

Department of Information Technology, Jadavpur University
B. E. Information Technology 3rd year, 2nd Semester Examination – 2022
Subject: **Web Technologies-II**

Time: Three hours

Full Marks: 100

Different parts of the same question should be answered together. Answer to-the-point and avoid irrelevant answers

CO1 [20]	<p>[1] Answer either (a) or (b) in this block [4+8+8]</p> <p>(a)</p> <ul style="list-style-type: none"> i) What benefits does <i>server side programming</i> bring? ii) What is a web application and what is its directory structure? Briefly describe the contents of important directories. iii) Show how <i>Cookies</i> can be used for session tracking. <p>(b) [4+8+8]</p> <ul style="list-style-type: none"> i) Compare and contrast <i>client-side</i> and <i>server-side</i> technologies. ii) Write various server side technologies with their relative merits and demerits. iii) What is a <i>Servlet Container</i>? What are the responsibilities of a Servlet Container?
CO2 [20]	<p>[2] Answer either (a) or (b) in this block [4+8+8]</p> <p>(a)</p> <ul style="list-style-type: none"> i) Write the differences between <i>forward()</i> and <i>sendRedirect()</i> in Servlet? ii) What is <i>load-on-startup</i> in Servlet? How is it done? iii) 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>(b) [4+8+8]</p> <ul style="list-style-type: none"> i) When is JSESSIONID created in the Web application? ii) Develop and deploy a simple filter that counts how any times a servlet is accessed. iii) Show how to create and use a custom tag in JSP.
CO3 [20]	<p>[3] Answer either (a) or (b) in this block [4+8+8]</p> <p>(a)</p> <ul style="list-style-type: none"> i) Classify the JDBC drivers and briefly describe them. ii) In which case(s), we should use <i>PreparedStatement</i> instead of <i>Statement</i>? Explain with examples. iii) Write the relative merits and demerits of using an "UPDATABLE" result set. <p>(b) [4+8+8]</p> <ul style="list-style-type: none"> i) What are the basic differences between the JSP custom tags and java beans? ii) Write short note on <i>Scrollable</i> and <i>Updatable</i> ResultSet. iii) Show with example how to call a stored procedure.

CO4 [20]	<p>[4] Answer either (a) or (b) in this block [4+8+8]</p> <p>(a)</p> <ul style="list-style-type: none"> i) Write the advantages of CGI programming over other server-side programming techniques. ii) How does a web server identify that a URL is for a CGI script? iii) Write a CGI program/script (in any language) that retrieves two integer values passed to it and returns the sum of them. <p>(b) [4+8+8]</p> <ul style="list-style-type: none"> i) Which computer languages are generally used to write CGI scripts? ii) Write the differences between the CGI script and Java? iii) Write a CGI script/program in any language to print "Hello world!" and describe the procedure to deploy it.
CO5 [20]	<p>[5] Answer either (a) or (b) in this block [4+8+8]</p> <p>(a)</p> <ul style="list-style-type: none"> i) How does a WSDL document help to invoke a web-service? ii) Write with examples the format of XML-RPC request and response messages 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>(b) [4+8+8]</p> <ul style="list-style-type: none"> i) What are the properties a Java class must have to be a bean class? ii) What is MVC (Model View Controller) and what are its advantages? iii) What are the components of Struts Framework? What's the flow of requests in Struts based applications?

CO1: **Explain, differentiate and recognize** different server-side web programming techniques

CO2: **Sketch** server-side programs and **apply** Java based technologies to **solve** them

CO3: **Apply** Java-based technologies to **develop** server-side programs to work with databases

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

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