

**DEPARTMENT OF INFORMATION TECHNOLOGY AND COMMUNICATION  
COURSE OUTLINE**

1.	<b>NAME OF COURSE</b>	WEB DEVELOPMENT TECHNOLOGY																					
	<b>COURSE CODE</b>	DFP50283																					
2.	<b>SYNOPSIS</b>	<b>WEB DEVELOPMENT TECHNOLOGY</b> introduces the techniques in Java technologies for web development. The course focuses on Java EE components, terminologies of web concepts, Servlets and JSP. Database manipulation and web deployment are emphasized. Upon completion students are able to design, code, test, and debug at beginning level.																					
3.	<b>CREDIT VALUE</b>	3																					
4.	<b>PRE-REQUISITE/ CO-REQUISITE (IF ANY)</b>	DFC20123 Database Design, DFT40043/DFT40163 Web Design Technologies																					
5.	<p><b>COURSE LEARNING OUTCOMES(CLO):</b>  <b>Upon completion of this course, students should be able to:</b></p> <table border="1"> <tr> <td><b>CLO 1</b></td><td>Construct a dynamic web application using Servlet, JSP and database within Java EE platform. (P4, PLO3)</td></tr> <tr> <td><b>CLO 2</b></td><td>Demonstrate effective communication both orally and in writing about the integration of Servlet, JSP and web security in developing web application. (A3, PLO4)</td></tr> <tr> <td><b>CLO 3</b></td><td>Display the ability to visualize the development process web application development. (P3, PLO6)</td></tr> </table> <p><b>PROGRAMME LEARNING OUTCOMES (PLO):</b></p> <p><b>PLO3:</b> Display Information and Communication Technology (ICT) skill in performing diagnostic and documenting processes in ICT related fields</p> <p><b>PLO4:</b> Demonstrate effective communication both orally and in writing to other including peers, experts and non-experts</p> <p><b>PLO6:</b> Demonstrate ability to use Information and Communication Technology (ICT) in quantitative skills to support work and studies.</p>		<b>CLO 1</b>	Construct a dynamic web application using Servlet, JSP and database within Java EE platform. (P4, PLO3)	<b>CLO 2</b>	Demonstrate effective communication both orally and in writing about the integration of Servlet, JSP and web security in developing web application. (A3, PLO4)	<b>CLO 3</b>	Display the ability to visualize the development process web application development. (P3, PLO6)															
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6.	<p><b>ASSESSMENT METHOD:</b>  The course assessment consists of:</p> <p>i. Continuous Assessment (CA)–70%</p> <table border="1"> <thead> <tr> <th>Assessment</th> <th>Quantity</th> <th>Percentage (%)</th> </tr> </thead> <tbody> <tr> <td>Laboratory Exercise</td> <td>4</td> <td>20%</td> </tr> <tr> <td>Mini Project Presentation</td> <td>1</td> <td>5%</td> </tr> <tr> <td>Mini Project</td> <td>1</td> <td>15%</td> </tr> <tr> <td>Problem Scenario</td> <td>2</td> <td>30%</td> </tr> </tbody> </table> <p>ii. Final Assessment (FA)–30%</p> <table border="1"> <thead> <tr> <th>Assessment</th> <th>Quantity</th> <th>Percentage (%)</th> </tr> </thead> <tbody> <tr> <td>Practical Test</td> <td>1</td> <td>30%</td> </tr> </tbody> </table> <p>Notes: Passing requirement  a) Continuous Assessment (CA) <math>\geq</math> 40%  b) Final Examination (FE) <math>\geq</math> 40%</p>		Assessment	Quantity	Percentage (%)	Laboratory Exercise	4	20%	Mini Project Presentation	1	5%	Mini Project	1	15%	Problem Scenario	2	30%	Assessment	Quantity	Percentage (%)	Practical Test	1	30%
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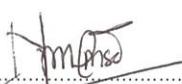
DISTRIBUTION OF STUDENT LEARNING TIME															
7.	TOPIC	GUIDED LEARNING (F2F) (HOURS)							INDEPENDENT LEARNING (NF2F) (HOURS)					Total of SLT (HOURS)	
		Lecture	Practical	Laboratory Exercise	Mini Project Presentation	Mini Project	Problem Scenario	Practical Test	Lecture/Practical	Laboratory Exercise	Mini Project Presentation	Mini Project	Problem Scenario	Practical Test	
CHAPTER 1	CHAPTER 1	4	7	4	0	0	0	0.5	4	0	0	0	0	0.5	20
CHAPTER 2	CHAPTER 2	5	13	4	0.17	0	0	0.5	5	0	0.17	3.33	4.67	0.5	36.34
CHAPTER 3	CHAPTER 3	2.5	18	4	0.17	0	0	0.5	2.5	0	0.17	3.33	4.67	0.5	36.34
CHAPTER 4	CHAPTER 4	2	10	4	0.17	0	0	0.5	2	0	0.17	3.33	4.67	0.5	27.34
	Total	13.5	48	16	0.5	0	0	2	13.5	0	0.5	10	14	2	120

