

**BACHELOR OF COMPUTER
APPLICATIONS(BCA)
(Revised)**

Term-End Examination

December, 2013

BCS-053 : WEB PROGRAMMING

Time : 2 hours

Maximum Marks : 50

(Weightage 75%)

Note : Question No. 1 is *compulsory* and carries 20 marks.
Attempt *any three* questions from the rest.

1. (a) Why is web 2.0 more popular ? How does a static website differ from a dynamic website ? Explain with the help of an example. 5
- (b) What is meant by Document Object Model in the context of HTML ? Write a program using Java script and HTML that changes a paragraph showing "Wel come" to "Welcome to the University". 5
- (c) What are the purpose of GET and POST methods of HTTP ? Explain the differences between with the help of an example. 5
- (d) What is a cookie in the context of HTTP / Web Programming ? Why are they needed ? Explain with the help of an example. 5
2. (a) Explain the process of inclusion of a file into a JSP page ? Explain with the help of an example. State the advantages of doing it. 5

- (b) What is JDBC ? Write a program to insert a record in the employee table of database. Make and state suitable assumptions, if any. 5
3. (a) Explain the Box Model of HTML. Write the HTML and Style sheet for a text "welcome to IGNOU" Which is to be displayed with 20px margin on all sides padding of 10 on all sides, with white font and black background colour. 5
- (b) What is WAP ? Design a WML program to display the profile of an Item having attributes: Item Id, Item Name, Item Price and Item Quantity. 5
4. A Student data is to be represented using XML. The information that is to be included is student ID, student name, student address (Home and Residence) and phone numbers. A student should have one or more phone numbers. Perform the following activities for the description as above :
- (a) Create a XML document showing records of at least two students. 4
- (b) Create the DTD that verifies the document created at part (a). 6
5. Explain the following with the help of an example : 10
- (a) <details> and <summary> tags of HTMLS
- (b) Events in HTML
- (c) Scriptlets in JSP
- (d) Exception handling in JSP
-

**BACHELOR OF COMPUTER
APPLICATIONS(BCA)
(Revised)**

Term-End Examination

June, 2014

BCS-053 : WEB PROGRAMMING

Time : 2 hours

Maximum Marks : 50

(Weightage 75%)

*Note : Question No. 1 is compulsory. It carries 20 marks.
Attempt any three questions from the rest.*

1. (a) Explain the use of table, anchor and form elements - password and fieldset tags of HTML with the help of an example each. 5
- (b) Design a webpage using HTML and Javascript in which the background colour of the page changes on the click of the button. 5
- (c) Explain with the help of a diagram the life cycle of a JSP page. 5
- (d) Write a simple HTML/JSP code that handles the division by zero error. Make suitable assumptions, if any. 5
2. (a) Differentiate between the following : 5
 - (i) Client and Server Architecture
 - (ii) Static Webpage and Dynamic Webpage

- (b) Assume that a database as a backend to a website exists with a table having fields : Roll Number, Name, Programme code etc. Write JSP code sequence of steps to display the list of students with programme code "BCA". 5
3. (a) Explain the use of class selector and id selector in CSS and HTML with the help of an example. 5
- (b) What is WML ? Design WML program to display the profile of an Employee having attributes : Employee ID, Employee Name, Employee Age and Employee Designation. 5
4. An address book consists of addresses of contacts. A contact will have a contact name, contact address, contact type (official, personal, family) and a number of phone numbers including home phone and mobile phones.
- (a) Write an XML document with atleast two records for the requirements as above. Make suitable assumptions, if any. 4
- (b) Write the DTD that validates the XML document created in part(a). 6
5. Explain the following with the help of an example/diagram in the context of web programming. 10
- (a) HTML Document Object Model (DOM)
- (b) Cookie
- (c) DIV and span tags
- (d) Rich Internet Applications
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BACHELOR OF COMPUTER APPLICATIONS
(BCA) (Revised)

Term-End Examination

00344

December, 2014

BCS-053 : WEB PROGRAMMING

Time : 2 hours

Maximum Marks : 50

(Weightage 75%)

Note : *Question number 1 is **compulsory** and carries 20 marks. Attempt any **three** questions from the rest.*

1. (a) What are the advantages of using CSS for an HTML document ? How can you link an external style sheet to an HTML document ? Explain how you can change the background colour of a web page using a style sheet. 4
- (b) Create an XML document that stores the name (first name and last name), enrolment number and at least one phone number of a student. Create such information for at least two students. Create the DTD that validates the XML document created by you. 5
- (c) Explain the concept of Document Object Model (DOM) with the help of an example. 3

