INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal, Hyderabad - 500 043

INFORMATION TECHNOLOGY

TUTORIAL QUESTION BANK

Course Name	:	**Web Technologies**
Course Code	:	**A60512**
Class	:	III B. Tech II Semester
Branch	:	Information Technology
Year	:	2017 – 2018
Course Faculty	:	Mr. A Krishna Chaitanya, Associate Professor, IT.

OBJECTIVES

To meet the challenge of ensuring excellence in engineering education, the issue of quality needs to be addressed, debated and taken forward in a systematic manner. Accreditation is the principal means of quality assurance in higher education. The major emphasis of accreditation process is to measure the outcomes of the program that is being accredited.

In line with this, Faculty of Institute of Aeronautical Engineering, Hyderabad has taken a lead in incorporating philosophy of outcome based education in the process of problem solving and career development. So, all students of the institute should understand the depth and approach of course to be taught through this question bank, which will enhance learner's learning process.

S. No.	Questions	Bloom's Taxonomy Level	Course Outcome
	UNIT – I		
	Part-A (Short Answer Questions)		
1	What is PHP?	Remember	2
2	What is the difference between $name and $$name?	Understand	2
3	What are the differences between Get and post methods.	Understand	2
4	How can we create a database using PHP and MySQL?	Remember	7
5	Which programming language does PHP resemble to?	Understand	2
6	How can we get second of the current time using date function?	Understand	3
7	List out the predefined classes in PHP?	Understand	3
8	What type of inheritance that PHP supports?	Remember	2
9	What are the advantages/disadvantages of MySQL and PHP?	Understand	7
10	How will you concatenate two strings in PHP?	Remember	2
11	How do you get ServletContext reference inside Servlet?	Understand	2
12	Which open source tag library have you used?	Remember	2
13	What are the differences between GET and POST method in HTTP protocol?	Understand	1
14	List different types of statements in JDBC?	Remember	7
15	Define different types of JDBC drivers?	Understand	7
	Part –B (Long Answer Questions)		
1	What are the different types of errors in PHP?	Understand	2
2	What is the functionality of the function strstr and stristr?	Remember	2
3	Explain about various data types in PHP.	Understand	2

4	Explain about Arrays in PHP.	Understand	2
5	List and Explain the string functions in PHP.	Remember	2
6	List the statements that are used to connect PHP with MySQL.	Understand	7
7	How PHP is different from PHP Script? Explain.	Remember	3
8	Explain PHP form processing with an example.	Understand	2
9	How can I retrieve values from one database server and store them in other database server using PHP?	Remember	7
10	What are the differences between Get and post methods in form submitting. Give the case where we can use get and we can use post methods?	Understand	3
11	How do you get ServletContext reference inside Servlet?	Remember	2
12	Which open source tag library have you used?	Understand	2
13	What are the differences between GET and POST method in HTTP protocol?	Remember	2
14	List different types of statements in JDBC?	Remember	7
15	Explain different types of JDBC drivers?	Understand	7
Part –C (Problem Solving And Critical Thinking Questions)			
1	List and Explain PHP development framework	Understand	2
2	Explain about database connectivity with PHP with suitable examples.	Understand	2
3	How strings are declared in PHP? Explain string operators.	Remember	2
4	How array is declared in PHP. Also explain various types of array with proper examples.	Remember	2
5	Build simple calculator using PHP.	Understand	2
6	Build a program using PHP that creates the web application for result publication	Remember	2
7	Build application to send a email using PHP	Understand	2
8	Build a shopping cart application using PHP with use of cookies.	Remember	2
9	Explain about the control statements in PHP with example.	Understand	2
10	Explain about cookies in PHP with example.	Understand	2
9	Explain how to override service () method?	Understand	2
10	List the methods defined in HttpServletRequest?	Remember	2
11	Create user validation web application, where the user submits the login name and password to the server. The name and password are checked against the data already available in Database and if the data matches, a successful login page is returned. Otherwise a failure message is shown to the user.	Understand	7
12	Create a simple calculator web application that takes two numbers and an operator (+, -,/,*and %) from an HTML page and returns the result page with the operation performed on the operands.	Remember	2
13	Create a web application that takes name and age from an HTML page. If the age is less than 18 it should send a page with "Hello <name>, you are not authorized to visit the site "message, where <name> should be replaced with the entered name. Otherwise it should send "Welcome <name> to this site " message.	Understand	2
14	Create a web application takes a name as input and on submit it shows a hello <name> page where <name> is taken from the request. It shows the start time at the right top corner of the page and provides a logout button. On clicking this button it should show a logout page with Thank You <name> message with the duration of usage (hind: Use session to store name and time).	Remember	2

