



CHOICE BASED CREDIT SYSTEM
Credit and Semester System Syllabus

Structure for B.C.A. – CBCS Programme

Semester-V (TY)

COURSE NO.	COURSE TYPE	SUBJECT	CREDIT
BCA-EC-501	ELECTIVE		02
BCA-FC-502	FOUNDATION		02
BCA-CC-503	CORE	Software Engineering	03
BCA-CC-504	CORE	Web Application Development Using Asp.Net	03
BCA-CC-505	CORE	RDBMS Using Oracle-I	03
BCA-CC-506	CORE	Data Communication and Networking	03
BCA-CC-507	CORE	Practical (Based on BCA-CC-504 & BCA-CC-504)	12
TOTAL			28

Internal Continuous Evaluation:

1. There will be Internal Continuous Evaluation in Theory papers of Core Course.
2. There will be 30 marks for Assignments in Course No: BCA-CC-503, BCA-CC-504, BCA-CC-505, BCA-CC-506



B.C.A.		Course: Software Engineering	Course No: BCA-CC-503	
Semester: 05		Type of Course : Core Course		
Marking Scheme: External Examination: 70 + Internal Examination: 30 = 100				
Credits: 03		Theory Sessions per Week: 03	Teaching Hours: 45 Hours	
Unit	Detailed Syllabus	Teaching Hours	Marks/Weight	
Unit-1	Introduction	9	14	
	<ul style="list-style-type: none"> - Define -Software & Software Engineering - Software Engineering Approach – Phase Development Process, Project Management - Software Process & It’s Characteristics - Software Development Process Models – Water Fall Model, Prototyping, Iterative Enhancement, Spiral Model 			
Unit-2	Software Requirement Analysis & Specification	9	14	
	<ul style="list-style-type: none"> - Define Software Requirements - Need For SRS - Role of SRS - Requirement Process -Problem Analysis ,Requirement Specifications, Validation 			
Unit-3	Software Planning & Designing	9	14	
	<ul style="list-style-type: none"> - Team Structure – Egoless team, Chief Programmer Team, Controlled Decentralized Team - Quality Assurance Plan – Verification & Validation, Inspection & Review - Risk Management – types of risk management - System Design principles. - Module level concepts - Coupling & Cohesion - Design Methodology - Structure Chart - Functional approach vs. Object Oriented Approach 			
Unit-4	Coding & Testing	9	14	
	<ul style="list-style-type: none"> - Programming Practice - Testing Fundamentals (errors, fault & failure) - Levels of Testing - Testing Methods 			
Unit-5	UML	9	14	
	<ul style="list-style-type: none"> - Fundamental of UML – Associations, Multiplicity, Qualified Association, - Reflexive Association, Inheritance & Generalization, Dependencies - Component of UML – Class Diagram, Object Diagram, Use Case 			



	Diagram, Activity Diagram – Case study –Library management system, ticket reservation system, hospital management system.		
Reference Books			
<ol style="list-style-type: none">1. Pankaj Jalote: An Integrated Approach to Software Engineering, Narosa Publication2. Joseph Schmuller: Teach Your Self UML in 24 Hours, Techmedia Publication3. Roger Pressman: Software Engineering, McGraw-Hill Publication4. Object Oriented Modeling and Designing with UML, Michael R Blaha & James R Rumbaugh - Pearson			



B.C.A.	Course: Web Application Development Using ASP.NET	Course No: BCA-CC-504	
Semester: 05	Type of Course : Core Course		
Marking Scheme: External Examination: 70 + Internal Examination: 30 = 100			
Credits: 03	Theory Sessions per Week: 03	Teaching Hours: 45 Hours	
Unit	Detailed Syllabus	Teaching Hours	Marks/Weight
Unit-1	Introduction	09	14
	<ul style="list-style-type: none">– Introduction of IDE.– Introduction of web forms & Page event life cycle.– Global application class & web.config file.– Advantages and features of asp.net.– State management using view state, query string, session and cookies.		
Unit-2	Basic Controls	09	14
	<ul style="list-style-type: none">– Label, Button and Textbox.– List Controls: Dropdownlist, listbox, checkbox list, radiobutton list, BulletedList.– Radio button, checkbox.– File upload and Image control.– Hyperlink, table, panel and wizard		
Unit-3	Advance controls	09	14
	<ul style="list-style-type: none">– Navigation controls using menu, treeview and sitemap path.– Validation Controls– Ad Rotator– Login Controls.– Master Page, Theme and CSS.		
Unit-4	Working with Database	09	14
	<ul style="list-style-type: none">– ADO.NET architecture.– Introduction of Server Explorer and its Features.– Create database using sql server express and access with server explorer.– Connectivity using code and sql data source.– Data controls using grid view, form view, details view and data list control.		
Unit-5	AJAX & Web services	09	14
	<ul style="list-style-type: none">– Introduction of AJAX : History, Advantages, Application– AJAX architecture.– AJAX basic controls- ScriptManager, ScriptManagerProxy, UpdatePanel, UpdateProgress and timer.– Introduction of web services.– Create and deploy web services.		
Reference Books			
1. ASP.NET Black BOOK Published By Dreamtech Press			
2. ASP.NET UNLEASHED By STEPHEN WALTHER			