- (d) What is a cookie in the context of JSP ? Why is it needed ? Explain how a cookie can be set with the help of an example. 4
- (e) List the steps that would be required to verify the username and password entered by a user on a login page to the information stored in a database, using JSP. 4
2. (a) Differentiate between the following : 6
- (i) Static web pages and Dynamic web pages
- (ii) 2-Tier architecture and 3-Tier architecture
- (b) What is an exception in the context of JSP ? How are the exceptions handled using JSP ? Explain with the help of an example. 4
3. (a) Explain the features of the following Web 2.0 technologies : 6
- (i) Blogging
- (ii) Rich Internet Applications
- (iii) Mashups
- (b) Explain the Box Model of HTML with the help of a diagram. Why is this model needed ? 4

4. (a) What is the need of WML ? Explain any two elements of WML that can be used for input of data. 5
- (b) What is the use of JSP directives ? Explain the page and include directives of JSP with the help of an example. 5
5. Explain the following terms with the help of a diagram or an example, if required : 10
- (a) Methods of ResultSet object
- (b) Hidden fields in the context of session management
- (c) GET method
- (d) Events in the context of web programming
- (e) Uses of < div > tag
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**BACHELOR OF COMPUTER APPLICATIONS
(BCA) (Revised)**

Term-End Examination

December, 2015

04734

BCS-053 : WEB PROGRAMMING

Time : 2 hours

Maximum Marks : 50

(Weightage 75%)

Note : *Question no. 1 is **compulsory**. It carries 20 marks.
Attempt any **three** questions from the rest.*

1. (a) What is CSS ? Create a sample code to illustrate the external stylesheet for your web page. 5
- (b) Explain the difference between JSP Scriptlets, JSP Tags and JSP Directive. 5
- (c) Design an HTML form which should allow to enter your personal data. (Hint : make use of text field, password field, check boxes, radio and submit button) 5
- (d) Why do we need XML ? Also list the advantages of XML over HTML. 5

2. (a) What are cookies ? Write a program to create cookies to store User ID and password of the client on his/her machine. 5
- (b) What are JDBC Driver(s) ? Name them and differentiate between Two and Three tier database access models. 5
3. Assume that there is a table which contains field names such as name, programme, course code and grade. Write a program using JSP and JDBC to insert records into the database. 10
4. (a) What is WML ? Create a WML program which should include a table, an image, a text paragraph and any two WML input elements. 6
- (b) Write a JavaScript program to accept the first, middle, last names of the students and print them. 4
5. Differentiate between the following : $4 \times 2 \frac{1}{2} = 10$
- (a) Web widget and Desktop widget
- (b) SVG and Canvas tag
- (c) Details and Summary tag
- (d) Inline stylesheet and Embedded stylesheet.
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**BACHELOR OF COMPUTER APPLICATIONS
(BCA) (Revised)**

Term-End Examination

02926

June, 2016

BCS-053 : WEB PROGRAMMING

Time : 2 hours

Maximum Marks : 50

(Weightage 75%)

Note : *Question no. 1 is compulsory. It carries 20 marks.
Attempt any **three** questions from the rest.*

1. (a) What is AJAX ? Describe the advantages and limitations of AJAX. 5
- (b) Write a JSP/Servlet program that takes your name and programme code as input and displays it on a web page. 5
- (c) Explain the two attributes of page directive which are included in exception handling in JSP page. 5
- (d) What is WML ? How will you use Timer in WML ? 5

2. (a) Differentiate between the following :
(i) Social Media and Social Networking
(ii) JSP and Servlet 5
- (b) Explain GET and POST methods of HTTP protocol. Why do you use these methods ? Explain with examples. 5
3. (a) What is DTD ? Explain its role in XML. 5
- (b) What is an external style sheet ? With the help of an example, design an HTML program using an embedded style sheet. 5
4. (a) Write a JSP program which will demonstrate the use of <jsp : include> and <jsp : param> action. 5
- (b) Write a JavaScript program that changes the text 'web programming' to upper case and then again to lower case. This cycle of conversion is performed after every 15 seconds. 5
5. (a) Design a JSP page to fetch the record of the student having attributes such as Roll No, Student Name and Programme from the table designed in SQL server. 5
- (b) Explain the role of web container and HTTP server in the context of web programming. 5
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**BACHELOR OF COMPUTER APPLICATIONS
(BCA) (Revised)**

Term-End Examination

December, 2016

04605

BCS-053 : WEB PROGRAMMING

Time : 2 hours

Maximum Marks : 50

(Weightage 75%)

Note : *Question no. 1 is compulsory. It carries 20 marks.
Attempt any **three** questions from the rest.*

1. (a) What is Web 2.0 ? How is it different from Web 1.0 ? Explain any one Web 2.0 technology in brief. 4
- (b) What is an event ? Explain with an example "how HTML DOM allows to assign events to HTML elements using JavaScript". 4
- (c) Explain MVC architecture with the help of a diagram. 4

