

Bachelor of Technology – Computer Science Engineering

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Programme Structure

Curriculum & Scheme of Examination

2014

AMITY UNIVERSITY CHHATTISGARH

RAIPUR

B.Tech.-Computer Science Engineering

Programme Structure

SEVENTH SEMESTER

Course Code	Course Title	Lecture (L) Hours Per week	Tutorial (T) Hours Per week	Practical (P) Hours Per week	Total Credits
CSE2701	Data Warehousing and Data Mining	3	1	-	4
CSE2702	Artificial Intelligence	3	1	-	4
CSE2703	Analysis and Design of Algorithm	3	-	-	3
CSE2704	Data Warehousing and Data Mining Lab	-	-	2	1
CSE2705	Artificial Intelligence Lab	-	-	2	1
CSE2706	Analysis and Design of Algorithm Lab	-	-	2	1
CSE2735	Summer Internship II (Evaluation)	-	-	-	3
Concentration Electives (Select any one)					3
CSE2751	Soft Computing	3	-	-	3
CSE2707	Mobile Computing	3	-	-	3
CSE2708	Object Oriented Analysis and Design	3	-	-	3
CSE2709	Grid Computing	3	-	-	3
CSE2732	Project (Presentation &Evaluation)	-	-	-	3
Open Electives					4*+3
CSS2551	Employability Skills*	1	-	-	1
BEH2751	Relationship Management*	1	-	-	1
	Foreign Language – VII*	2	-	-	2
LAN2751	French-VII				
LAN2752	German-VII				
LAN2753	Spanish-VII				
LAN2754	Russian-VII				
LAN2755	Chinese-VII				
LAN2756	Portuguese-VII				
LAN2757	Korean-VII				
LAN2758	Japanese-VII				
	TOTAL				27

Syllabus – Seventh Semester

DATA WAREHOUSING AND DATA MINING

Course code : CSE2701

Credit Units: 04

Course Objective:

The objective of this course is to introduce students to Data Warehousing & Data mining technologies that will help To Inspect, Control and Secure Information through Databases.

Course Contents:

Module I: Introduction to Data Warehousing

The need for data ware housing, Operational & Informational Data Stores, Data Warehouse definition & Characteristics, Data Warehouse role & Structure, The cost of warehousing data, Foundation & Roots of Data,

Module II: Data Warehousing Components & Architecture:

Stores, warehouses and marts, Data warehouse database, Sourcing, acquisition, clean up & transformation tools, meta data, Access tools, Data ware house administration & management,. operational & External Database layer, Information access layer, data access layer, metadata layer, process management layer, Application messaging layer, Physical DW layer, Data staging layer.

Module III: Building a Data Warehouse:

Business, Design, Technical & Implementation Considerations, DW project plan. Overview of Mapping the DW to Multiprocessor Architecture, & DBMS Schemas for Decision Support.

Module IV: Metadata and OLAP:

METADATA: Definition, repository, management & trends.

OLAP: Need, guidelines, Multi Relational & Multi Dimensional: MOLAP, ROLAP, OLAP Tools.

Module V: Data Mining & Visualization:

Techniques to mine the data, Market Basket analysis, Measuring data mining effectiveness, embedding data mining to business process, current limitations and challenges in DM.

Introduction to EIS, The future of Data Mining, Warehousing & Virtualization, Applications:

PowerBuilder, Forte. Technical Exposure to Data Mining

Examination Scheme:

Components	A	CT	S/V/Q	HA	EE
Weightage (%)	5	10	8	7	70

CT: Class Test, HA: Home Assignment, S/V/Q: Seminar/Viva/Quiz, EE: End Semester Examination;
Att: Attendance

TEXT BOOKS:

1. Alex Berson, Data Warehousing, Data Mining, and Olap, Tata McGraw Hill.
2. George M Marakas, Modern Data Warehousing, Mining & Visualization Core Concepts, Pearson Education.

References:

1. (Berry, Michael)Data Mining Techniques.
2. (Sharma, Gajendra)Data Mining, Data Warehousing and OLAP.
3. (Gupta, GK) Data Mining with Case Studies.
4. (Han & Kamber)Data Mining: Concepts and Techniques.
5. (Paulraj Ponniah) Datawarehousing Fundamentals.

