

Department of Information Technology, Jadavpur University  
Bachelor of Information Technology 3rd year, 2nd Semester Supplementary Examination – 2024  
Subject: **Web Technologies-II**

Time: Three hours

Full Marks: 100

*Different parts of the same question should be answered together.*

CO1 [20]	<p>[1] Answer either (a) or (b) in this block</p> <p>(a) <span style="float: right;">[4+8+8]</span></p> <p>i) What benefits does <i>server side programming</i> bring?</p> <p>ii) What is a war file? How to create a war file?</p> <p>iii) What is a web application and what is its directory structure? Briefly describe the contents of important directories.</p> <p>(b) <span style="float: right;">[4+8+8]</span></p> <p>i) Compare and contrast <i>client-side</i> and <i>server-side</i> technologies.</p> <p>ii) Show how <i>Cookies</i> can be used for session tracking.</p> <p>iii) What security issues should you be aware of while working with server-side code?</p>
CO2 [20]	<p>[2] Answer either (a) or (b) in this block</p> <p>(a) <span style="float: right;">[4+8+8]</span></p> <p>i) What is the difference between a <i>web server</i> and an <i>application server</i>?</p> <p>ii) What are the differences between <i>redirecting</i> and <i>forwarding</i> a request in the context of a web container? Explain with examples.</p> <p>iii) List the differences between include directive and include action tag.</p> <p>(b) <span style="float: right;">[4+8+8]</span></p> <p>i) What are, in a nutshell, the options for server-side programming?</p> <p>ii) Develop and deploy a simple filter that forwards only those requests that come from the host having the IP address "172.16.4.248"</p> <p>iii) Write a few attributes of page directives with their functions and examples.</p>
CO3 [20]	<p>[3] Answer either (a) or (b) in this block</p> <p>(a) <span style="float: right;">[4+8+8]</span></p> <p>i) Mention the role of DriverManager in JDBC.</p> <p>ii) In which case(s), we should use <i>PreparedStatement</i> instead of <i>Statement</i>? Explain with examples.</p> <p>iii) Write the relative merits and demerits of using an "UPDATABLE" result set.</p> <p>(b) <span style="float: right;">[4+8+8]</span></p> <p>i) How batch processing is done in JDBC?</p> <p>ii) Write short note on <i>Scrollable</i> and <i>Updatable</i> ResultSet.</p> <p>iii) Show with example how to call a stored procedure.</p>
CO4 [20]	<p>[4] Answer either (a) or (b) in this block</p> <p>(a) <span style="float: right;">[4+8+8]</span></p> <p>i) What's the full form of CGI? Write the principles of CGI programming.</p> <p>ii) Write the advantages of CGI programming over other server-side programming techniques.</p> <p>iii) How will you distinguish if a request is a CGI request or not? Describe the structure of a</p>

	<p>CGI program.</p> <p>(b) [4+8+8]</p> <p>i) Which computer languages are generally used to write CGI scripts?</p> <p>ii) Write the differences between the CGI script and Java?</p> <p>iii) Write a CGI script/program in any language to print "Hello world!" and describe the procedure to deploy it.</p>
CO5 [20]	<p>[5] Answer either (a) or (b) in this block</p> <p>(a) [4+8+8]</p> <p>i) How does a WSDL document help to invoke a web service?</p> <p>ii) Write with examples the format of XML-RPC request and response messages</p> <p>iii) Consider the following code snippet of a SOAP client:  <pre>Calculator cal = ..; int result = cal.add(2, 3);</pre> Write sample SOAP request and response messages for the above.</p> <p>(b) [4+8+8]</p> <p>i) What are the advantages of Web Services?</p> <p>ii) Write the pros. and cons. of Microservices Architecture.</p> <p>iii) What is the difference between XMLRPC and SOAP?</p>

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CO1: **Explain** Web programming paradigms and advanced client-side web technologies.

CO2: **Explain, differentiate** and **recognize** different server-side web programming techniques.

CO3: **Sketch** server-side programs and **apply** Java based technologies to **solve** them.

CO4: **Apply** CGI based technologies to **develop** server-side programs.

CO5: **Describe** and **illustrate** service discovery in web frameworks.

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