- (d) What is WML ? Explain any two WML elements that can be used for data input. 4
- (e) Explain how errors are handled at page level in jsp programming, with the help of a program fragment. 4
2. (a) Design a web page using HTML and JavaScript containing a paragraph about computers. The text colour of this paragraph should change on click of the mouse on that paragraph. 5
- (b) Create an XML document that stores the title, author_name, year_of_publication and price of a book. Create this information for *three books*. Create the DTD that validates the XML document created for the books. 5
3. (a) Explain the following in the context of jsp, with an example : 4
- (i) include directive
- (ii) taglib directive
- (b) Assume that on execution of a SQL web query about a student, 5 records (of the same student) are returned in the result set having the following fields :
- student_id
course_code
marks_out_of_100
- Write the appropriate jsp commands to display these records and the total marks of the student. 6

4. (a) Write a jsp program fragment that sets up a session on receiving username and password. In case the username and password match "IGNOU" and "TEST" respectively, the user is redirected to a page named result.jsp. 5
- (b) What is AJAX ? How is it different from JavaScript ? Name any two web browsers that support AJAX. 5
5. Explain any *four* of the following in context of web programming, with the help of an example/diagram. 10
- (a) Embedded style sheets
- (b) Deployment descriptor and web.xml
- (c) XML namespace
- (d) GET method
- (e) Use of < div > tag
-

**BACHELOR OF COMPUTER APPLICATIONS
(BCA) (Revised)**

Term-End Examination

01222

June, 2017

BCS-053 : WEB PROGRAMMING

Time : 2 hours

*Maximum Marks : 50
(Weightage 75%)*

***Note :** Question no. 1 is **compulsory** and carries 20 marks. Attempt any **three** questions from the rest.*

1. (a) What is Document Object Model (DOM) in the context of HTML ? Draw the node tree of an HTML DOM. 4

- (b) What is WAP ? Design a WML program to display the profile details of a mobile phone. Make the necessary assumptions required. 4

(c) Create an HTML form asking for the following information :

- (i) Name
- (ii) Program (which should be selected from a dropdown list consisting of two options – BCA and MCA)
- (iii) Date of Birth

Also write a JSP program that accepts the input from the form and displays the information on the screen.

8

You entered the following information :

Name _____

Program _____

Date of Birth _____

(d) Explain JSP life cycle in brief.

4

2. (a) Write a JSP scriptlet that adds the numbers 1 to 5.

4

(b) Explain the following HTML elements :

6

- (i) < TEXTAREA > tag
- (ii) < TABLE > tag
- (iii) ANCHOR element
- (iv) < MENU > tag

3. (a) What is CSS ? Explain embedded style sheets with the help of an HTML program. 5
- (b) Explain the use of the following in XML : 5
- (i) XML namespaces
- (ii) XML XSLT
4. (a) What is session tracking ? Explain the use of cookies for session tracking with the help of an example. 5
- (b) What are the uses of GET and POST methods of HTTP ? Also explain the differences between GET and POST. 5
5. Explain any *four* of the following with the help of an example / diagram in the context of web programming : 10
- (a) Events in HTML
- (b) <jsp : useBean >
- (c) <sql : query >
- (d) Social Networking
- (e) XML Schemas
-

**BACHELOR OF COMPUTER APPLICATIONS
(BCA) (Revised)**

Term-End Examination

03110

December, 2017

BCS-053 : WEB PROGRAMMING

Time : 2 hours

Maximum Marks : 50

(Weightage 75%)

Note : *Question no. 1 is compulsory. Attempt any three questions from the rest.*

1. (a) List and explain any five elements used in HTML forms, with the help of an example for each. 5
- (b) Explain with the help of an example how JavaScript can be used to change the text displayed on an HTML page. 5
- (c) Discuss the steps involved in connecting to a database using JDBC. 5
- (d) List the techniques for session tracking. Explain any one of them. 5

2. (a) Explain the life cycle of JSP with the help of a diagram. 5
- (b) Compare and contrast :
- (i) Static web pages and Dynamic web pages 2
- (ii) 2-Tier architecture and 3-Tier architecture 3
3. (a) Explain the Box model of HTML. Write the HTML and CSS for the text "The Open University", which is to be displayed with 25 px margin on all sides and padding of 15 px on all sides, with white font and blue background colour. 5
- (b) Explain the image and navigational elements of WML with the help of an example each. 5
4. A movie catalogue consists of movie details. The details will have movie name, director name, production year and production house.
- (a) Write an XML document with at least two records for the requirements as above (with suitable assumptions). 4
- (b) Write the DTD that validates the XML document created for the above assumptions. 6

