MCA/Sem. V (CBSGS)/Adv. Web. Technology & Dot Net/Nov.17

**Q. P. Code: 22730**

**(3 Hours)** **[Total Marks: 80]**

**N.B.: (1) Question No.1 is compulsory.**
**(2) Attempt any four questions from Q.2 to Q.7.**

1. Write a note on**(any four)** 20
   (a) Generics in C#
   (b) ASP.NET Server control
   (c) ViewState
   (d) Assemblies
   (e) Search Engine Optimization

2. (a) What is Web Service? Explain UDDI, SOAP and WSDL with respect to web services. 08
   (b) What is Static Constructor? Explain significance of Static constructors in C# with example. 07

3. (a) What is ADO.NET? Explain different components of ADO.NET. 08
   (b) What is WCF? Explain WCF endpoints. 07

4. (a) Explain directory, directory info, file, file info classes in detail. 08
   (b) Explain validation controls in ASP.NET with examples. 07

5. (a) Explain the Page Life Cycle of an ASP.NET page with an example. 08
   (b) What is Semantic Web? Explain RDF and OWL in detail. 07

6. (a) What is AJAX? Explain Timer control and Update Panel Control with suitable example. 08
   (b) Explain architecture of .NET framework. 07

7. Differentiate between the following**(Any three)** 15
   (a) J2EE and Dot NET
   (b) Reference type & Value type
   (c) In Process and out process state Management in ASP.net
   (d) Postback and CrossPage Posting

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MCA | Sem-V (CBSGS) | Wireless & Mobile Technology |

**Q. P. Code: 24104** NOV-17

[Marks: 80] [Time: 3 Hours ]

a) Question No. 1 is compulsory.
b) Attempt **any four** from the remaining six questions.
c) Assumptions should be made whenever required and should be clearly stated.
d) Answers to sub questions should be answered together.
e) Illustrate answers with diagrams wherever necessary.
f) Use of Calculators is permitted.

| | | | |
|---|---|---|---|
| Q1 | A | What is international roaming? How dos the GSM handle to reduce the tromboning effect? | 10 |
| | B | What are the advantages of Spreading the Spectrum? Explain and differentiate the various types of spreading the spectrum | 10 |
| Q2 | A | Discuss the various error correction codes used in wireless communication? Explain convolution codes with a suitable example | 8 |
| | B | Explain the Standard of Bluetooth? Draw the state diagram and discuss the various states that a Bluetooth enable device can enter into. | 7 |
| Q3 | A | Explain the various methods used in MAC layer in IEEE 802.11 to govern access to the common communications channel | 8 |
| | B | Define handoff and the various methods by which handoff can occur | 7 |
| Q4 | A | What is mobile number portability? How is the call setup done from and to a ported number in GSM | 8 |
| | B | Discuss the IEEE 802.16 standard | 7 |
| Q5 | A | The TCP used in the fixed networks cannot be adapted in the wireless communications without any modifications. Comment<br>What are the modifications done to the traditional Transport layer protocols | 8 |
| | B | What are MANETS? Analyze the routing algorithms used in the MANETS? | 7 |
| Q6 | A | Define free space loss. Suppose a transmitter produces 70W of power.<br>(i) Express the transmit power in dBW.<br>(ii) If the transmitter's power is applied to unity gain antenna with a 800 MHz carrier frequency, what is the received power at a free space distance of 100m? | 8 |
| | B | Discuss the various type of channels used by the GSM for traffic and control information | 7 |
| Q7 | A | Write Short Notes on ***any three*** :-<br>a) Frequency reuse<br>b) Fading<br>c) iMode<br>d) WAP | 15 |

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MCA | Sem-V (CBSGS) | Soft Computing | Nov-2017

**Q.P. Code :02867**

**[Time: Three Hours]** **[ Marks:80]**

Please check whether you have got the right question paper.

