GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY
KASHMERE GATE, DELHI
Bachelor / Master of Technology (Dual Degree)
Computer Science & Engineering

Eighth Semester

Eighth Semester					
Code	**Paper ID**	**Paper**	**L**	**T/P**	**C**
HS402*	98402	Technical Writing	2	-	2
Electives (Choose any two)					
IT404	15404	Advanced Computer Architecture	3	1	4
IT406	15406	Control Systems	3	1	4
IT408	15408	Advanced Database Management Systems	3	1	4
IT410	15410	Soft Computing	3	1	4
IT412	15412	Natural Language Processing	3	1	4
IT414	15414	Windows .Net Framework and C# Programming	3	1	4
Practicals					
IT452	15452	Major Project (Report)		-	8
IT454	15454	Viva – Voce (On major project)		-	2
IT456*	15456	Seminar and progress report		-	1
IT458	15458	Laboratory work for electives		2	1
Total			**8**	**4**	**22**

***NUES**

Note:

1. '*' Marked papers are NUES papers.
2. Total number of credits in BTECH(CSE) = 210
3. The minimum number of credits to be earned for the award of the degree is = 200
4. No student is allowed to enter in to 9th Semester till student becomes eligible to be awarded B.Tech(CSE)

Paper Code: HS-402 **L:2 T/P:0 C:2**
Paper ID: 15402 **Paper: Technical Writing**

Unit-I
Writing Skills: Descriptive, Narrative, Argumentive and Discursive, Reflective and Literary-Evaluative Writing.

Technical Writing: Definition, Purpose and Characteristics of Technical Writing.

Unit-II
The Technical Writing Process: Prewriting Stage, The Writing Stage and the Post-writing stage.

Technical Writing Skills: Researching, Summarizing and Outlining, Visual Aids, Definition, Description, Set of Instructions.

Unit-III
Formal Formatting: Arrangement of Formal Elements, Front Material, Format Devices in the Body of Formal Report-Heading, Pagination, End Material—Citations, References and Bibliography, Appendix.

Unit-IV
Technical Writing Applications: Memorandums and Informal Format, Formal Format, Recommendations and Feasibility Reports, Proposals, Progress Reports, Analysis Reports Professional Communication, Letters and Job Applications.

Presentation and Meetings.

Text/References:

1. Forsyth, Sandy and Lesley Hutchison, "Practical Composition", Edinburgh Oliver and Boyd, 1981.
2. Sides, Charles H., "How to Write and Present Technical Information", Cambridge, Cambridge University Press, 1999.
3. Guffey, Mary Ellen, "Business Communication, Cincinnati", South-Western College Publishing, 2000.

Paper Code: IT-408 **L:3 T/P:1 C:4**
Paper ID: 15408 **Paper: Advanced Database Management Systems**

Unit-I
Relational Databases
Integrity Constraints revisited, Extended ER diagram, Relational Algebra & Calculus, Functional, Muiltivalued and Join Dependency, Normal Forms, Rules about functional dependencies.
Unit-II
Query Processing and Optimization
Valuation of Relational Operations, Transformation of Relational Expressions, Indexing and Query Optimization, Limitations of Relational Data Model, Null Values and Partial Information.
Objected Oriented and Object Relational Databases
Modeling Complex Data Semantics, Specialization, Generalization, Aggregation and Association, Objects, Object Identity, Equality and Object Reference, Architecture of Object Oriented and Object Relational Databases
Unit-III
Parallel and Distributed Databases
Distributed Data Storage – Fragmentation & Replication, Location and Fragment Transparency Distributed Query Processing and Optimization, Distributed Transaction Modeling and concurrency Control, Distributed Deadlock, Commit Protocols, Design of Parallel Databases, Parallel Query Evaluation.
Advanced Transaction Processing
Nested and Multilevel Transactions, Compensating Transactions and Saga, Long Duration Transactions, Weak Levels of Consistency, Transaction Work Flows, Transaction Processing Monitors.
Unit -IV
Data Mining
Knowledge Representation Using Rules, Association and Classification Rules, Sequential Patterns, Algorithms for Rule Discovery
Data Warehousing
Data Warehousing Architecture, Multidimensional Data Model, Update Propagation
Case Study: Oracle Xi
Text Books:
1. Elmarsi, Navathe, Somayajulu, Gupta, "Fundamentals of Database Systems", 4th Edition, Pearson Education, 2007
2. Garcia, Ullman, Widom, "Database Systems, The complete book", Pearson Education, 2007
3. R. Ramakrishnan, "Database Management Systems", McGraw Hill International Editions, 1998
References:
1. Date, Kannan, Swaminathan, "An Introduction to Database Systems", 8th Edition Pearson Education, 2007
2. Singh S.K., "Database System Concepts, design and application", Pearson Education, 2006.
3. Silberscatz, Korth, Sudarshan, "Database System Concepts", Mcgraw Hill, 6th Edition, 2006
4. W. Kim, "Modern Database Systems", 1995, ACM Press, Addision – Wesley,
5. D. Maier, "The Theory of Relational Databases", 1993, Computer Science Press, Rokville, Maryland
6. Ullman, J. D., "Principals of database systems", Galgotia publications, 1999
7. Oracle Xi Reference Manual
8. Dietrich, and Urban, "An Advanced Course in Database Systems", Pearson, 2008.

Paper Code: IT-412 **L:3 T/P:1 C:4**
Paper ID: 15412 **Paper: Natural Language Processing**

UNIT-1
Introduction to NLP
Achievement and brief history, open problems, major goal, characterstic of Language, Language structure, Language analyzer

UNIT 2
Study of grammer and semantics
Morphology, word formation, theory of semeatics, componential theory of meaning, truth conditional theory of meaning, pragmatics and discourse

UNIT 3
Machine translation
Introduction, problems of machine translation. Approaches, language Accesor, Structure of Anusaraka system.

UNIT 4
Lexical; functional grammer (LFG) and Indian languages
Overview of LGF, LFG formalism, well formedness conditions, computational aspects, CFG and Indian languages, functional specification., tree adjoining grammer.

BOOKS-

1. Natural language processing by akshar Bhartati, Sangal and Chaitanya, Eastern Economy Edition
2. An introduction to Linguistics, language rammer and sematics by P.Syal and D.V.Jindal, Eastern Economy Edition