ARTIFICIAL INTELLIGENCE

Course Code: CSE2702

Credit Units: 04

Course Objective:

To develop semantic-based and context-aware systems to acquire, organize process, share and use the knowledge embedded in multimedia content. Research will aim to maximize automation of the complete knowledge lifecycle and achieve semantic interoperability between Web resources and services. The field of Robotics is a multi disciplinary as robots are amazingly complex system comprising mechanical, electrical, electronic H/W and S/W and issues germane to all these.

Course Contents:

Module I: Problem solving and Scope of AI

Introduction to Artificial Intelligence. Applications- Games, theorem proving, natural language processing, vision and speech processing, robotics, expert systems. AI techniques- search knowledge, abstraction.

Problem Solving

State space search; Production systems, search space control: depth-first, breadth-first search. Heuristic search - Hill climbing, best-first search, branch and bound. Problem Reduction, Constraint Satisfaction End, Means-End Analysis. LA* Algorithm, L(AO*) Algorithm.

Module II: Knowledge Representation

Knowledge Representation issues, first order predicate calculus, Horn Clauses, Resolution, Semantic Nets, Frames, Partitioned Nets, Procedural Vs Declarative knowledge, Forward Vs Backward Reasoning.

Module III: Understanding Natural Languages

Introduction to NLP, Basics of Syntactic Processing, Basics of Semantic Analysis, Basics of Parsing techniques, context free and transformational grammars, transition nets, augmented transition nets, Shanks Conceptual Dependency, Scripts ,Basics of grammar free analyzers, Basics of sentence generation, and Basics of translation..

Module IV

Expert System: Need and justification for expert systems, knowledge acquisition, Case studies: MYCIN,R1

Learning: Concept of learning, learning automation, genetic algorithm, learning by inductions, neural nets. **Programming Language:** Introduction to programming Language, LISP and PROLOG.

Handling Uncertainties: Non-monotonic reasoning, Probabilistic reasoning, use of certainty factors, Fuzzy logic.

Module V: Introduction to Robotics

Fundamentals of Robotics, Robot Kinematics: Position Analysis, Dynamic Analysis and Forces, Robot Programming languages & systems: Introduction, the three levels of robot programming, requirements of a robot programming language, problems peculiar to robot programming languages.

Examination Scheme:

Components	A	CT	S/V/Q	HA	EE
Weightage (%)	5	10	8	7	70

CT: Class Test, HA: Home Assignment, S/V/Q: Seminar/Viva/Quiz, EE: End Semester Examination;
Att: Attendance

Text & References:

Text:

- E. Rich and K. Knight, “Artificial intelligence”, TMH, 2nd ed., 1992.
- N.J. Nilsson, “Principles of AI”, Narosa Publ. House, 1990.
- John J. Craig, “Introduction to Robotics”, Addison Wesley publication
- Richard D. Klafter, Thomas A. Chmielewski, Michael Negin, “Robotic Engineering – An integrated approach”, PHI Publication
- Tsuneo Yoshikawa, “Foundations of Robotics”, PHI Publication

References:

- D.W. Patterson, “Introduction to AI and Expert Systems”, PHI, 1992.
- Peter Jackson, “Introduction to Expert Systems”, AWP, M.A., 1992.
- R.J. Schalkoff, “Artificial Intelligence - an Engineering Approach”, McGraw Hill Int. Ed., Singapore, 1992.
- M. Sasikumar, S. Ramani, “Rule Based Expert Systems”, Narosa Publishing House, 1994.



ANALYSIS AND DESIGN OF ALGORITHM

Course Code: CSE2703

Credit Units: 03

Course Objective:

The designing of algorithm is an important component of computer science. The objective of this course is to make students aware of various techniques used to evaluate the efficiency of a particular algorithm. Students eventually should learn to design efficient algorithm for a particular program

Course Contents:

Module I: Introduction

Algorithm Design paradigms - motivation, concept of algorithmic efficiency, run time analysis of algorithms, Asymptotic Notations. Recurrences- substitution method, recursion tree method, master method

Module II: Divide and conquer

Structure of divide-and-conquer algorithms: examples; Binary search, quick sort, Merge sort, Strassen Multiplication; Analysis of divide and conquer run time recurrence relations.

