MET

INSTITUTE OF COMPUTER SCIENCE

UNIVERSITY QUESTION PAPERS (ICS)

EXAM PAPER NOV-2011

SEM-V

SR.NO	SUBJECT	REMARK
1	SOFTWARE TESTING	✓
2	WIRELESS TECHNOLOGY	✓
3	DISTRIBUTED COMPUTING	✓
4	ADVANCE WEB TECHNOLOGIES	✓
5	ELECTIVE - II	
*	LOGISTICS & SUPPLY CHAIN MANAGE	
*	MULTIMEDIA	✓
*	CYBER LAWS AND INTERNET LEGISLATURE	
*	KNOWLEDGE MANAGEMENT	
*	SERVICE ORIENTED ARCHITECTURE	
6	FOREIGN LANGUAGE	

MCA - Sem - IV - Nov - 2011.
Sub. Software Testing.
DATE:- 29/11/11.

AGJ 2nd half (q) 45

Con. 5765-11.

NS–3214

(3 Hours)

[Total Marks : 100

N.B. **(1) Question No.1 is compulsory**
(2) Answer any 4 of the remaining questions
(3) Figures to the right indicate full marks

1. (a) Generate decision table based test cases for web based company selling computers (CPU), printers (PR), Monitors (M), and additional Memory (RAM) for the purchase order: Monitors M20 and M23 can be purchased with any CPU or as a standalone item (for standalone no free items are available) but M30 can only purchased with CPU3 only. PR1 is available free with the purchase of CPU2 or CPU3. Monitors and printers, except for M30, can also be purchased separately without purchasing any CPU. Purchase of CPU1 gets RAM256 upgrade and purchase of CPU2 or CPU3 gets a RAM512 upgrade. The RAM1G and a free PR2 is available when CPU3 is purchased with MonitorM30. (15)
   (b) Explain the difference between testing and debugging (05)

2. (a) Explain general V-model and give your justification how does it impact software testing? (10)
   (b) Draw the CFG and design suitable Test Cases for White box testing from the following program for finding max of given 3 numbers. (10)

```
int find–maximum(int i,int j,int k){
        int max;
            if(i>j) then
                if(i>k) then max=i;
                else max=k;
            else if(j>k)  max=j;
                else max=k;
return (max); }
```

3. (a) How do retest and regression test differ? Why are regression tests especially important in incremental development? (10)
   (b) Define the terms validation and verification. Explain why verification makes sense, even when a careful validation is performed too and vice versa. (10)

4. (a) Explain the term static analysis. How are static analysis and reviews related? (10)
   (b) What makes reviews an efficient means for quality assurance? Which roles participate in a technical review? (10)

5. (a) Explain incident management in detail with the purpose of an incident status Model (10)
   (b) Explain cost and economy aspect of testing. (10)

6. (a) What are the different tool selection criteria? What steps should be taken when introducing a tool? (10)
   (b) Explain the role of testing in SDLC and Explain Fundamental test process. (10)

7. Write Short notes (Any **four**) (20)
   a. Data flow anomalies
   b. W-model
   c. Acceptance testing
   d. Agile methodology
   e. Difference between structural testing and OO testing

MCA Sem IV - Dec - 2011.
Sub: Wireless Technology.
DATE: - 1/12/2011.

Con. 5764-11.

NS-3220

(3 Hours) [Total Marks : 100

Note : (1) Question No.1 is compulsory
(2) Attempt any 4 from the remaining
(3) Figures on the right indicate full marks

Q1. (a) Explain the operation of a piconet in terms of the states of operation. Explain the inquiry and page procedure of the Bluetooth in piconet. (10)

(b) How is localization, location update, roaming done in GSM and reflected in the databases? What are typical roaming scenarios? (10)

Q2. (a) Why does WAP define its own security layer and does not rely on the security provided by the mobile phone network? Explain how WTLS provides a security between the mobile device and the WAP gateway. (10)

(b) Describe the different types of noise that will affect the wireless signal. Explain why WLL systems serve cells of a smaller radius. (10)

Q3. (a) Why FEC is necessary in wireless communication? What are convolution codes? Draw a shift register implementation and state diagram with values (3, 1, 2) (10)