N.B:
1. Question.No.1 is compulsory.
2. Attempt any four from the remaining six questions.
3. Use of calculator is allowed.

Q.1 (a) Explain various types of crossover techniques in Genetic Algorithm. (05)

(b) Explain with suitable example set of operations performed on fuzzy interval. (05)

(c) Explain in brief supervised learning network. (05)

(d) What is soft computing? List the applications of soft computing. (05)

Q.2 (a) Explain in brief any three fuzzy decision making techniques. (08)

(b) Determine the λ-cut sets for the given fuzzy sets: (07)

$$A = \left\{\frac{0.45}{10} + \frac{0.55}{20} + \frac{0.65}{30} + \frac{0.7}{40} + \frac{1.0}{50}\right\}$$

$$B = \left\{\frac{0}{10} + \frac{0.65}{20} + \frac{0.8}{30} + \frac{0.35}{40} + \frac{0.5}{50}\right\}$$

Find the following for λ = 0.3 and 0.6

1. A ∩ B 2. $A \cup B$ 3. $\overline{A \cup B}$ 4. $\overline{A}$ 5. $\overline{A} \cup \overline{B}$ 6. $A \cap \overline{A}$ 7. $\overline{A \cap B}$

Q.3 (a) Explain in brief the architecture of Fuzzy Logic Controller (FLC). (08)

(b) Explain in detail different types of neuron connection architecture. (07)

Q.4 (a) What is fuzzification? Explain in brief any two methods of membership value assignments. (08)

(b) Implement AND function using perceptron network for bipolar inputs and bipolar targets. (07)
( Initial values are w1 = w2 = b =0, learning rate=1, threshold =0.2)

Q.5 (a) The athletic race was conducted. The following membership functions are defined based the speed of athletes: (08)

$$Low = \left\{\frac{0}{100} + \frac{0.1}{200} + \frac{0.3}{300}\right\}$$

$$Medium = \left\{\frac{0.5}{100} + \frac{0.57}{200} + \frac{0.6}{300}\right\}$$

TURN OVER



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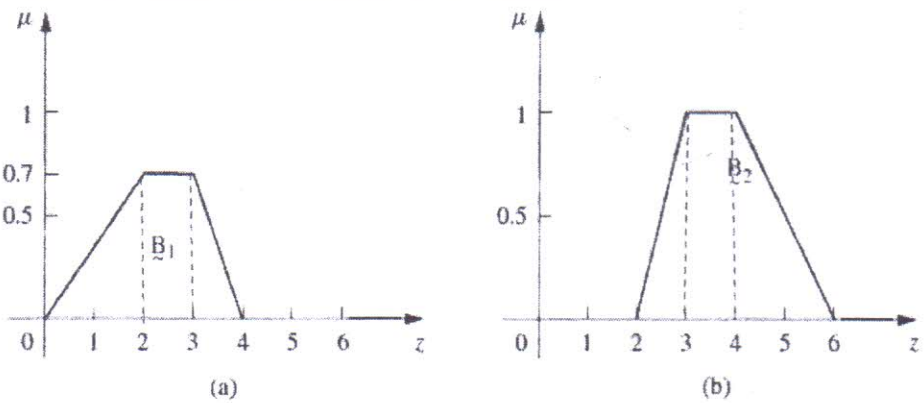
$$High = \left\{\frac{0.8}{100} + \frac{0.9}{200} + \frac{1.0}{300}\right\}$$

Find the following:
R=Low X Medium
S= Medium X High
T=RoS using Max-min composition
M=R•S using Max-product composition

(b) What is Fuzzy Inference system (FIS)? Explain it along with its types. (07)

Q.6 (a) Differentiate between the following (any two) (08)
1. Biological Neural Network and Artificial Neural Network
2. Genetic Algorithm and Traditional algorithm
3. Hard Computing and Soft Computing

(b) For the given membership function as shown in figure below, determine the defuzzified value by centroid method and weighted average method (07)