Greedy Method

Overview of the greedy paradigm examples of exact optimization solution (minimum cost spanning tree), Approximate solution (Knapsack problem), Single source shortest paths, traveling salesman

Module III: Dynamic programming

Overview, difference between dynamic programming and divide and conquer, Applications: Shortest path in graph, chain Matrix multiplication, Traveling salesman Problem, longest Common sequence, knapsack problem

Module IV: Graph searching and Traversal

Overview, Representation of graphs, strongly connected components, Traversal methods (depth first and breadth first search)

Back tracking

Overview, 8-queen problem, and Knapsack problem

Branch and bound

LC searching Bounding, FIFO branch and bound, LC branch and bound application: 0/1 Knapsack problem, Traveling Salesman Problem

Module V: Computational Complexity

Complexity measures, Polynomial Vs non-polynomial time complexity; NP-hard and NP-complete classes, examples.

Examination Scheme:

Components	A	CT	S/V/Q	HA	EE
Weightage (%)	5	10	8	7	70

CT: Class Test, HA: Home Assignment, S/V/Q: Seminar/Viva/Quiz, EE: End Semester Examination;
Att: Attendance

Text & References:

Text:

- E. Horowitz, S. Sahni, and S. Rajsekar, "Fundamentals of Computer Algorithms," Galgotia Publication
- T. H. Cormen, Leiserson, Rivest and Stein, "Introduction of Computer algorithm,"

References:

- Sara Basse, A. V. Gelder, "Computer Algorithms," Addison W
- J.E Hopcroft, J.D Ullman, "Design and analysis of algorithms"
- D. E. Knuth, "The art of Computer Program

DATA WAREHOUSING AND DATA MINING LAB

Course Code: CSE2704

Credit Units: 01

Programming Language: C/C++

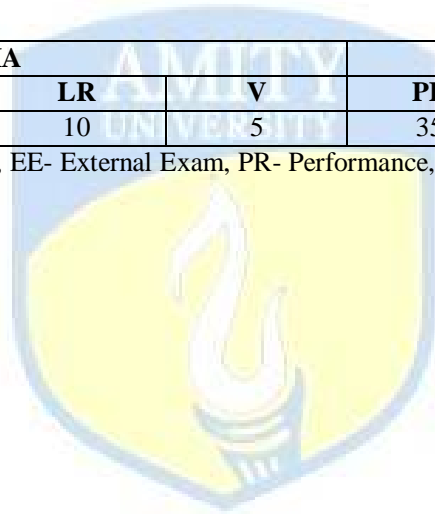
List of Programs:

1. WAP to check whether string is accepted or not for entered grammar.
2. WAP to convert Infix to Postfix notation.
3. WAP to convert Infix to Prefix notation.
4. WAP to find no of Tokens in an expression.
5. WAP to convert Regular Expression to NFA.
6. WAP to convert NFA to DFA.
7. WAP to calculate LEADING and TRAILING of a grammar.
8. WAP calculate FIRST and FOLLOW of a grammar.
9. WAP to implement shift reduce parser.
10. WAP to implement top down parser.

Examination Scheme:

IA				EE	
A	PR	LR	V	PR	V
5	10	10	5	35	35

Note: IA –Internal Assessment, EE- External Exam, PR- Performance, LR – Lab Record, V – Viva.



ARTIFICIAL INTELLIGENCE LAB

Course Code: CSE2705

Credit Units: 01

Course Contents:

Assignments will be provided for the following:

- Programming in Prolog
- Programming for Robotics

Examination Scheme:

IA				EE	
A	PR	LR	V	PR	V
5	10	10	5	35	35

Note: IA –Internal Assessment, EE- External Exam, PR- Performance, LR – Lab Record, V – Viva.



ANALYSIS AND DESIGN OF ALGORITHM LAB

Course Code: CSE2706

Credit Units: 01

Lab assignment will be based on the following:

Programs for binary search and Quick sort by using divide and conquer techniques.

Programs on algorithm based on greedy method.

Programs on algorithm based on Dynamic programming.

Programs on Depth First and Breadth Search traversals of graphs.

Programs on algorithm based on backtracking.

