

BHARATHIAR UNIVERSITY, COIMBATORE.
M. Sc. COMPUTER SCIENCE (Affiliated Colleges)
(Effective from the academic Year 2010-2011)
SCHEME OF EXAMINATIONS – CBCS PATTERN

Sem.	Study Components	Course title	Ins. hrs/ week	Exam				Credit
				Dur.	CIA	Marks	Total Marks	
Semester I								
I	Paper I	Advanced Computer Architecture	4	3	25	75	100	4
	Paper II	Analysis & Design of Algorithms	5	3	25	75	100	4
	Paper III	Object Oriented Analysis and Design & C++	5	3	25	75	100	4
	Paper IV	Advanced Networks	4	3	25	75	100	4
	Paper V	Advanced Software Engineering	4	3	25	75	100	4
	Practical I	Algorithm and OOPS Lab	5	3	40	60	100	4
	Paper VI	Software Project Management	3	3	25	75	100	4
Semester II								
II	Paper VII	Data Mining and Warehousing	5	3	25	75	100	4
	Paper VIII	Advanced Operating System	5	3	25	75	100	4
	Paper IX	Advanced Concepts of Internet & Web	5	3	25	75	100	4
	Elective – I		6	3	25	75	100	4
	Practical II	Advanced Operating System & Internet Applications Lab	6	3	40	60	100	4
	Paper X	Artificial Intelligence & Expert Systems	3	3	25	75	100	4
Semester III								
III	Paper XI	Digital Image Processing	5	3	25	75	100	4
	Paper XII	Advanced Tools in Computing	5	3	25	75	100	4
	Paper XIII	Network Security and Cryptography	5	3	25	75	100	4
	Elective – II		5	3	25	75	100	4
	Practical III	Advanced Tools in Computing Lab	4	3	40	60	100	4
	Paper XIV	Software Testing	3	3	25	75	100	4
	Paper XV	Software Testing Lab	3	3	40	60	100	4
IV	Project work and Viva voce						250*	10
	Total						2250	90

* Project report - 200 marks; Viva-voce – 50 marks

ELECTIVE – I.

- 1.1. Web Services
- 1.2. Distributed Computing
- 1.3. Neural Network and Fuzzy Logic

ELECTIVE – II

- E.2.1. Multimedia and its Applications
- E.2.2. Embedded Systems
- E.2.3. Natural Language Processing
- E.2.4. Simulation and Modeling

Note:

1. The Syllabus for the above papers (except Paper VI - Software Project Management & Elective 1.1 - Web Services) be the same as prescribed for the academic year 2007-08.
2. The syllabus for the Paper VI - Software Project Management & Elective 1.1 - Web Services are furnished below :

PAPER VI - SOFTWARE PROJECT MANAGEMENT

Subject Description:

This course presents the introduction to software projects, activity planning, risk management software configuration management.

Goal:

To enable the students to learn the basic functions, principles and concepts of Software project management.

Objectives:

On successful completion of the course the students should have:

- Understood the Software configuration management
- Understood the Activity Planning , Risk Management using case studies

Contents:

UNIT I

Introduction to Software Projects – An Overview of Project Planning – Project Evaluation – Selection of an appropriate Project approach – Software effort Estimation.

UNIT II

Activity Planning – Project Schedules – Sequencing and Scheduling Projects – Network Planning Model – forward and backward pass-Identifying the Critical path-Activity float-Shortening Project Duration – Identifying Critical Activities-precedence networks.

UNIT III

Risk Management – Resource Allocation – Monitoring and Control – Managing People and Organizing Teams – Planning for Small Projects.

UNIT IV

Software Configuration Management – Basic Functions – Responsibilities – Standards – Configuration Management – Prototyping – Models of Prototyping.

UNIT V

Case Study – PRINCE Project Management.

REFERENCE BOOKS

1. Mike Cotterell, Bob Hughes, “Software Project Management”, Inclination/Thomas Computer Press, 1995.
2. Darrel Ince, H.Sharp and M.Woodman, “Introduction to Software Project Management and Quality Assurance”, Tata McGraw Hill, 1995.

ELECTIVE I PAPER 1.1 WEB SERVICES

Subject Description:

This course presents an Overview of Distributed Computing, XML, web services

Goals:

To enable the student to be familiar with distributed services, XML and web services

Objectives:

On successful completion of the course the student should have:

- Understood the concepts of web services

Contents:

Unit - I

Introduction to web services – Overview of Distributed Computing- Evolution and importance of web services-Industry standards, Technologies and concepts underlying web services-Web services and enterprises-web services standards organization-web services platforms.

Unit - II

XML Fundamentals – XML documents - XML Namespaces- XML Schema –Processing XML

Unit - III

SOAP: The SOAP model- SOAP messages-SOAP encoding- WSDL: WSDL structure-interface-definitions-bindings-services-Using SOAP and WSDL-UDDI: About UDDI- UDDI registry-Specification- Core data structures-Accessing UDDI

Unit - IV

Advanced web services technologies and standards: Conversations overview-web services conversation language-WSCL interface components.

Workflow: business process management-workflows and workflow management systems

Security: Basics-data handling and forwarding-data storage-errors-Web services security issues.

Unit - V

Quality of Service: Importance of QoS for web services-QoS metrics-roles-design patterns-QoS enabled web services-QoS enabled applications.

Web services management-web services standards and future trends.

Reference Books:

1. Sandeep Chatterjee, James Webber, 'Developing Enterprise Web Services: An Architects Guide', Prentice Hall, Nov 2003.