Q.7 Write Short Notes on ***any three*** :- (15)
1. Fuzzy measures
2. Associative memory networks
3. Extension principle
4. Fuzzy set operations
5. Travelling salesman problem using GA approach

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MCA / Sem - V / CBSGS / Distributed Computing & Cloud Computing / NOV-2017

**Q.P. Code: 22618**

**3 HOURS** **Total Marks: 80**

N.B. 1. Question No. **1** is **compulsory.**

2. Answer **any FOUR** from the remaining SIX questions

3. Figures to the right indicate full marks.

1. a) Discuss the issues in Designing and implementing DSM systems. **(10)**
   b) What are the benefits of cloud models? Explain in details. **(10)**

2 a) What do you mean by client-server binding? What is the role of binding agent in locating a server? **(8)**
   b) Explain different types of consistency models. **(7)**

(07)

3 a) What is ordered message delivery? Explain how each of these semantics is implemented. **(8)**

(08)

   b) A clock of a computer system must never run backward. Explain how this issue can be handled in an implementation of logical clocks concepts. **(7)**

4 a) Discuss Service Oriented Architecture (SOA).What are its benefits? **(8)**

(07)

   b) Explain pre-emptive process migration. What are different address space transfer mechanisms used in process transfer? **(7)**

5 a) What is a Stub? Explain. **(8)**
   b) What are the Load Balancing transfer policies used for distributed systems **(7)**

6 a) Discuss SaaS, PaaS and IaaS along with their relative benefits **(8)**
   b) Write short note on Distributed System Transparency. **(7)**

7. Attempt any **Three** of the following :- **(15)**

   a) Differentiate between Workstation – Server Model and Processor – Pool Model
   b) Differentiate between Grid Computing and Cloud Computing
   c) Differentiate between Full File caching and Block caching Models for Data Caching Mechanism.
   d) Write a note on DCE.

(15)

   e) What are threads? How they are different from processes.

MCA-I Sem-IV (CBSGS) / Cyber Security / NOV-2017

Q.P.Code:18006

(3 Hours) **Total Marks: 80**

**N.B.: (1) Q. No. 1 is compulsory.**
**(2) Attempt any four from Q.2 to Q.7.**
**(3) Figures and diagrams to right indicate marks.**
**(4) All sub questions should be grouped and answered together**

1. A. In Los Angeles USA four men were charged with fraud for allegedly installing computer chips in gasoline pumps that cheated consumers by overstating the amounts of gasoline pumped. **10**
The problem came to light when an increasing number of consumers claimed that they had been sold more gasoline than the capacity of their gas tanks! However, the fraud was difficult to prove initially because the perpetrators programmed the chips to deliver exactly the right amount of gasoline to the consumers who asked for five- and 10-gallon amounts (precisely the amounts typically used by inspectors).

1. Under which category of cyber crime(s) does the above case fall?
2. What precautions must the owners of the website take to avoid such incidents?
3. Under which section(s) of ITA 2000 act can the criminals be booked for the above crime? Name the sub-section.
4. What penalty would the criminals face under ITA 2000 Act?

B. What is social media marketing? Explain the tools/website that are used by organizations for social media marketing? What are the best practices to be used with social media marketing? **10**

2. A. What is data diddling attack? Explain data diddling with 2 case studies. **8**
B. What is a virus, worm and Trojan? Explain the different types of viruses in detail. **7**

3. A. Explain in detail phishing, mishing, vishing and smishing with illustrations. **8**
B. Explain Children's Online Privacy Protection Act (COPPA) in detail. **7**