Programs on algorithm based on Brach and Bound.

Examination Scheme:

IA				EE	
A	PR	LR	V	PR	V
5	10	10	5	35	35

Note: IA –Internal Assessment, EE- External Exam, PR- Performance, LR – Lab Record, V – Viva.



SUMMER INTERNSHIP II (EVALUATION)

Course Code: CSE2735

Credit Units: 03

Guidelines:

There are certain phases of every Intern's professional development that cannot be effectively taught in the academic environment. These facets can only be learned through direct, on-the-job experience working with successful professionals and experts in the field. The internship program can best be described as an attempt to institutionalize efforts to bridge the gap between the professional world and the academic institutions. Entire effort in internship is in terms of extending the program of education and evaluation beyond the classroom of a university or institution. The educational process in the internship course seeks out and focuses attention on many latent attributes, which do not surface in the normal classroom situations. These attributes are intellectual ability, professional judgment and decision-making ability, inter-disciplinary approach, skills for data handling, ability in written and oral presentation, sense of responsibility etc.

In order to achieve these objectives, each student will maintain a file (**Internship File**). The Internship File aims to encourage students to keep a personal record of their learning and achievement throughout the Programme. It can be used as the basis for lifelong learning and for job applications. Items can be drawn from activities completed in the course modules and from the workplace to demonstrate learning and personal development.

The File will assess the student's analytical skills and ability to present supportive evidence, whilst demonstrating understanding of their organization, its needs and their own personal contribution to the organization.

The **layout guidelines** for the Project & Seminar Report:

1. File should be in the following specification:

A4 size paper

Font: Arial (10 points) or Times New Roman (12 points)

Line spacing: 1.5

Top & bottom margins: 1 inch/ 2.5 cm

Left & right margins: 1.25 inches/ 3 cm

2. Report Layout: The report should contain the following components:

Front Page

Table of Content

Acknowledgement

Student Certificate

Company Profile (optional)

Introduction

Main Body

References / Bibliography

The File will include *five sections* in the order described below. The content and comprehensiveness of the main body and appendices of the report should include the following:

1. **The Title Page**--Title - An Internship Experience Report For (Your Name), name of internship organization, name of the Supervisor/Guide and his/her designation, date started and completed, and number of credits for which the report is submitted.
2. **Table of Content**--an outline of the contents by topics and subtopics with the page number and location of each section.
3. **Introduction**--short, but should include how and why you obtained the internship experience position and the relationship it has to your professional and career goals.

4. **Main Body**--should include but not be limited to daily tasks performed. Major projects contributed to, dates, hours on task, observations and feelings, meetings attended and their purposes, listing of tools and materials and their suppliers, and photographs if possible of projects, buildings and co-workers.

5. **References / Bibliography** --This should include papers and books referred to in the body of the report. These should be ordered alphabetically on the author's surname. The titles of journals preferably should not be abbreviated; if they are, abbreviations must comply with an internationally recognised system

ASSESSMENT OF THE INTERNSHIP FILE

The student will be provided with the Student Assessment Record (SAR) to be placed in front of the Internship File. Each item in the SAR is ticked off when it is completed successfully. The faculty will also assess each item as it is completed. The SAR will be signed by the student and by the faculty to indicate that the File is the student's own work. It will also ensure regularity and meeting the delaines.

STUDENT ASSESSMENT RECORD (SAR)

1. Range of Research Methods used to obtain information

2. Execution of Research

3. Data Analysis

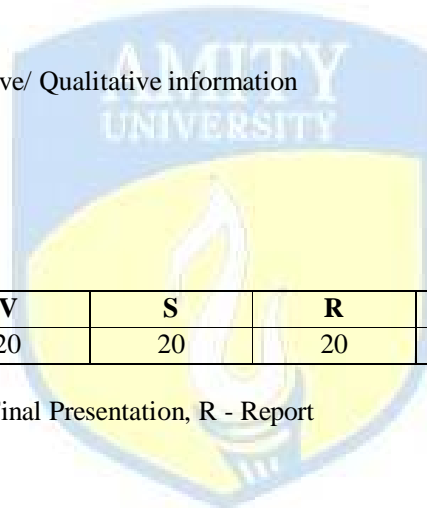
- Analyse Quantitative/ Qualitative information
- Control Quality

4. Draw Conclusions

Examination Scheme:

Components	V	S	R	FP
Weightage (%)	20	20	20	40

V – Viva, S – Synopsis, FP – Final Presentation, R - Report



SOFT COMPUTING

Course Code: CSE2751

Credit Units: 03

Course Objective:

To develop semantic-based and context-aware systems to acquire, organise, process, share and use the knowledge embedded in multimedia content. Research will aim to maximise automation of the complete knowledge lifecycle and achieve semantic interoperability between Web resources and services.