(b) Discuss the architecture and services provided by IEEE 802.16 (10)

Q4. (a) Explain the J2ME architecture. List the limitations of J2ME. What profiles are supported by CLDC configuration? (10)

(b) List the benefits of using the spread spectrum. Describe the Direct Sequence spread spectrum in detail (10)

Q5. (a) Explain in detail IEEE 802.11 System architecture and discuss the services provided by 802.11 (10)

(b) Describe GSM architecture and its concept of physical channel (10)

Q6. (a) Why WEP is a weak algorithm? Discuss WPA and WPA2. (10)

(b) Describe Symbian OS features with its architecture (10)

Q7. Write short notes on any four of the following : (20)

(a) WCDMA
(b) Fading
(c) Frequency reuse
(d) WML Script
(e) XHTML

Distributed Computing - 3/10/2011.
MCA (Sem - V) Nov - 11.

5766-11. (REVISED COURSE) NS–3212

(3 Hours) [Total Marks : 100

N.B. 1) Question No. 1 is compulsory.
2) Attempt any four from remaining six questions.
3) All questions carry equal marks.

Q.1 A) Explain the following 15
1) False sharing
2) File models
3) Thrashing
4) System oriented names
5) Distributed operating system

B) How does binding agent work in client-server communication? 5

Q.2 A) What is the difference between Local Procedure Call (LPC) and Remote Procedure Call (RPC)? Explain RPC model with the help of diagram. 10

B) Explain the types of strong consistency models. How they differ from weak consistency models? 10

Q.3 A) What is ordered message delivery? Compare the various ordering semantics for message passing. Explain how each of these semantics is implemented. 10

B) 1) What is Orphan call? 5

2) A distributed system has three nodes, N1, N2, and N3, each having its own clock. Their clocks tick at 600, 750, and 820 times per millisecond, respectively. This distributed system uses an external clock synchronization mechanism in which all four nodes receive the real time every 30 seconds from an external time source to readjust their clock. Calculate the maximum clock skew which can occur in the system. 5

Q.4 A) What are the different address space transfer mechanisms used in the process transfer? 10

B) Differentiate between the SUN's Network File System (NFS) and Andrews File System (AFS). 10

Q.5 A) What is need of state information exchange among nodes in distributed system? Explain the various state information exchange policies for load balancing algorithms. 10

B) Explain the Ring algorithm with the help of a diagram. 10

Q.6 A) Explain advantages and disadvantages of distributed system. 10

B) 1) What are the differences between replication and caching? 5

2) How does a centralized manager algorithm finds data location in Distributed Shared Memory (DSM)? 5

Q.7 Write a short note on (any four) 20
1) Processor pool model
2) Munin distributed shared memory system
3) Happened before relationship
4) Desirable features of global scheduling algorithm
5) Mach distributed system

MCA-Sem-V-Dec-2011.
Sub. Advanced Web-Technology
DATE: 8/12/2011.

2nd Half-Exam -11 mina (a)

Con. 5925-11.

(REVISED COURSE)

NS-3217

(3 Hours)

[Total Marks : 100

N. B. : (1) Question No. **1** is **compulsory**.
(2) Answer any **four** questions from Q. **2** to **7**.
(3) **All** questions carry **equal** marks.

Q1. Write short notes on the following : 20
i) Search Engine optimization
ii) Software as service
iii) XSLT
iv) SOA

Q2. (a) What is DTD? Explain in detail about DTD. What is XML Schema? Explain in detail about XML Schema. 10
(b) What is session tracking? Explain in detail how it is achieved in Servlets. 10

Q3. (a) Write a JSP program which will allow user to register for the a job site. And save registration data into Oracle Database using thin driver. (Should not use bridge driver) 10
(b) Write down sample code to explain the following tags in JSP. 10
i) Directives ii) Declaration iii) Expression iv) Scriplets.