**TURN OVER**

| | | | |
|---|---|---|---|
| 4. | A. | What is the types and techniques of credit card frauds. | 8 |
| | B. | Explain in detail the ways of securing of mobile phones. | 7 |
| 5. | A. | What is steganography? Explain with examples. What are the different steganographic tools. Explain steganalysis. | 8 |
| | B. | Explain at least 5 password cracking tools. What are the General guidelines of password policies that can be implemented organization-wide? | 7 |
| 6. | A. | What are the benefits from Incident Response Systems? Name few checklists that are useful in handling incident response work in the organization. | 8 |
| | B. | Explain in detail Intellectual Property Rights (IPR) and copyrights along with a case study. | 7 |
| 7. | | Write Short notes on (**any three**):<br>1. Electronic signature and Digital signature.<br>2. Types of ID theft.<br>3. ITA 2000 Act.<br>4. SQL injection technique. | 15 |

MCA / Sem-V (CBSGS) / Multimedia Technology / Nov-2017

**Q. P. Code: 20827**

**( 3 Hours)** **Total marks-80**

**N.B** (1) Question NO.1 is compulsory.
(2) Attempt any **four** from remaining **six** questions.
(3) Illustrate answers with neat sketches wherever required.
(4) Answers to question should be grouped and written together.

| | | | |
|---|---|---|---|
| **Q1** | **(a)** | What is Multimedia? Explain various elements of Multimedia? | **10** |
| | **(b)** | A video can have duration (T) of 1 hour, a frame size of 640*480 at a color depth of 24 bits and a frame rate of 25 fps.calculate the video size? | **10** |
| **Q2** | **(a)** | Explain in detail various principles of Animation? | **8** |
| | **(b)** | Explain in detail Bitmap image and vector Drawing image? | **7** |
| **Q3** | **(a)** | What is MIDI and Digital audio? Compare and contrast the use of MIDI and digitized audio in Multimedia application? | **8** |
| | **(b)** | Explain the roles and responsibilities of all the Multimedia team members? | **7** |
| **Q4** | **(a)** | Explain Multimedia authoring tools and its different types in detail? | **8** |
| | **(b)** | Discuss different types of Multimedia structures? How they are organized? | **7** |
| **Q5** | **(a)** | Explain the process of making Multimedia? | **8** |
| | **(b)** | A message consisting of 5 different symbols ABCDE .The symbol frequencies are A-24 ,B-12,C-10,D-8,E-8. Generate a Huffman code tree and how many bits are required to transmit the complete string ABCDE. | **7** |
| **Q6** | **(a)** | Discuss the important role of planning and costing in Multimedia? | **8** |
| | **(b)** | What is compression? Explain JPEG compression process in Detail? | **7** |
| **Q7** | | Write short notes on any three. | **15** |
| | **(a)** | Image file format | |
| | **(b)** | Animation Techniques | |
| | **(c)** | Entropy encoding Run length | |
| | **(d)** | CBT | |
| | **(e)** | Alpha and Beta testing | |

MCA / Sem I (CBSGS) / Software Quality Assurance / NOV 2017

Q.P. Code: 25827

[Total Marks : 80]

(3 Hours)

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

**1.** (a) Explain the concept and characteristics of quality. What are the factors affecting the software quality? **(10)**

(b) What are Hierarchical Models of Quality? Explain James McCall's Quality Model **(10)**

**2.** (a) Define and explain SQA. What are the various activities involved in SQA? **(07)**

(b) Explain SEI's CMM in details and differentiate with ISO 9000/9001. **(08)**

**3.** (a) Explain Isikawa's 7 basic tools of quality in details **(07)**

(b) Explain role of four P's in project development and management. **(08)**

**4.** (a) What are elements of Quality Engineering? Explain each in brief. **(07)**

(b) Explain Statistical Quality Assurance in detail. **(08)**

**5.** (a) Explain Goal Questions Metric (GQM) approach in detail. **(07)**

(b) Explain Zero Defects software development with its principle and practices. **(08)**

**6.** (a) How human quality culture is the key to quality management? **(07)**

(b) Explain measures and metrics of software quality. **(08)**

**7.** Write Short Notes on ***any three*** :- **(15)**

a) COQUAMO
b) FURPS+ Model
c) QFD
d) Six Sigma

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