Course Contents:

Module I: Soft Computing

Introduction of soft computing, soft computing vs. hard computing, various types of soft computing techniques, applications of soft computing.

Module II: Neural Network

Structure and Function of a single neuron: Biological neuron, artificial neuron, definition of ANN, Taxonomy of neural net, Difference between ANN and human brain, characteristics and applications of ANN, single layer network, Perceptron training algorithm, Linear separability, Widrow & Hebb's learning rule/Delta rule, ADALINE, MADALINE, AI v/s ANN. Introduction of MLP, different activation functions, Error back propagation algorithm, derivation of BBPA, momentum, limitation, characteristics and application of EBPA

Module III

Counter propagation network, architecture, functioning & characteristics of counter Propagation network, Hopfield/ Recurrent network, configuration, stability constraints, associative memory, and characteristics, limitations and applications. Hopfield v/s Boltzman machine. Adaptive Resonance Theory: Architecture, classifications, Implementation and training. Associative Memory.

Module IV: Fuzzy Logic

Fuzzy set theory, Fuzzy set versus crisp set, Crisp relation & fuzzy relations, Fuzzy systems: crisp logic, fuzzy logic, introduction & features of membership functions, Fuzzy rule base system : fuzzy propositions, formation, decomposition & aggregation of fuzzy rules, fuzzy reasoning, fuzzy inference systems, fuzzy decision making & Applications of fuzzy logic.

Module V: Genetic algorithm

Fundamentals, basic concepts, working principle, encoding, fitness function, reproduction, Genetic modeling: Inheritance operator, cross over, inversion & deletion, mutation operator, Bitwise operator, Generational Cycle, Convergence of GA, Applications & advances in GA, Differences & similarities between GA & other traditional methods.

Examination Scheme:

Components	CT	H	V/S/Q	AT	EE
Weightage (%)	10	8	7	5	70

Text & References:

- S, Rajasekaran & G.A. Vijayalakshmi Pai, Neural Networks, Fuzzy Logic & Genetic Algorithms, Synthesis & Applications, PHI Publication.
- S.N. Sivanandam & S.N. Deepa, Principles of Soft Computing, Wiley Publications
- Rich E and Knight K, Artificial Intelligence, TMH, New Delhi.
- Bose, Neural Network fundamental with Graph , Algo.& Appl, TMH
- Kosko: Neural Network & Fuzzy System, PHI Publication
- Klir & Yuan, Fuzzy sets & Fuzzy Logic: Theory & Appli.,PHI Pub.
- Hagen, Neural Network Design, Cengage Learning

MOBILE COMPUTING

Course Code: CSE2707

Credit Units: 03

Course Objective:

The objective of this consortium is to shape and expand a full-scale and sound mobile computing system market. To achieve this, cooperation is required of interests related to communication (network), computer hardware/software, system integrators (including service providers), and the media.

Course Contents:

Module I: Introduction to Personal Communications Services (PCS)

PCS Architecture, Mobility management, Networks signaling.

Global System for Mobile Communication (GSM) system overview: GSM Architecture, Mobility management, Network signaling.

Module II: General Packet Radio Services (GPRS) & Wireless Application Protocol (WAP)

GPRS Architecture, GPRS Network Nodes.

Mobile Data Communication: WLANs (Wireless LANs) IEEE 802.11 standard, Mobile IP.

Wireless Application Protocol (WAP): The Mobile Internet standard, WAP Gateway and Protocols, wireless mark up Languages (WML).

Module III: Third Generation (3G) Mobile Services

Introduction to International Mobile Telecommunications 2000 (IMT 2000) vision, Wideband Code Division Multiple Access (W-CDMA), and CDMA 2000, Quality of services in 3G.