Q4. (a) Explain the architecture of .NET Framework. 10
(b) Explain the reference data type in C# 10

Q5. (a) Explain File handling in C# with an example. 10
(b) Explain Inheritance and polymorphism in C# with an example. 10

Q6. (a) Explain ASP.NET server controls in ASP.NET with suitable example. 10
(b) Write a C#.NET code which will interact with database and display emp table data in tabular format using stored procedure. 10
Emp table consists of eid varchar(10), ename varchar(20), sal number(10,2)

Q7. (a) What is Request Dispatcher. Explain with suitable example. 10
(b) Differentiate between (any two) : 10
(i) HTTPServlet and GenericServlet
(ii) Java and .NET
(iii) PostBack and CrossPage Posting.

Date=30/12/2011 MCA Sem V December 2011
Sub Elective II multimedia -

.nd Half-Exam.-11 mina (d).

Con. 6540 & (a) to (c)-11.

NS-3223 to 3226

(REVISED COURSE)

(3 Hours) [Total Marks : 100

N. B. : (1) Question No. **1** is **compulsory**.
(2) Answer any **four** questions out of remaining **six**.
(3) **Figures** to the **right** indicate **full** marks for the question.

Q.1. (a) State different parties involved in the supply chain and by giving appropriate examples explain the role of each party involved in the supply chain. 10
(b) Write short note on **any two**: (i) Demand planning and Forecasting. (ii) Inventory Models (ii) Role of Data Warehousing and Mining in SCM. 10

Q.2. (a) Describe in detail the cycle view of supply chain. Identify the cycles and location of push / pull boundary for supply chain involved when a customer purchases a book from a book store. 10
(b) Explain how the concept of inventory and inventory models have evolved over time in the process of procure management of supply chain. 10

Q.3. (a) Compare and contrast between: Conventional Business Models and VMI models. 10
(b) State and explain different elements an industry has to decide for a better packaging. Explain how marking and labeling play an important role in packaging. 10

Q.4. (a) Explain the role of Distribution networks in supply chain management. 10
(b) What are different transport formats and different modes of transportation? State and explain the points which form the basis of selection of a particular transportation mode. 10

Q.5. (a) Explain the role of IT and its different tools used in Business Industry. 10
(b) In the context of Supply Chain Logistics by giving suitable example explain how the "Distribution Management" occurs in it. 10

Q.6. (a) Define the term: benchmarking. Write a detailed note on suppliers and distributors Benchmarking. 10
(b) Differentiate between JIT and JIT-II system and explain JIT in detail. 10

Q.7. Write short notes on any four---- 20
(a) Traditional and modern approaches to SCM
(b) Trends in packaging
(c) E.O.Q.
(d) Fleet Management
(e) Risk Management in forecasting.
(f) Role of Data Warehousing and Mining in SCM.

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[TURN OVER

Con. 6540 (a) -11. 2 NS-3224

(3 Hours) [Total Marks : 100

N. B. : (1) Question No. 1 is **compulsory**.
(2) Attempt any **four** questions from the remaining **six** questions.

Q. 1. (a) what is compression? Explain in detail about entropy encoding with example. (10Marks)

(b) Explain Huffman encoding? Given a string, ADCEB. Characters A, B, C, D and E. (10Marks)

Have the following probability of occurrence. With given values generate a Huffman encoding tree.

Probability
p(A) = 0.16
p(B) = 0.51
p(C) = 0.09
p(D) = 0.13
p(E) = 0.11

Q.2. (a) Discuss in detail the applications of multimedia?(10Marks)

(b) Explain principles of animation and its various techniques in detail? (10Marks)

Q. 3. (a) Explain in detail bitmaps image and vector drawing image? (10Marks)

(b) Define MIDI and Digital Audio? Compare and contrast the use of MIDI And digitized audio in a multimedia production? (10Marks)

Q. 4. (a) Explain hot spots, hyperlinks and buttons. How they are typically used.(10Marks)

(b) Explain briefly the image file formats? (10Marks)

Q. 5. (a) Explain multimedia authoring tools and its different types in details.(10Marks)
(b) Discuss importance consideration involved in delivering a project and its benefits in details. (10 marks)

Q. 6. (a) Explain in detail the use of Multimedia Presentation and Conferencing? 10Marks
(b) Discuss the important role of Planning and Costing in Multimedia?(10Marks)

Q. 7. write the short notes on any four (20Mark)

(1) MPEG Standards.
(2) CBT.
(3) Alpha and beta testing.
(4) Digital sound sampling.
(5) Interlacing scanning

Con. 6540 (b) -11. 3 NS-3225

(3 Hours) [Total Marks : 100

N. B. : (1) Question No. **1** and question No. **8** is **compulsory**.
(2) Answer any **four** questions of the **remaining** questions.
(3) **Figures** to the **right** indicate **full** marks.

