Exam. Code : 206704
Subject Code : 4644

M.Sc. (Computer Science) Semester—IV

MCS–401 : ADVANCED WEB TECHNOLOGIES USING ASP.NET

Time Allowed—3 Hours] [Maximum Marks—100

Note :— Attempt any **FIVE** questions. All questions carry equal marks.

1. Explain the following validation controls with examples :
   (a) Compare validator
   (b) Custom validator
   (c) Range validator
   (d) Regular Expression validator.
2. Write an ASP page to allow the user to enter his/her age (numeric value between 1 and 99). Apply proper validations and generate required error messages in case. The field is mandatory.
3. Design a form and write code to :
   (a) Populate and display item's names in a dropdown list.
   (b) Select an item from dropdown list and display its details in underlying text boxes.
   (c) Add a record.
   (d) Delete selected record.

   Use connected architecture. Name of Table : ItemMaster (ItemNo. Name, Description, Unit of Measure, Price); Name of Server : MyAspDB (SQL Server).

4. Explain ADO.NET object model with a suitable diagram.

5. Create an application that displays data from the Students table in a DataGridView and then displays the selected student's marks in the same DataGridView when a button is clicked.

6. What are database objects ? Explain how database objects are built with the .NET framework.

7. Briefly explain session state and session events.

8. Write short notes on the following :

   (a) Rich controls

   (b) Browser cookies.

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M.Sc. (Computer Science) Semester—IV

MCS–403 : OBJECT ORIENTED MODELING, ANALYSIS AND DESIGN

Time Allowed—3 Hours] [Maximum Marks—100

Note :— Attempt any **FIVE** questions. All questions carry equal marks.

1. Discuss in detail the features of OMT methodology. 20

2. Discuss in detail the following :
   (a) Collaborations
   (b) Hierarchy Graphs
   (c) Collaboration Graphs
   (d) Subsystems. 4×5=20

3. Write short notes on the following :
   (a) Meta Data
   (b) Meta Models
   (c) Pseudo Code
   (d) ONN Constructs. 4×5=20

4. Discuss in detail the functional model. 20

5. Discuss in detail object modeling. 20

6. Explain the following concepts :

   (a) Data dictionary

   (b) Dynamic model

   (c) Functional model. 20

7. What are the various issues involved in implementation of the system ? Explain. 20

8. Discuss in detail the system design phase. 20

Exam. Code : 208604
Subject Code : 4692

M.Sc. Information Technology Semester—IV

ADVANCED JAVA TECHNOLOGY

Paper–MIT–401

Time Allowed—3 Hours] [Maximum Marks—100

Note : Attempt any **five** questions. All questions carry equal marks.

I. Write notes on :
   (a) Byte Streams
   (b) Character Streams
   (c) Serialization.

II. Write note on Synchronization.

III. What do you mean by Applet ? Explain Applet Architecture.

IV. What do you mean by Event ? Explain the Delegation Event Model.

V. Explain AWT with an example.

VI. Write notes on the following :
   (a) Cookies
   (b) Session
   (c) Listener

VII. Explain the life cycle of Java Servlet.

Exam. Code : 208604
Subject Code : 4693

M.Sc. (Information Technology) Semester—IV

MIT–402 : NETWORK SECURITY

Time Allowed—3 Hours] [Maximum Marks—100

Note :— There are **EIGHT** questions, attempt any **FIVE** questions, each question carries **20** marks.

1. What is defense in depth ? Explain various layers that can be part of defense in depth.
2. How rejected traffic can be tracked ? Which are various problems with packet filters ?
3. Which are various pros and cons of proxy firewalls ? Explain various tools of proxying.
4. Explain various perimeters to be considered for developing an effective security policy.
5. What is meaning of Intrusion Detection ? What is role of Network Intrusion Detection in Network Security ? Explain IDS Sensor Placement.
6. Explain various challenges of host defense components.
7. Explain various design elements for Premier Security.
8. Write short notes on the following :
   (a) VLAN Based Separation
   (b) NIPS
   (c) Cisco ACL.

23/05/17

Exam. Code : 208604
Subject Code : 4694

M.Sc. (Information Technology) Semester—IV

MIT–403 : ARTIFICIAL NEURAL NETWORKS

Time Allowed—3 Hours] [Maximum Marks—100

Note :— Attempt any **FIVE** questions.

1. (a) What is Artificial Neural Network ? Explain the basic model of an artificial neuron. 10

   (b) Explain the various possible architectures for a neural network. 10

2. (a) Discuss the classification of neural network learning rules in detail. 12

   (b) Explain the LMS algorithm. 8

3. Explain the Rosenblatt's Perceptron model in detail and also discuss why this model cannot handle tasks which are not linearly separable. 20

4. (a) Explain pocket learning algorithm without ratches. 10

   (b) Discuss linear machines learning algorithm. 10

5. Explain Hopfield model and its applications in detail. 20

6. What is Stability-Plasticity Dilemma ? Explain the architectures of ART1 and ART2 networks. 20

7. Explain back-propagation learning in detail and also write the algorithm for back-propagation learning. 20

8. (a) Compare the performance of Artificial neural network and biological neural network in terms of speed of processing, size and complexity, storage, fault tolerance. 10

   (b) Write various applications of back-propagation learning. 10