Wireless Local Loop(WLL): Introduction to WLL Architecture, wireless Local Loop Technologies.

Module IV: Global Mobile Satellite Systems

Global Mobile Satellite Systems; case studies of the IRIDIUM and GLOBALSTAR systems.

Module V: Enterprise Networks

Introduction to Virtual Networks, Blue tooth technology, Blue tooth Protocols. Advanced techniques in mobile computing.

Examination Scheme:

Components	A	CT	S/V/Q	HA	EE
Weightage (%)	5	10	8	7	70

CT: Class Test, HA: Home Assignment, S/V/Q: Seminar/Viva/Quiz, EE: End Semester Examination;
Att: Attendance

Text & References:

Text:

- “Wireless and Mobile Networks Architectures”, by Yi-Bing Lin & Imrich Chlamtac, John Wiley & Sons, 2001.
- “Mobile and Personal Communication systems and services”, by Raj Pandya, Prentice Hall of India, 2001.

References:

- “Guide to Designing and Implementing wireless LANs”, by Mark Ciampa, Thomson learning, Vikas Publishing House, 2001.
- “Wireless Web Development”, Ray Rischpater, Springer Publishing, 2000.
- “The Wireless Application Protocol”, by Sandeep Singhal, Pearson Education Asia, 2000.
- “Third Generation Mobile Telecommunication systems”, by P.Stavronlakis, Springer Publishers, 2001.

OBJECT ORIENTED ANALYSIS AND DESIGN

Course Code: CSE2708

Credit Units: 03

Course Objective:

Object-oriented analysis and design (OOAD) is a software engineering approach that models a system as a group of interacting objects. Each object represents some entity of interest in the system being modeled, and is characterized by its class, its state (data elements), and its behaviour. The course aims to discuss the static structure, dynamic behaviour, and run-time deployment of these collaborating objects.

Course Contents:

Module I: Object Oriented Design Fundamentals

The Object Model: Overview of Object Oriented system Development – Object Basic – Object – Oriented Systems Development Life Cycle.

Object Oriented Analysis: Methodologies Shaler / Meller, Coad / Yourdon, Rumbaugh et al.'s Object Modeling Technique; The Booch Methodology; The Jacobson et al. Methodologies; Patterns; Frameworks; The Unified Approach.

Module II: Unified Modeling Language

Introduction; Static and Dynamic Models; Why Modeling? ; Introduction to the Unified Modeling Language; UML Diagrams; Static Diagram:

UML Class Diagram: Class, interface, package, Relationships between classes, UML Use Case Diagram; UML Dynamic Modeling (Behavioural Diagram); Implementation Diagrams;

Module III: Object Oriented Analysis Process

Identifying use cases: Introduction; Use Case Driven Object Oriented Analysis: The Unified Approach; Business Process Modeling; Use Case Model; Developing Effective Documentation

Object Analysis: Classification: Introduction; classifications Theory; Approaches for Identifying Classes; Noun Phrase Approach; Common Class Patterns Approach; Use Case Driven Approach: Identifying Classes and Their Behaviours through Sequence/Collaboration Modeling; Classes, Responsibilities, and Collaborators.

Module IV: Identifying Object Relationships, Attributes, and Methods

Introduction; Associations; Super-Sub Class Relationships; A Part of Relationships Aggregation ;Class

responsibility: Identifying Attributes and Methods; Class Responsibility: Defining Attributes by Analyzing Use Cases and Other UML Diagrams; Object Responsibility: Methods and Messages

The Object oriented Design Process And Design Axioms: Introduction;

The ObjectOriented Design Process; ObjectOriented Design Axioms; Corollaries.

Module V: Designing Classes

Introduction; The ObjectOriented Design Philosophy; UML Object Constraint Language; Designing Classes: The Process; Class Visibility: Designing WellDefined Public, Private, and Protected Protocols; Designing Classes: Refining Attributes; Designing Methods and Protocols; Packages and Managing Classes.