	Write a servlet that displays the values of the firstName, lastName and emailAddress 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 ismissing and the client is a repeat visitor, have the servlet use previously-entered values for the missing values.	Understand	2

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UNIT-II

Part-A (Short Answer Questions)

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1	Define XML? What are the advantages of xml?	Remember	3
2	List the XML syntax rules in detail.	Remember	3
3	Define an xml scheme show how an XML Scheme can be	Remember	3
4	Describe about XML parsers?	Understand	3
5	Define how it is different from HTML?	Remember	3
6	Classify the purpose of XML schema?	Understand	3
7	List out the advantages of schema over DTD?	Remember	3
8	How are web servers and web browsers related?	Understand	3
9	What are all the xml language basics?	Understand	3
10	What is X-Path?	Remember	3
11	What are the advantages of schema over DTD?	Understand	3
12	What is the difference between mail server and web server?	Understand	3
13	What the three flavors of Document Type declaration?	Understand	3
14	List out the three flavors of Document Type declaration?	Remember	3
15	Distinguish between SAX AND DOM?	Remember	3

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Part –B (Long Answer Questions)

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1	Explain and show how XML is useful in defining data for web applications.	Understand	3
2	Explain the various terms related to Document Type Definition.	Understand	3
3	What are all the xml language basics? What do you mean by entity, explain them with an example?	Remember	3
4	What is the role of xml?	Remember	3
5	Design an XML schema for hospital information management. Include every feature available with schema.	Remember	3
6	Explain how styling XML with cascading style sheets is done for the library information domain.	Understand	3
7	List and Explain the important features of XML which make it more suitable than HTML for creating web related services.	Understand	3
8	Define an xml scheme to show how an XML Scheme can be created	Remember	3
9	Define Attributes in XML .Also different types of attributes	Remember	3
10	List the elements in XML .Also different types of content of Elements.	Remember	3
11	How do you define the elements of an XML document in an XML Schema?	Remember	3
12	How do you set default and fixed values for simple Elements?	Remember	3
13	Create a XML document to store visitor's information with fields like Name, Organization, Date and Time of arrival, contact number. Create a DTD to validate the document	Understand	3
14	Create a XML document to prepare a table for employee with fields like Employee Name as E-Name, Employee ID as EID and employee salary as E-Salary.	Remember	3
15	Explain the working of XML processors in detail. Also mention the purpose of XML processors.	Understand	3

	Part –C (Problem Solving And Critical Thinking Questions)		

1	Build an XML File using the following information structure including DTD section appropriately:-
	
	<Accounting>
	  <Inventory>
	    <Inventory_item>
	  <Invoices>
	    <Invoice>
	    <Item>
	  <Sales>
	
	Note:
	a) Inventory_Item has an attribute namely id (Required).
	b) Inventory_Item, Item & Sales can be Emptytoo.
	c) Item has 3 attributes namely id (Required), qty & price. Sales has an attribute namely ids (Required).
		Understand	3

2	Convert the given information into a XML file and then convert this XML File data into HTML file as it is. | Roll No.	Name	Subject	Marks | |---|---|---|---| | 11 | Ram | Web Tech | 78 | | 12 | Shyam | DBMS | 65 | | 13 | Krishna | SE | 82 |	Understand	3
3	Define the Document type Definition (DTD) in XML. What is difference between Internal and External DTD?	Remember	3
4	What do you mean by XML? What are its Differences and similarities from HTML & CSS? Also explain the concept of Entities & Attributes in XML?	Understand	3
5	Build a document with two links to an external document. The first link should lead to the beginning of the external document. The second link should lead to a particular section in the external document.	Remember	3
6	How to write and read XML documents and How XML structures documents?	Remember	3
7	How and why XML was developed. typical applications of XML, with examples	Understand	3
8	Build XSLT code to display Employee details in a table from which is stored in XML.	Remember	3
9	Explain how data types are represented in XML Schema.	Understand	3
11	Write an application to create a XML document from a university employee database .The XML document should contain the following: i) Employee code ii) Employee Name iii) Designation iv) Address v) Department iv) The last twelve month performance summary	Understand	3