Q.1. Case Study: [10 marks]

A young lady named Samira Adjania found her profile in an online community named "1worldcom" on its website 1worldcom.net. Her surprise turned to horror when she realized that the profile painted her as a person of dubious character whose only interest was money. The profile also "boasted" of her achievements which included defrauding a bank of Rs.10 lakh and getting away with it. Samira immediately informed "1worldcom" of the posting and requested them to remove it. The posting was removed the next day but reappeared a week later. It was again removed but reappeared two days later. Deeply hurt, Samira filed a suit for defamation against "1worldcom". With reference to jurisprudence of defamation cases, examine the liability of "1worldcom."

Q.2. (a) What is the current and future contract law ? [10 marks]

(b) What is domain name dispute? Explain with an example. [10 marks]

Q.3. (a) What is electronic contract? What are its essentials? What is the attribution of electronic record? [10 marks]

(b) Which are the web related issues in trademark? [10 marks]

Q.4. (a) What is meaning of Trademark and mention IPR act for Trademark and its Statutory Authorities? What are its essential features? [10 marks]

(b) What is Cyber Squatting? Explain with an example. [10 marks]

Q.5. (a) Explain Various types of Cyber crime (any two) : [10 marks]

(b) What is Information Technology Act, 2000? List down the issues addressed by IT Act? [10 marks]

Q.6. (a) Define Tort Law. Explain the different categories a Tort can be classified into and the different damages covered under Tort Law. [10 marks]

(b) Which are non-patentable inventions? Procedures for obtaining Patent. [10 marks]

Q.7. (a) How technology and law related? What are its objectives? What are its challenges? [10 marks]

(b) How computer programs are infringed and what is a punishment for infringement? [10 marks]

Q.8. Write short Notes on: (Any Two) :— [10 marks]

(a) E-sign

(b) Internet Filtering

(c) Spam and Anti Spam Law

(d) Internet Taxation.

[TURN OVER

Con. 6540 (c) -11. 4 **NS-3226**

(REVISED COURSE)

(3 Hours) **[Total Marks : 100**

N. B. : (1) Question No. **1** is **compulsory**.
(2) Answer any **four** questions from Q. 2 to Q. 7.
(3) **Figures** to the **right** indicate marks.
(4) Assume any **additional** information but **justify** the **same**.

Q.1. (a) Write a note on: 10
(i) Technologies used for SOA
(ii) Characteristics and benefits of SOA.
(b) Describe the step by step process followed for service oriented analysis and Design 10

Q.2. (a) Compare and contrast between: SOA and Client Server Architecture, Distributed Internet Architecture 10
(b) Explain the features of Contemporary SOA and describe how SOA has evolved over time. 10

Q.3. (a) State and explain the common pitfalls for adoption of SOA. 10
(b) What is WSDL? Describe the role of web services using WSDL. 10

Q.4. (a) Explain the service activities and how the coordination between them occurs in the context of SOA activity management and composition. 10
(b) Explain the primitive Message Exchange Patterns of web services in relation with SOAP, WSDL and SOA. 10

Q.5. (a) Write a note on: Orchestration and choreography performed in Web Services 10
(b) In the context of Web services, explain (i) Addressing (ii) Correlation. 10

Q.6. (a) Outline the features of SOA governance and its challenges. 10
(b) Explain with a neat labeled diagram different components of SOA and their Functionalities. 10

Q.7. (a) Write a detailed note on: 10
(i) Service Orientation and its Common Principles.
(ii) Security specifications used in SOA
(b) Describe three Service Layer Abstractions in SOA. 10

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