WEEKLY SCHEDULE:																
	Topic No.	Topic/Content			Recommended Contact Hours			Assessment Method			Week					
8.	1.0	<b>INTRODUCTION TO JAVA WEB TECHNOLOGIES</b> This topic introduces web technologies, covering static and dynamic pages, web application components, and the Java EE platform, including client-side, server-side, and business logic technologies. It also explains Servlet usage, lifecycle, and key APIs for handling web requests and responses.			4 hours Lecture 7 hours Practical 4 hours Assessment			LABORATORY EXERCISE 1 (CLO1/PLO3) PRACTICAL TEST (CLO1/PLO3)			W1-W3					
	2.0	<b>DEVELOPING SERVLETS</b> This topic explores how to create, map, and use servlets with HTML forms to handle client requests using GET and POST methods. It includes retrieving parameters, setting attributes, forwarding requests, and validating data on both client and server sides. It also covers generating server responses by setting HTTP response headers and using redirects.			5 hours Lecture 13 hours Practical 4 hours Assessment			LABORATORY EXERCISE 2 (CLO1/PLO3) PROBLEM SCENARIO (CLO3/PLO6) MINI PROJECT (CLO1/PLO3) MINI PROJECT PRESENTATION (CLO2/PLO4) PRACTICAL TEST (CLO1/PLO3)							W3-W7	

	<p><b>3.0 INTRODUCTION TO JAVA SERVER PAGES (JSP)</b></p> <p>This topic focuses on building dynamic web applications using JSP. It covers JSP lifecycle, tags, and implicit objects, database integration using JDBC, and how to connect, retrieve, and handle data. It also includes integrating JSP with servlets for dynamic content and data processing.</p>	<p>2.5 hours Lecture</p> <p>18 hours Practical</p> <p>4 hours Assessment</p>	<p><b>LABORATORY EXERCISE 3 (CLO1/PLO3)</b></p> <p><b>PROBLEM SCENARIO (CLO3/PLO6)</b></p> <p><b>MINI PROJECT (CLO1/PLO3)</b></p> <p><b>MINI PROJECT PRESENTATION (CLO2/PLO4)</b></p> <p><b>PRACTICAL TEST (CLO1/PLO3)</b></p>	<p><b>W7-W12</b></p>
	<p><b>4.0 DEPLOYMENT AND SECURITY</b></p> <p>This topic focuses on deploying and securing web applications. It outlines the steps for deployment, understanding directory structure, configuring URIs, and setting up JSP. It also covers web application security, including servlet security concepts like authentication, authorization, confidentiality, and integrity, along with common authentication methods.</p>	<p>2 hours Lecture</p> <p>10 hours Practical</p> <p>4.5 hours Assessment</p>	<p><b>LABORATORY EXERCISE 4 (CLO1/PLO3)</b></p> <p><b>PROBLEM SCENARIO (CLO3/PLO6)</b></p> <p><b>MINI PROJECT (CLO1/PLO3)</b></p> <p><b>MINI PROJECT PRESENTATION (CLO2/PLO4)</b></p> <p><b>PRACTICAL TEST (CLO1/PLO3)</b></p>	<p><b>W12-W14</b></p>
<p><b>9. REFERENCES</b></p>	<p><b>Main:</b> Kulkarni, R. (2018). Java EE 8 Development with Eclipse Third Edition. Packt Publishing Ltd. (ISBN: 9781788833776)</p> <p>Chin, S., Vos, J., &amp; Weaver, J. (2019). The Definitive Guide to Modern Java Clients with JavaFX: Cross-Platform Mobile and Cloud Development 1st ed. Edition. New York: Apress. (ISBN: 1484249259)</p> <p><b>Additional:</b> Puntambekar, A. A. (2020). Internet Programming: A Complete Beginner's Guide. Technical Publications. (ASIN: B08QSBPZ3M)</p> <p>Saxena, A. (2019). Java Server Pages. India: MJP Publishers. (ISBN: 8180941337)</p>			

Prepared By:

  
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