

**INSTITUTE OF AERONAUTICAL ENGINEERING**  
(AUTONOMOUS)

Code No: BCS204

**MODEL QUESTION PAPER - II**

M.Tech I Semester Regular Examinations - Feb 2017

**ADVANCED WEB TECHNOLOGIES**

(Computer Science and Engineering)

Time: 3 hours

Max. Marks: 70

Answer ONE Question from each Unit

All Questions Carry Equal Marks

All parts of the question must be answered in one place only

.....

**UNIT – I**

1. (a) How to locate any element in an HTML document and also explain how to access the attributes of an element with an example. [6M]
- (b) Create a HTML document that includes 2 rows of frames with 2 frames in each row. The two left frames must occupy 25% of the width of the display. The bottom 2 frames must occupy 40% of the height of the display. The top left frame must display the name of your mother and all of his siblings (min 2). The bottom left frame must display the name of your father and all of his siblings (min 2). Each name in the left frames must be a link to a document that is displayed in the right frame when the link is selected. The document in the right frames is short descriptions of the people. [8M]
- 2 (a) Write a HTML Program to demonstrate different forms of Lists- Ordered, Unordered, Nested and descriptions lists and also make use of CSS for form. [8M]
- (b) Explain selector and declaration block of CSS syntax and also discuss the different methods of incorporating style information. [6M]

**UNIT – II**

- 3 (a) Write a servlet that sends the first 9 requests to washingtonpost.com (an organization that uses servlets and JSP extensively, by the way), the next request to nytimes.com, and then repeats. That is, every tenth request should get sent to nytimes.com and the rest should get sent to washingtonpost.com. Don't just use probabilities (i.e., don't compare Math.random to 0.9); actually count the overall requests. So, for example, if the server received between 1000 and 1009 overall requests since last being booted, exactly 100 of them should have sent users to nytimes.com, and the rest should have sent users to washingtonpost.com. [9M]
- (b) Explain how the information will be transformed from browser to web server with simple servlet program. [5M]
- 4 (a) How to keep track of a sequence of related request sent by a client to perform some designated task, explain with example. [6M]
- (b) Write a servlet that displays the values of the first name, last name, and email address request parameters. If a parameter is missing and the client is a first-time visitor, have the servlet list "Unknown" for the missing values. If a parameter is missing and the client is a repeat visitor, have the servlet use previously-entered values for the missing values. [8M]

**UNIT - III**

- 5 (a) Write a JSP application comprising of two parts. The page "CollectUserInput.jsp" provides three fields which enable the user to specify input for a random number experiment: the number of trials N trial, the minimum random number Nmin, and the maximum random number Nmax. By clicking the "Submit" button, the [9M]

- “EvaluateRandomNumberExperiment.jsp” page is requested. This JSP presents these numbers, performs an experiment where N Trial random numbers between Nmin and Nmax are drawn and lists the relative frequencies (how often this number was drawn in percent) for all numbers between Nmin and Nmax.
- (b) How to separate business logic from presentation logic and also explain how instantiate a bean object, assign a value and retrieves the value from bean object. [5M]
- 6 (a) Make a very simple online banking application using MVC that collects a customer ID and outputs the first name, last name, and bank account balance of the customer with that ID. It should give an error page for an unknown ID. [7M]
- (b) Explain the process of passing control from one page to another and how to passing data from one page to another. Illustrate with example. [7M]

#### UNIT – IV

- 7 (a) Make a struts application that lets users select a preferred health plan. The HTML form should gather the employee name, employee ID, and the name of the health plan selected, gather information form user, if all three data present, display “We Are Honored to Have You in Our Plan” otherwise display, “Missing Name”, “Missing ID”, or “Missing Plan Name”. [8M]
- (b) How to ensure that user entered data is correct, explain different methods of data validation with examples. [6M]
- 8 (a) Write struts program such that it stores each query in a database and checks the database first for the result. If the query is already available in DB it returns the value that was previously computed or it computes the result and returns it after storing the new query and result in DB. [7M]
- (b) Explain how to use a single Action class to process related operation where each button, which has a localized value, on a form corresponds to a specific method in the Action class. [7M]

#### UNIT - V

- 9 (a) Explain the task centric business services and utility services in Service Oriented Architecture? [6M]
- (b) What is basic idea behind service oriented design? Explain different service interface design tools. [8M]
- 10 (a) Explain how SOA can be compared to client server architecture and explain principles of services orientation in details. [6M]
- (b) Write a complete procedure for web service interoperability for java and .Net client application for an axis web service. [8M]