DSE-2C	BCS-E601B	DATABASE APPLICATIONS	L	C	CIA	ESE	Time for ESE
			4	4	30	70	3Hrs.
PREREQUISITES		:	Knowledge of concepts of DBMS and Internet technologies				
COURSE OBJECTIVES/ LEARNING OUTCOMES		:	After successful completion of this course, students are expected to be able to • Understand client-server architecture • Perform basic website design • Perform basic client side programming • Perform basic server side programming				
NOTE: The question paper shall consist of three sections (Sec.-A, Sec.-B and Sec.-C). **Sec.-A** shall contain 10 objective type questions of one mark each and student shall be required to attempt all questions. **Sec.-B** shall contain 10 short answer type questions of four marks each and student shall be required to attempt any five questions. **Sec.-C** shall contain 8 descriptive type questions of ten marks each and student shall be required to attempt any four questions. Questions shall be uniformly distributed from the entire syllabus. The previous year paper/model paper can be used as a guideline and the following syllabus should be strictly followed while setting the question paper.								

Application Design and Development: User interfaces and tools, web interfaces to Databases Web Fundamentals: HTML, static vs. dynamic web pages, client (Java script/VB) and server side scripting (JSP/ASP/PHP/VB), web servers and sessions, two level & three level architecture, Real Life Application Development using Popular DBMS: SQL, procedures & functions, exception handling, triggers, large objects, user defined data types, collection types, bulk loading of data. **30L**

Query Optimization: Query Processing, query tree, query plans, measures of query cost, estimates of basic operations, equivalent relational algebra expressions, evaluation of expressions. **15L**

Authorizations in SQL: System and user privileges, granting and revoking privileges, roles, authorization on views, functions and procedures, limitations of SQL authorizations, audit trails Application Security: Encryption techniques, digital signatures and digital certificates. **15L**

BOOKS RECOMMENDED :

1. A. Silberschatz, H. Korth and S. Sudarshan, Database System Concepts, 5th Ed., Tata McGraw Hill, 2006.
2. J. Morrison, M. Morrison and R. Conrad, Guide to Oracle 10g, Thomson Learning, 2005.
3. Loney and Koch, Oracle 10g: The Complete Reference, Tata McGraw Hill, 2006.
4. David Flanagan, Java Script, The Definitive Guide, O'Reilly Media, 2006.
5. Marty Hall, Larry Brown, and Yaakov Chaikin, Core Servlets and Java Server Pages: Core Technologies (Vol. II), 2nd Ed., Sun Microsystems Press, 2006.
6. S.K. Singh, Database Systems Concepts, Design and Applications, Pearson Education 2006.