B.C.A.	Course: RDBMS using Oracle-I	Course No: BCA-CC-505
Semester: 05	Type of Course : Core Course	
Marking Scheme: External Examination: 70 + Internal Examination: 30 = 100		
Credits: 03	Theory Sessions per Week: 03	Teaching Hours: 45 Hours

Unit	Detailed Syllabus	Teaching Hours	Marks/Weight
Unit-1	DBMS AND RDBMS CONCEPTS	09	14
	<ul style="list-style-type: none">– Overview of DBMS and RDBMS– Three schema Architecture– Data models: Hierarchical Model, Network model, Relational model.		
Unit-2	INTRODUCTION TO ORACLE SERVER	09	14
	<ul style="list-style-type: none">– ORACLE Server & Instances– Database Structure & Space Management– Memory & Process Structure– Client Server Architecture – Distributed Database Processing– How Oracle Works		
Unit-3	BASIC SQL*PLUS	09	14
	<ul style="list-style-type: none">– Introduction of SQL, Characteristics of SQL.– Basic Data Types of ORACLE, Oracle Operators.– Data Definition Language (DDL)– Data Manipulation Language (DML)– Data Control Language (DCL)– Transaction Processing Language (TPL)– Query Generation using Clause: Where, Between, Distinct, Like, Order by, IN,NOTIN		
Unit-4	ADVANCE SQL*PLUS-I	09	14
	<ul style="list-style-type: none">– Data Constrains– Types of Data Constrains.– In Built Functions: Aggregate, Numeric, String, Data/Time, Conversion.– Grouping of Data		
Unit-5	ADVANCE SQL*PLUS-II	09	14
	<ul style="list-style-type: none">– Sub queries and Types of Sub queries– Join and types of join– Union, Intersect and minus Clause– Schema and Schema objects: View, Sequence, index, synonyms.		

REFERENCE BOOKS

1. Learn Oracle 8i. By Jose A. Ramalho. Published by:BPB
2. SQL in 21-Days - Techmedia
3. PL/SQL in 21 Days - Techmedia
4. SQL, PL/SQL:THE PROGRAMMING LANGUAGE OF ORACLE By Evan Bayross



B.C.A.	Course: Data Communication and Networking	Course No: BCA-CC-506	
Semester: 05	Type of Course : Core Course		
Marking Scheme: External Examination: 70 + Internal Examination: 30 = 100			
Credits: 03	Theory Sessions per Week: 03	Teaching Hours: 45 Hours	
Unit	Detailed Syllabus	Teaching Hours	Marks/Weight
Unit-1	Data Communication Fundamentals	09	14
	<ul style="list-style-type: none">- Introduction of Ancient, Electronic and Computerized Methods of Communication.- Digital and Analog Data- Data transmission Modes (Simplex, Half Duplex and Full Duplex)- Types of Transmission media: Guided and Unguided- Guided Transmission Media: Twisted Pair, Coaxial Cables, Fiber Optics.- Unguided Transmission Media: Radio Waves and Micro Waves		
Unit-2	Introduction to Computer Network	09	14
	<ul style="list-style-type: none">- Meaning of the basic terms: – Network, Internetwork, Protocol.- Types of Connection (Point to Point and Multipoint.)- Types of Computer Network (LAN, MAN, WAN).- Different types of Server: File Server, Application Server, Mail Server, Web Server, Database Server		
Unit-3	Local Area Network Technology and Networking Devices		
	<ul style="list-style-type: none">- Introduction and Characteristics of LAN.- LAN Topologies : Bus, Ring, Star, Tree, Mesh- Functions of Various Networking Components: Repeater, Hub, Switch, Router, Bridge, and Gateway.		
Unit-4	Network Model	09	14
	<ul style="list-style-type: none">- Switching Technique: Circuit, Packet, and Message Switching- Layered Tasks: Sender, Receiver.- OSI Reference Model.- Connection Less Vs Connection Oriented, Reliable Vs Unreliable Connections- IP Packet Format and IP Addressing(IPV4)		
Unit-5	Network Applications	09	14
	<ul style="list-style-type: none">- Domain Name System: DNS Basics, Characteristics, Working Of DNS, DNS Hierarchy.- File Transfer Protocol: FTP Basics, FTP Modes, FTP Commands.- Email: Email Basics, Email Structure, How Email Works?- Email Protocol :SMTP,IMAP, MIME and POP- HTTP Protocol & UDP Protocol.		
Reference Books			
1. Data Communication and Networking, Author – Satish Jain / M. Jain, ISBN – 81-7656-484-2, BPB Publication.			
2. Data Communication and Networking, Author – Behrouz Forouzan, Tata McGraw Hill Publication			



MAHARAJA KRISHNAKUMARSINHJI BHAVNAGAR UNIVERSITY

NAAC Accreditation Grade "B"
(With effect from Academic Year: 2017-18)

B.C.A.	Course: Practical	Course No: BCA-CC-507
Semester: 05	Type of Course: Core Course	
Marking Scheme: External Examination: 100 + Internal Examination: 00 = 100 Marks		
Credits: 12	Practical Sessions per Week: 12	Teaching Hours: 180 Hours

Unit	Detailed Syllabus	Teaching Hours	Marks/Weight
Unit-1	Practical Based on 504	90	50
Unit-2	Practical Based on 505	90	50