5. Explain any **four** of the following terms with the help of a diagram or an example :

$$4 \times 2 \frac{1}{2} = 10$$

- (a) JDBC-ODBC Bridge
 - (b) Scriptlets in JSP
 - (c) Uses of <div> tag
 - (d) Page Directive of JSP
 - (e) POST Method of HTTP
-

**BACHELOR OF COMPUTER APPLICATIONS
(BCA) (Revised)**

Term-End Examination

June, 2018

03545

BCS-053 : WEB PROGRAMMING

Time : 2 hours

Maximum Marks : 50

(Weightage 75%)

Note : *Question no. 1 is compulsory. Attempt any three questions from the rest.*

1. (a) Discuss the advantages of Web 2.0 over its previous version. Explain with the help of examples. 5
- (b) How does WML work ? Explain with the help of a diagram. 5
- (c) Explain MVC Architecture with the help of a diagram. 5
- (d) What is a session in JSP ? Why is session management needed ? Explain how cookies can be used for session management. 5

2. (a) What are the scripting elements of JSP ?
Explain with the help of an example. 4
- (b) Assume that a website database has the
following fields :
Item Number, Item Name, Item Code.
Write JSP code/program to display the list
of items. 6
3. (a) Explain the use of class selector and Id
selector in CSS and HTML with the help of
an example for each. 5
- (b) What is WAP ? Design a WML program
code segment, which takes student
attributes Student_ID, Student_Name and
Programme as input. 5
4. A movie catalog consists of movie details :
The details will have Movie name, Director
name, Production year and Production house.
- (a) Write an XML document with at least two
records for the requirements as above (with
suitable assumptions). 4
- (b) Write the DTD that validates the XML
document created for the above
assumptions. 6

5. Explain any **four** of the following with the help of an example/diagram :

10

- (a) <details> and <summary> tags of HTML5
 - (b) Session Object
 - (c) Need of JSP
 - (d) GET Method of HTTP
 - (e) include Directive in JSP
-

**BACHELOR OF COMPUTER APPLICATIONS
(BCA) (Revised)**

01643

Term-End Examination

December, 2018

BCS-053 : WEB PROGRAMMING

Time : 2 hours

Maximum Marks : 50

(Weightage : 75%)

Note : *Question no. 1 is compulsory and carries 20 marks. Attempt any **three** questions from the rest.*

1. (a) What are the uses of Cascading Style Sheets (CSS) in the context of Web Programming ? How can a style sheet be used with HTML document ? Also explain the concept of Class selector and ID selector in the context of CSS.

4

- (b) Represent the following information of books using XML document. You may design your own tags. Also write the DTD that validates this XML document.

4

Book Title	Programming Fundamentals	Web Programming
Publisher	ABC	XYZ
ISBN	2016-12345	2015-14897
First Author	Ravi Sethi	A. Tanenbaum

- (c) What is the need of HTML DOM ?
Consider the following HTML document :

```

<html>
<head> Test </head>
<body>
<p id = "Welcome"> Welcome to
                        Examination </p>
:
:
</body>
</html>

```

Write JavaScript code in this HTML document that replaces the "Welcome to Examination" to "Welcome to JavaScript" when this HTML document is displayed in web browser. Make suitable assumptions, if any.

4

- (d) What is a cookie ? Why is it needed ? Write the command to create a new cookie having a name testcookie. Also write the command to set the life of this cookie to 10 minutes. 4
- (e) What is a "Safe Method" in the context of HTTP ? Is GET a safe method ? Justify your answer. Explain the GET method with the help of an example. 4
2. (a) Explain the use of the following in HTML with the help of an example : 5
- (i) SELECT element in the context of forms.
 - (ii) Tags used to create a table in an HTML page.
- (b) What is meant by 'Event Capturing' ? Explain with the help of an example. 3
- (c) Explain the use of AJAX. 2
3. (a) What is WAP ? Why is it needed ? 3
- (b) Explain the uses of the following WAP elements : 4
- (i) <pre>
 - (ii)
 - (iii)
 - (iv) <set var>

- (c) What is a web service ? Explain with the help of an example. 3
4. (a) Explain the role of each tier in three-tier architecture of web application. 3
- (b) Differentiate between the following : 4
- (i) Static web page versus Dynamic web page
- (ii) Model versus View in the context of MVC architecture
- (c) Write a scriptlet using JSP that adds numbers from 1 to 10 and prints this result. 3
5. Explain any **four** of the following with the help of an example or a diagram, if needed : $4 \times 2 \frac{1}{2} = 10$
- (a) DriverManager class in JSP
- (b) Loading a JDBC database driver
- (c) Processing the result obtained from database access, while using JSP
- (d) Session Management
- (e) Include Directive
- (f) Exception handling using JSP
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No. of Printed Pages : 4

BCS-053

**BACHELOR OF COMPUTER
APPLICATIONS (BCA) (Revised)**

Term-End Examination

June, 2019

BCS-053 : WEB PROGRAMMING

Time : 2 Hours

Maximum Marks : 50

(Weightage 75%)

Note : Question No. 1 is compulsory and carries 20 marks. Answer any three questions from the rest.

