (06 Marks)
- c. Explain the advantages and disadvantages of a reflective architectural pattern. (06 Marks)
- 7 a. Briefly explain the benefits of master slave design pattern. (06 Marks)
- b. What are variants of proxy pattern? (06 Marks)
- c. List and explain the steps to implement a whole part structure. (08 Marks)
- 8 a. List the steps of ADD method of architectural design. (06 Marks)
- b. Explain with a neat diagram, the evolutionary delivery life cycle model. (06 Marks)
- c. What are the suggested standard organization points for view documentation? (08 Marks)

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06CS73

Seventh Semester B.E. Degree Examination, June 2012
Programming the Web

Time: 3 hrs.

Max. Marks:100

**Note: Answer FIVE full questions, selecting
atleast TWO questions from each part.**

PART – A

- 1 a. Explain the concept of domain name conversion, with figure and a suitable example. (05 Marks)
- b. Explain the request phase of HTTP. (05 Marks)
- c. Explain the following tags with syntax and an example for each : (10 Marks)
 - i) <p> ii) <pre> iii) <sup> iv) <sub> v) <blockquote>.
- 2 a. Write an XHTML document to describe an ordered list of four states. Each element of the list must have an unordered list of at least two cities in the state. (05 Marks)
- b. Explain the syntactic differences between HTML and XHTML. (05 Marks)
- c. Explain the following, with respect to table creation in XHTML documents. (10 Marks)
 - i) <table> ii) tr, th, and td attributes iii) rowspan and colspan attributes
 - iv) align and valign attributes v) cell padding and cell spacing.
- 3 a. Explain all selector forms: (05 Marks)
- b. Explain the usage of different levels of style sheets, with syntax and example. (05 Marks)
- c. Explain the following, with an example for each. (10 Marks)
 - i) pseudo classes ii) background images iii) alignment of text
 - iv) text decoration v) and <div>.
- 4 a. Explain the screen output and keyboard input methods, with examples. (08 Marks)
- b. Explain the Javascript array methods, with examples. (07 Marks)
- c. Write an XHTML document and Javascript function to compute and print reverse of a given number. (05 Marks)

PART – B

- 5 a. Explain with example, the different approaches of addressing XHTML elements in Javascript. (06 Marks)
- b. Explain with an example on focus event in Javascript. (06 Marks)
- c. Write a Javascript to compare two passwords. (08 Marks)
- 6 a. With examples, explain the absolute and relative positioning of elements in Javascript. (08 Marks)
- b. Write a Javascript that illustrates dynamic stacking of images. (08 Marks)
- c. Explain the element visibility, with examples. (04 Marks)
- 7 a. What is document type definition (DTD)? Describe the approach to declare element entities and attributes. (10 Marks)
- b. Explain briefly an XML namespace. (04 Marks)
- c. Explain the purposes of XML processor. (06 Marks)
- 8 a. Explain the string functions of PERL, with examples. (06 Marks)
- b. Write a Perl program with use of arrays to read the names, convert them to uppercase letters and the array to be sorted and displayed. (06 Marks)
- c. With examples, explain how files are handled in Perl. (08 Marks)

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06CS74

Seventh Semester B.E. Degree Examination, June 2012

Embedded Computing Systems

Time: 3 hrs.

Max. Marks:100

Note: Answer FIVE full questions, selecting at least TWO questions from each part.

PART - A

- 1 a. Define an embedded system. Explain the components of embedded system hardware. (06 Marks)
- b. Point out major differences between Harvard and Von Neuman architecture. (04 Marks)
- c. Explain the various software tools for designing an embedded system. (08 Marks)
- d. Point out various applications of embedded system. (02 Marks)
- 2 a. Compare the advantages and disadvantages of data transfer using serial and parallel ports/devices. (10 Marks)
- b. Describe and compare UART, Rs232C, SDI_o devices. (10 Marks)
- 3 a. What is a timer? How does a counter perform :
 - i) timer functions?
 - ii) prefixed time initiated event generation?
 - iii) time capture functions? (10 Marks)
- b. Explain the following wireless and mobile system protocols :
 - i) Bluetooth
 - ii) Zig Bee (10 Marks)
- 4 a. What do you mean by throwing an exception? How is the exception condition during execution of a function (routine) handled? (10 Marks)
- b. What are the uses of hardware and software assigned priorities in interrupt service mechanism? (10 Marks)

PART - B

- 5 a. What are the different programming models? Give an example, explain the SDFG model. (10 Marks)
- b. What is a semaphore? What are the IPC functions used by a software programmer? Explain them. (10 Marks)
- 6 a. What is a process manager? What are its services? (06 Marks)
- b. What is RTOS? Point out and explain the various services of RTOS. (10 Marks)
- c. Explain the user and supervisory mode structure in OS. (04 Marks)
- 7 a. Explain preemptive scheduling model. Point out the various scheduling models. (08 Marks)
- b. What are the important operating system security issues? List the important security function. (04 Marks)
- c. What are the methods of optimizing memory space in RTOS? (08 Marks)
- 8 a. What is a target system? How is embedded software loaded into the target system? (10 Marks)
- b. What is a simulator? Illustrate the detailed design development process using a simulator. (10 Marks)

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06CS/IS753

Seventh Semester B.E. Degree Examination, June 2012
Java and J2EE

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, selecting at least TWO questions from each part.

PART – A

- 1 a. List and explain the characteristic features of java language. (08 Marks)
b. Briefly discuss about the java development tool kit. (07 Marks)
c. Explain the process of building and running java application program. (05 Marks)
- 2 a. Explain the constructor method. How it differs from other member function. (05 Marks)
b. What is an applet? Explain different stages in life cycle of an applet. (08 Marks)
c. What is a Java exception? Explain the exception handling mechanism with an example. (07 Marks)
- 3 a. Write short notes on modifiers :
i) Static
ii) Final
iii) Abstract
iv) Native (10 Marks)
b. What is a package? What are the steps involved in creating user defined packages? (10 Marks)
- 4 a. Discuss about swing features. List its components and containers. (10 Marks)
b. Develop an applet to create a label, a text field and 4 check boxes with the caption “red”, “green”, “blue” and “yellow”. (10 Marks)

PART – B

- 5 a. What are servlets? Explain the different stages in life cycle of a servlet Apl's. (08 Marks)
b. What is the role of Tomcat for servlet development? Explain the steps involved in configuring Tomcat web server. (07 Marks)
c. Explain the uses of cookies with programs. (05 Marks)
- 6 a. Briefly discuss about the various JDBC driver types. (10 Marks)
b. Write a program to display the current contents of a table in the data base. (10 Marks)
- 7 a. Write the differences between JSP and servlets. (03 Marks)
b. Explain the Javax servlet packages. (10 Marks)
c. Develop a simple servlet program that handles the HTTP request and response. (07 Marks)
- 8 a. Write a program using RMI (Remote Method Innovation) concept such as client and server program in which client sends hello message to server and server replies for the client. (12 Marks)
b. Write short notes on :
i) Session Java Beans
ii) Entity Java Beans. (08 Marks)

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