12	Write an XML DTD to represent the Grade Card of a student which contains: (i) Name- Last, Middle, and First (ii) Subjects- Five subjects (iii) Assignments marks (iv) Total Marks Result- Pass/Fail	Remember	3
13	Write a simple XML program to manage simple contact list which uses a data island as data source for an HTML table.	Understand	3
14	Enumerate how XML parsers build tree structures from XML documents.	Understand	3
15	Discuss the relationship between XML documents, DTDs, Parsers and applications.	Remember	3

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UNIT III

Part-A (Short Answer Questions)

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1	List out difference between web server and application server?	Remember	1
2	Which HTTP method is non-idempotent?	Remember	1
3	Differentiate between GET and POST method?	Understand	1
4	List out MIME Types?	Remember	1
5	Discuss the web application and what is its directory structure?	Remember	1
6	Discuss about Servlet?	Understand	6
7	List out various phases of Servlet life cycle?	Remember	6
8	Build a Servlet program to illustrate parameter reading and parameter initializing. ?	Understand	6
9	Define how to override service () method?		6
10	List the methods defined in HttpServletRequest?	Remember	6
11	How do you get ServletContext reference inside Servlet?	Understand	6
12	Which open source tag library have you used?	Remember	6
13	What are the differences between GET and POST method in HTTP protocol?	Understand	6
14	List different types of statements in JDBC?	Remember	7
15	State different types of JDBC drivers?	Understand	7

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Part –B (Long Answer Questions)

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1	Define a session tracker that tracks the number of accesses and last access data of a particular web page.	Remember	1
2	What is the security issues related to Servlets.	Remember	6
3	Explain how HTTP POST request is processed using Servlets	Understand	6
4	Explain how cookies are used for session tracking?	Understand	6
5	Discuss about javax.servlet package.	Understand	6
6	Discuss about javax.servlet package.	Remember	6
7	Discuss how servlets can be used to extend a web server's functionality.	Remember	6
8	What are the security issues related to servlets?	Remember	6
9	Develop a servlet that illustrates usage of cookies.	Understand	6
10	Explain about Tomcat web server.	Understand	1
11	What is Servlet? Explain life cycle of a Servlet?	Remember	6

12	What are the advantages of Servlets over CGI	Remember	6
13	What is session tracking? Explain different mechanisms of session tracking?	Understand	6
14	What is the difference between Servlets and applets?	Remember	6
15	What is the difference between doGet() and doPost()?	Remember	1

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Part –C (Problem Solving And Critical Thinking Questions)

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1	Build a Servlet that generates HTML page and explain the process of generation of HTML page.	Remember	1
2	List and explain the classes and interfaces of javax.servlet.http	Understand	6
3	Build a Servlet that handles HTTP get Request	Remember	6
4	Describe about session tracking with relevant code snippet.	Understand	6
5	Justify "Servlet offer several advantages over CGI".	Remember	6
6	Explain about Security Issues in Servlet	Understand	6
7	Explain about Servlet? Explain lifecycle of a Servlet. Illustrate	Understand	6
8	Build a Servlet program to illustrate parameter reading and	Remember	6
9	Explain Cookies session tracking with relevant code snippet.	Understand	6
10	List the methods defined in HttpServletRequest.	Remember	6
11	Write a servlet program for blogging application. One servlet for login another for adding blogs and another for viewing blog information.	Remember	6
12	Explain different packages that support Servlet Request and Responses. With suitable coding explain how a Servlet is used for server side programming.	Understand	6
13	Explain the steps in uploading my Servlets.	Remember	6
14	Explain how client state is maintained using session and also explain about session tracking and session management using an example.	Understand	6
15	Create user registration functionality for student to get registered with exam- result section. The registration page takes following information from user: user ID, password, confirm password, full name, and semester, roll no, email-id, and contact number. The registration Servlet checks uniqueness of user ID among all users and if found unique then only stores registration information in database.	Remember	7