1. (a) Consider the following HTML form :

Registration Form	
Name	: <input type="text"/>
E-mail	: <input type="text"/>
Gender	: <input type="text" value="Male"/> <input checked="" type="checkbox"/>
Description	: <input type="text"/>
<input type="button" value="SUBMIT"/>	

Explain the FORM elements that will be required to make the form as above. 4

(A-4) P. T. O.

- (b) What are the uses of JavaScript in Web Programming ? Write and explain JavaScript code that changes the background colour of a web page to "Red" if a button is clicked. 4
- (c) How is WML different than HTML ? Write WML script that displays your enrolment number and name in the centre of the screen. 4
- (d) A student fee table contains information about student enrolment number and amount of fee paid by a student. A student can pay fee only once. Assuming that a connection has already been created, write JSP code that accesses data from the database for the enrolment number "1701" and displays this data. Make suitable assumptions, if any. 4
- (e) What is the purpose of action elements in JSP ? Explain the uses of `<jsp:include>` with the help of an example. Also differentiate between static and dynamic include in JSP. 4

2. (a) List any *four* technologies that can be categorised as Web 2.0 technologies. Explain the features of Rich Internet Applications. 3
- (b) What is an external style sheet ? How is it linked to a HTML document ? Explain the concept of box model in text style specification. 4
- (c) Explain the uses of XML CSS and XML XSLT. 3
3. (a) What is the purpose of class selector in CSS ? Explain with the help of an example. 3
- (b) Explain the method getElementById() in JavaScript with the help of an example. 3
- (c) Define the following terms : 4
- (i) WML Tasks
 - (ii) XML Schemas
 - (iii) WAP Protocol Stack
 - (iv) HTML DOM
4. (a) Explain how a JSP page is processed with the help of a diagram. 4

- (b) Explain with the help of an example code how hidden fields can be used in session management. 3
- (c) Explain the JSP compilation time error and JSP request time errors. 3
- 5, Explain any *four* of the following with the help of an example/diagram, if needed : 10
 - (a) Web container
 - (b) Request and Response in the context of HTTP
 - (c) Scriptlets
 - (d) DriverManager Class
 - (e) Controller in the context of MVC architecture
 - (f) `<jsp : param > tag`

508214

No. of Printed Pages : 4

BCS-053

**BACHELOR OF COMPUTER
APPLICATIONS (BCA)**

Term-End Examination

December, 2019

BCS-053 : WEB PROGRAMMING

Time : 2 Hours

Maximum Marks : 50

Weightage : 75%

Note : Question No. 1 is compulsory and carries 20 marks. Attempt any three questions from the rest.

1. (a) A registration form requires input of the following information :

- Name of Person
- Gender of Person
- Country

The form is to be displayed as shown below :

Name :	<input type="text"/>	
Gender :	<input type="text" value="Female"/>	<input type="button" value="v"/>
Country :	<input type="text" value="India"/>	<input type="button" value="v"/>
<input type="button" value="SUBMIT"/>		

Please note that Default Gender is "Female" and Default Country is "India". The form also has a SUBMIT button :

- (i) Write the HTML code for creation of the above form. 4
- (ii) Write a JSP program that runs on pressing of SUBMIT button and displays the registration form information in the format as shown below : 4

The following information was entered	
Name :	_____
Gender :	_____
Country :	_____

- (b) What are the advantages of XML over HTML ? Explain the structure of XML document with the help of an example. 4
- (c) Write the WML code that will create the following table : 4

Name	Programme
Ajay	BCA
Mohit	MCA

- (d) What are the uses of JSP ? Explain the advantages of using JSP over servlet. 4

2. (a) Consider the following HTML code : 4

```
<html>
```

```
<body>
```

```
<p id= "test"> welcome to exam</p>
```

(A) {Add your JavaScript code and tags here}

```
</body>
```

```
</html>
```

Write the JavaScript code along with suitable tags at (A) which changes the content "Welcome to Exam" to "Welcome to Web Programming" when it is executed. In addition the text colour should be changed to Green colour.