View Layer: Designing Interface Objects: Introduction; User Interface Design as a Creative Process; Designing View Layer Classes

Examination Scheme:

Components	A	CT	S/V/Q	HA	EE
Weightage (%)	5	10	8	7	70

CT: Class Test, HA: Home Assignment, S/V/Q: Seminar/Viva/Quiz, EE: End Semester Examination; Att: Attendance

Text & References:

Text:

- „Object Oriented Systems Development – Using the Unified Modeling Language“, Ali Bahrami, Tata McGraw Hill International Editions, Computer Science Series.
- “Object Oriented Analysis & Design with Applications“, Grady Booch, 2nd Edition Pearson Education 1999.

References:

- „Unified Modeling Language Reference Manual“, James Rumbaugh, Jacobson, Booch, PHI.
- „The Unified Software Development Process“, Jacobson et al., AW, 1999.
- „Object Oriented Analysis and Design“, Atul Kahate, Tata McGraw Hill Co Edition 2004.
- “Object Oriented Software Engineering: Practical Software Development Using UML and JAVA“ Timothy C. Lethbridge and Robert Langanieri, Tata McGraw Hill Co



GRID COMPUTING

Course Code: CSE2709

Credit Units: 03

Course Objective:

Grid computing (or the use of a *computational grid*) is applying the resources of many computers in a network to a single problem at the same time - usually to a scientific or technical problem that requires a great number of computer processing cycles or access to large amounts of data. The major objective of this course is to provide a sound foundation to the students on the concepts, percepts and practices in a field that is of immense concern to the industry and business.

Course Contents:

Module I: Introduction-Cluster to grid computing

Cluster computing models, Grid models, Mobile grid models, Applications.

Parset: System independent parallel programming on distributed systems: Motivation and introduction, Semantics of the parset construct, Expressing parallelism through parsets, Implementing parsets on a loosely coupled distributed system.

Anonymous remote computing model: Introduction, Issues in parallel computing on interconnected workstations, Existing distributed programming approaches, The arc model of computation, The two tired arc language constructs, Implementation

Module II: Integrating task parallelism with data parallelism

Introduction and motivation, A model for integrating task parallelism into data parallel programming platforms, Integration of the model into ARC, Design and implementation applications, performance analysis, guidelines for composing user programs, related work

Anonymous remote computing and communication model: Introduction, Location in dependent inter task communication with DP, DP model of iterative grid computations, Design and implementation of distributed pipes, Case study, and Performance analysis.

Module III: Parallel programming model on CORBA

Introduction, Existing works, notion of concurrency, system support implementation performance, suitability of CORBA: introspection.

Grid computing model: Introduction, a parallel computing model over grids, Design and implementation of the model, Performance studies, Related work.

Module IV: Introducing mobility into anonymous remote computing and communication model

Introduction, issues in mobile clusters and parallel computing on mobile clusters, moset overview, moset computation model, implementation, performance.

Module V: Parallel Simulated Annealing algorithms

Introduction, Simulated annealing (SA) Technique, Clustering algorithm for simulated annealing (SA), Combination of genetic algorithm and simulated annealing (SA) algorithm

Examination Scheme:

Components	A	CT	S/V/Q	HA	EE
Weightage (%)	5	10	8	7	70

CT: Class Test, HA: Home Assignment, S/V/Q: Seminar/Viva/Quiz, EE: End Semester Examination;
Att: Attendance

Text & References:

Text:

- “Grid Computing a Research Monograph” by D. Janakiram, Tata McGraw hill publications, 2005

References:

- “Grid Computing: A Practical Guide to technology and Applications” by Ahmar Abbas, Charles River media – 2003.
- “Grid Computing” Joshy Joseph & Craig Fellenstein, Pearson Education

PROJECT (PRESENTATION & EVALUATION)

Course Code: CSE2732

Credit Units: 03

Course Objective:

The objective of this course is to provide practical training on some live/demo projects that will increase capability to work on actual problem in industry. It will be an in house training on some latest software which is in high demand in market. This training will be designed such that it will be useful for their future employment in industry.

STUDENT ASSESSMENT RECORD (SAR)

Record to be maintained by project guide.

1. Project Tools (Hardware/ Software) used for implementation.
2. Project Evaluation & Execution.

Examination Scheme:

Components	V	S	R	FP
Weightage (%)	20	20	20	40

V – Viva, S – Synopsis, FP – Final Presentation, R - Report