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UNIT IV

Part-A (Short Answer Questions)

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1	What are the differences between custom JSP tags and Servlets?	Remember	6
2	Differentiate between JSP include directive and JSP include action.	Understand	6
3	Define about Script-let tag?	Remember	6
4	Define how to use JavaBeans from JSP pages.	Understand	5
5	Describe about various Implicit objects?	Understand	6
6	How many JSP scripting elements and what are they?	Remember	6
7	How JSP pages the preferred API for creating a web-based client program?	Remember	6
8	Define Tag library descriptor (TLD)?	Remember	6

9	Describe the categories of JSP tags - Directives, Scripting elements, Actions?	Understand	6
10	List out differences between including action and include directive in JSP?	Remember	6
11	How do you define application wide error page in JSP?	Remember	6
12	Define how to load the drivers?	Understand	7
13	Express how to insert an image file (or other raw data) into a database?	Understand	7
14	List the Java packages which contains JDBC classes and interfaces, Java.SQL, Javax.SQL	Remember	7
15	Define how to open a database connection using JDBC.	Remember	7
Part –B (Long Answer Questions)			
1	Explain about the JSP processing	Understand	6
2	Explain the mechanism to include resources dynamically and to forward request to other JSPs?	Understand	6
3	Explain about JSP Elements?	Understand	6
4	List the different Action Tags used in JSP with their functionality	Remember	1
5	Explain the types of Scripting tags and Directive tags in JSP.	Understand	6
6	Explain about the usage of JavaBean Component in JSP.	Remember	6
7	Explain briefly about the Problem with Servlets	Understand	6
8	Describe the Anatomy of JSP Page	Remember	6
9	Explain the MVC architecture and write a JSP program which prints the current date?	Understand	6
10	List the types of JSP Implicit Objects.	Remember	6
11	How application data can be shared in JSP. Explain.	Remember	6
12	Explain sharing and application data in JSP application Development	Understand	6
13	List the methods in request object.	Remember	6
14	Explain about the JSP Directive Elements? Explain each one of them in detail?	Understand	6
15	Explain JSP application design with suitable example?	Understand	6
Part –C (Problem Solving And Critical Thinking Questions)			
1	Develop a JSP to act as a simple search engine with the support of a necessary database. Web page will accept the topic name and JSP will be activated by a "submit" button. JSP will open relevant page with a set of relevant URL's for the topic.	Understand	6
2	Write a JSP that handles empty form values. Give a detail note on JSP action used for Java Bean manipulation.	Remember	6
3	Develop a JSP for a news channel to conduct public opinion poll on any topic. Users will respond through yes/no answer. Later display the results in percentages.	Understand	6
4	Build an application which controls the Colors Bean. Develop the necessary code to exhibit the bound properties of java beans with the above mentioned beans.	Remember	6