- (b) What is meant by a "Safe" method ? List *two* methods which are "safe". 3
- (c) What are the advantages of data streaming ? Explain with the help of a suitable example. 3
3. (a) Write a JSP scriptlet that finds the factorial of number 5 and displays it. 5
- (b) What are the advantages of using CSS ? Create an embedded style sheet that makes the text colour of every paragraph as red and background colour green. It also changes the font size to 16 px. 5

4. (a) What is the role of JDBC in a web application ? Why DriverManager class is needed ? List different signatures of getConnection method of DriverManager class. 4
- (b) Compare and contrast the following : 6
- (i) JSP compilation time errors and JSP request time errors.
 - (ii) GET and POST methods
 - (iii) Blogging and Social Networking
5. Explain any *four* of the following with the help of example program/diagram, if needed : 10
- (a) Cookies
 - (b) URL rewriting
 - (c) Displaying the data obtained in a ResultSet object on execution of an SQL query
 - (d) DTD in the context of XML
 - (e) Handling of onclick event
 - (f) Box model of HTML

No. of Printed Pages : 4

BCS-053

**BACHELOR OF COMPUTER
APPLICATION (REVISED)
(BCA)**

Term-End Examination

June, 2020

BCS-053 : WEB PROGRAMMING

Time : 2 Hours

Maximum Marks : 50

(Weightage 75%)

*Note : Question No. 1 is compulsory and carries
20 marks. Attempt any three questions from
the rest.*

1. (a) Following books information is to be represented by using XML :

Title of the book	Name of author(s)	Years of publication
Your Story	R. Rohan	2015
Web Programming	A Tanenbaum	2001

- (i) Create an XML document for the data above. You must use appropriate tags.

4

- (ii) Create a DTD to validate XML document created in part (i) above. 2

- (b) A database contains two fields of a student :

Name

Class

Assuming that a connection has been created and statement object "stmt" has been instantiated, write the code fragment to get a ResultSet containing the list of all the students and display the date of RecordSet object.

6

- (c) What is the purpose of directives in JSP ?

Explain the uses of include file directive of JSP with the help of an example.

4

- (d) Write the HTML code segment that will create the following table : 4

PROGRAMME	Fee
MCA	9000 per semester
BCA	6000 per semester

2. (a) Define the term Event in the context of JavaScript. Write a JavaScript function which changes the display of content of a paragraph on a browser from "Demo of Event" to "Event handled." You must create a button which when clicked executes the stated function. 5
- (b) Explain the life-cycle of a JSP page with the help of a diagram. 5
3. (a) Why is session management needed for HTTP protocol ? Explain, how cookies can be used for session management. 5
- (b) Explain the role of CSS in an HTML file display. Explain the uses of class selector and id selector with the help of an example each. 5

4. Compare and contrast between the following :

10

- (a) Web Services and Blogging
- (b) Static web pages and Dynamic web pages
- (c) 2 Tier client server architecture and N Tier architecture
- (d) JSP action elements and JSP scripting elements

5. Explain any *four* of the following with the help of an example/diagram in the context of Web Programming :

10

- (a) JDBC-ODBC Bridge
- (b) URL Rewriting
- (c) JSP Request time error
- (d) WML <select> element
- (e) XML schema
- (f) Web 2.0

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Maximum Marks : 50

(Weightage : 75%)

Note : *Question No. 1 is compulsory. Attempt any
three questions from the rest.*

1. (a) What is the purpose of a class selector in CSS ? Explain with the help of an example.

3

- (b) Draw the HTML DOM Node tree for the following HTML fragment :

4

```
<html>
```

```
    <head>
```

```
        <title> Term-end Exam </title>
```

```
    </head>
```

```
    <body>
```


<h3> subject code </h3>

<p> BCS-053</p>

</body>

</html>

- (c) Explain the WML elements that will be required to display the following selection list : 3

O BCS-053
O BCS-054
O BCS-057

- (d) Write JSP scripting code that will display current date and time. 4
- (e) Explain the MVC architecture with the help of a diagram. 6
2. (a) What is Web 2.0 ? How is it different from Web 1.0 ? 3
- (b) What is Cascading Style Sheets ? Explain the format of CSS rules with the help of an example/diagram. 4
- (c) Explain the use of <div> and tags with the help of an example. 3

3. (a) Create an XML document named Author. Every author should have a first name, last name and age field. Create records of two such authors. Also write the DTD that verifies the XML document of author. 5
- (b) Explain with the help of an example, how JavaScript can be used for modifying content of a paragraph. 5
4. (a) What are dynamic web pages ? Explain how JavaScript can be used to create dynamic web pages. 4
- (b) What the use of “POST” method of HTTP ? Explain with the help of an example. 3
- (c) Explain the *two* types of include used in JSP. 3
5. (a) Explain the JSP compilation time error with the help of an example. 3
- (b) What is a cookie ? Why are they used ? How can you create a new cookie in JSP ? Explain with the help of an example. 4

- (c) Consider that a database contains a student table having id, name and programme as its attributes. Assume that student table has 20 records and connection with database has been duly established, what will be the result of execution of the following statements of JSP ? 3

```
Statement stmt = con.createStatement ();  
ResultSet rs = stmt.executeQuery (Select  
* from student);
```

(Please note : con is the name of connection object).

**BACHELOR OF COMPUTER APPLICATIONS
(BCA) (Revised)****Term-End Examination****June, 2021****BCS-053 : WEB PROGRAMMING***Time : 2 hours**Maximum Marks : 50
(Weightage 75%)*

Note : Question no. 1 is **compulsory**. Attempt any **three** questions from the rest.

1. (a) What is the purpose of < SELECT > element in HTML ? Explain how you will display the following list in HTML :

5

Select Highest Qualification	
10 th	▼
10 th	
10 + 2	
Graduation	

- (b) What is more useful — Inline styles or Embedded style sheet ? Give reason in support of your answer.

2

- (c) Explain the how JavaScript can be used for modifying style of HTML element with the help of an example. 3
- (d) Explain the steps of JSP page processing with the help of a diagram. 5
- (e) Why does HTTP protocol need session management ? What is 'Session' and 'State' in this context ? Explain with the help of an example. 3
- (f) A variable 'i' is of integer type and name is an object of class string. Write the JSP code fragment that will declare 'i' and 'name' variables. 2
- 2.** (a) What is a Blog ? What does it contain ? What is a Microblog ? 3
- (b) What is the need of id selector in CSS ? Explain with the help of an example. 3
- (c) Write the HTML code that displays a paragraph "Welcome to Exam hall". Write a JavaScript code that changes this para to "Welcome to IGNOU" when the display of "Welcome to Exam hall" is clicked. You should use event handling for the same. 4

3. (a) Create the following table using WML table element :

Book Title	Author Name
Computers Now	Desai
Web Programming	Tanenbaum

You need not display any title.

3

- (b) Represent the following information using an XML document. Write the DTD that validates the XML document created for :

4

St_ID	Name	Programme
1001	Ravi	Bachelor of Computer Applications
1002	Ullman V	PhD

- (c) What is WAP ? Why is WAP needed ?

3

4. (a) Explain the three layer architecture of Web applications with the help of a diagram.

5

- (b) Write the scriptlet using JSP that prints a sequence of numbers from 1 to 5. Also find the sum of the sequence you must use for loop.

5

5. (a) What is JSP Request Time Error ? How can these errors be handled ?

3

(b) What is the role of DriverManager class ?
Explain one of the important methods of this class.

3

(c) Assume that a database contains a table Course (Course_ID, Name, Fee) and a connection to this database has been established. Write and explain JSP statements that will bring the details of courses in a ResultSet object.

4

BACHELOR OF COMPUTER APPLICATIONS

(BCA) (Revised)

Term-End Examination

June, 2022

BCS-053 : WEB PROGRAMMING

Time : 2 hours

Maximum Marks : 50

(Weightage : 75%)

Note : Question no. 1 is **compulsory** and carries 20 marks. Attempt any **three** questions from the rest.

1. (a) What are the features of Web 2.0 ?
What technologies are used for developing Web 2.0 applications ? 3
- (b) What is a well-formed XML document ?
Explain with the help of an example XML document. 4
- (c) The following information is to be input in a WAP application :

Name :

Age (in years) :

Write the WML code for creating the above screen.

3

- (d) List three characteristics that should be supported by server side scripting tools. 3
- (e) Write a JSP scriptlet that displays numbers 11 to 15 on the browser. You must use loop for this purpose. 3
- (f) Assuming that connection has been duly established with a database named student having table masterdata (enrolment, studentname, marks) and the information of a student has been put in the related form; write the code segment using JSP that will insert the student record (entered in the form) into the database. (You need not write statements for driver loading and connection establishment or closing the connection) 4
- 2.** (a) Explain the use of <div> and tags, with the help of an example. 3
- (b) What is the need of class selector in CSS ? Explain with the help of an example. How is an id selector different from a class selector ? 4
- (c) Which tag will be used for the following tasks ? Give one example of the use of that tags : 3
- (i) To input a large text in multiple lines.
 - (ii) To define a footer in the web page.
 - (iii) To input a password.

3. (a) Write a JavaScript code that can modify a paragraph displaying “Web Programing is Good” to “Learn Web Programming”. 3
- (b) Explain the HTML DOM node tree, with the help of an example. 3
- (c) What is the purpose of using DTD in XML ? What are the limitations of DTD ? Give one difference between DTD and XML schema. 4
4. (a) Explain the MVC architecture of Web development, with the help of a diagram. 5
- (b) What are JSP implicit objects ? Explain the purpose of the following implicit objects of JSP, with the help of an example : 5
- (i) request
- (ii) response
5. (a) Differentiate between Session objects and Cookies. 3
- (b) Explain the purpose of session management, with the help of an example. 2
- (c) Which type of error is reported to browser as HTTP Status 500 ? Explain why such error can occur. 2
- (d) What is the need of JDBC ? Why can ODBC not be used in Java programs ? 3