5	Write a JSP that allows the user to select an item from a list and to press submit button later prints the item on web page.	Understand	6
6	Interpret about the usage of JavaBeans Component in JSP.	Understand	6
7	Differentiate between include and page directive in JSP.	Remember	6
8	Describe the MVC architecture and write a JSP program which prints the current date?	Remember	6
9	Explain JSP application design with suitable example?	Understand	6
10	Explain about JSP with a Bean in the session scope.	Understand	5
11	What is java-bean component? How to use JSP language Elements for accessing beans in JSP pages?	Remember	6
12	Develop a JSP to find the type, capabilities and version of each browser that visits your site.	Understand	6
13	Write a JSP to demonstrate the usage of page and include directive	Remember	6
14	Design an online book selling application using JSP. Consider a login validation page and also a search page for searching a book.	Understand	6
15	Write a program using Servlet/JSP that accepts the account number of a bank customer as input. The program should print the details of the account. Make necessary assumptions where ever required.	Remember	6
UNIT-V			
Part-A (Short Answer Questions)			
1	Define how to embed JavaScript code in an HTML document.	Understand	1
2	Define arrays in JavaScript?	Remember	4
3	List the differences between Client side JavaScript Server side JavaScript?	Remember	4
4	Define how to create a Date Object?	Remember	1
5	Classify Dynamic html? What is the main difference between DHTML and HTML?	Understand	1
6	Describe the various control statements available with an example?	Understand	4
7	Define about a function using function constructor?	Understand	4
8	Define about the Accessing Elements using JavaScript?	Understand	4
9	Define a Boolean operator that a JavaScript support?	Remember	4
10	Describe about String object in JavaScript?	Understand	4
Part –B(Long Answer Questions)			
1	Build a JavaScript program to convert distance in kilometers,	Understand	4
2	Build a java script to verify a phone number, email-id and date	Remember	4
3	Compare and contrast HTML and DHTML with suitable	Understand	1
4	Explain the need for scripting languages in web programming.	Remember	4
5	Explain the features of Java Script.	Understand	4
6	What is JavaScript? Write the features of JavaScript?	Remember	4
7	Write the code in JavaScript to open a new window when a	Remember	4

8	Explain any three objects of JavaScript	Understand	4
9	What is form validation? Explain with example?	Remember	4
10	What is an event? How can we handle events in JavaScript?	Remember	4

<div align="center">**Part –C(Problem Solving And Critical Thinking Questions)**</div>

1	Build a JavaScript to analyze a subject code for subject in a semester. The subject code may be visualized like 12 CS 43 where „12‟ represents year of syllabus, „CS‟ – indicates the engineering discipline as Computer Science and Engineering and „4‟ gives the semester details as 4 them, and „3‟ gives the subject information.	Remember	1
2	Build a JavaScript that displays the as per the following: (calculates the squares and cubes of the numbers from 0 to 10)	Understand	4
3	Build a script which displays a message when the mouse is over the image.	Remember	4
4	Interpret how JavaScript can handle the events? "JavaScript is event driven". What is meant by an event?	Understand	4
5	Build a Web page ,which accept user information and user comments on the web site to check if all the Text fields have being entered with data else display an alert.	Remember	4
6	Build a JavaScript which accepts the text in lower case and displays the text in uppercase.	Understand	4
7	Build a java script to validate a form consisting of user name .Also navigate to another web pages after navigation	Remember	4
8	Build a java script that read four integers and display the largest and displays the largest and smallest integers from the given integers.	Understand	4
9	Build a java Script program to determine whether a given number is an Armstrong number or not.	Understand	4
10	Build a JavaScript that reads list of ten numbers and displays the count of negative numbers, the count of positive numbers	Remember	4
11	Write a JavaScript function to validate whether a given value type is Boolean or not - See more at:	Understand	4

12	What will the code below output to the console and why?
	
	var arr1 =
	"john".split(''); var arr2
	= arr1.reverse(); var arr3
	= "jones".split('');
	arr2.push(arr3);
	console.log("array 1: length=" + arr1.length + " last=" +
	 arr1.slice(-1)) console.log("array 2: length=" + arr2.length + "
	 last=" + arr2.slice(-1));
	last=" + arr2.slice(-1));
		Understand	4

13	The following recursive code will cause a stack overflow if the array list is too large. How can you fix this and still retain the recursive pattern?
	
	var list = readHugeList();
	 var nextListItem =
	 function() { var item =
	 list.pop();
	
	if (item) {
	 nextListItem();
	 }
	}
		Understand	4

14	What will the code below output to the console and why?
	function
	  Traverse(p_element,p_callback) {
	  p_callback(p_element);
	  var list = p_element.children;
	  for (var i = 0; i < list.length;
	    i++) {
	    Traverse(list[i],p_callback);
	}
	}
		Remember	4

15	Write an HTML page including any required Javascript that takes a number from one text field in the range of 0 to 999 and shows it in a another text field in words. If the number is out of range, i should show "out of range" and if it is not a number, it should show "not a number" message in the result box.	Understand	4

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