**BACHELOR OF COMPUTER
APPLICATIONS (BCA) (REVISED)**

Term-End Examination

December, 2022

BCS-53 : WEB PROGRAMMING

Time : 2 Hours

Maximum Marks : 50

(Weightage : 75%)

Note : *Question No. 1 is compulsory and carries 20 marks. Attempt any **three** questions from question no. 2 to question no. 5.*

1. (a) Write a JavaScript and related HTML code which changes the content of a paragraph having an id "IGNOU" from "BCA Examination" to the text "The out of distance education". 4
- (b) Explain the box model of HTML with the help of a diagram. 3

- (c) Create an XML document having two records with the structure : 3
- **Name** which have first name and last name of a student.
 - **Programme** which is name of the programme of the student.
- (d) What is a cookie ? Why are the cookies used ? Write the code that can create a new cookie. 4
- (e) Write a JSP script that prints numbers 1 to 5 on a separate HTML paragraph. 4
- (f) List the advantages of JSP over Servlet. 2
2. (a) Explain the features of Web 2.0. Explain any *three* technologies of Web 2.0. 5
- (b) What is CSS ? Explain how CSS can be used for the following : 5
- (i) Change the background colour of a page to red.
 - (ii) Change the font size of a paragraph to 17 points.
 - (iii) Changes colour of a paragraph.

3. (a) What is a DTD in the context of an XML document ? Given the following DTD : 5

```
<!ELEMENT University (Name, Address)>
```

```
<!ELEMENT Name (# PCDATA)>
```

```
<!ELEMENT Address (Location, Pincode)>
```

```
<!ELEMENT Location (# PCDATA)>
```

```
<!ELEMENT Pincode (# PCDATA)>
```

Create a document having two records, which are valid as per the DTD given above.

- (b) Write the code in WML that creates the following table : 5

Course Name	Teacher
Web Programming	ABC
DBMS	XYZ

4. (a) Differentiate between the following : 6

- (i) GET and POST methods
- (ii) HTTP server and Web container
- (iii) Action elements and JSP implicit objects

- (b) What is an exception ? What are the different types of errors in JSP ? Give *one* example of each. 4

5. Explain the following with the help of an example :

$$2\frac{1}{2} \times 4 = 10$$

- (a) DriverManager class
- (b) PreparedStatement() method
- (c) ResultSet object
- (d) MVC architecture

**BACHELOR OF COMPUTER
APPLICATIONS (BCA) (REVISED)**

Term-End Examination

June, 2023

BCS-053 : WEB PROGRAMMING

Time : 2 Hours

Maximum Marks : 50

(Weightage : 75%)

Note : Question No. 1 is compulsory and carries 20 marks. Attempt any **three** questions from question no. 2 to question no. 5.

1. (a) Consider the following information : 3+3

Student Name		Programme Code
First name	Last Name	
Ravi	Kumar	BCA
Ananth	Malik	MCA

- (i) Create an XML document for the data given in the table above. Use appropriate tags.
- (ii) Create the DTD to validate the XML document created in part (i).

- (b) A database table consists of the following fields :

Programme (ProgrammeCode, Title, Duration)

Assuming that connection has been established with the database and a statement object “stmt” has been instantiated, write the code fragment to get a ResultSet object containing the list of all those programmes, whose duration is more than 1 year. 6

- (c) Write a JavaScript script that changes the colour of paragraph, whose id is “IGNOU”, to green. 5

- (d) Explain the GET method of HTTP with the help of an example. 3

2. (a) Explain the MVC architecture with the help of a diagram. 5

- (b) What are implicit objects in the context of JSP ? Explain any *two* implicit objects of JSP. 5

3. (a) What is the need of session management in the context of HTTP ? Define the terms—session and state in this context. Explain with the help of .JSP script, how session object can be used to create a session. 7
- (b) What is include directive in JSP ? Explain its use with the help of an example. 3
4. (a) Explain the following technologies in the context of Web 2.0 : 6
- (i) Widgets
 - (ii) Blogging
 - (iii) Podcasting
- (b) Write HTML code to create a form as shown below : 4

Student Name :	<input type="text"/>						
Programme Code :	<table border="1"><tr><td>BCA</td><td>▼</td></tr><tr><td>BCA</td><td></td></tr><tr><td>CIT</td><td></td></tr></table>	BCA	▼	BCA		CIT	
BCA	▼						
BCA							
CIT							
<input type="button" value="SUBMIT"/>							

5. (a) What are the advantages of using CSS ?
What is an external style sheet ? How is it
linked to the related HTML document ? 5
- (b) Explain the following WML elements with
the help of an example : 3+2
- (i) WML Tables
 - (ii) <anchor> element