DON BOSCO ARTS & SCIENCE COLLEGE

ANGADIKADAVU

(Affiliated to Kannur University Approved by Government of Kerala)

ANGADIKADAVU P.O., IRITTY, KANNUR – 670706

COURSE PLAN

BCA

(2017 – 20)

SEMESTER - V

ACADEMIC YEAR - (2019-20)

V Semester BCA (2017 - 20)			
SL. No.	**Name of Subjects with Code**	**Name of the Teacher**	**Duty Hours per week**
1.	5B 13 BCA Software Engineering	Hebin Layola	4
2.	5B 14 BCA Data Communication & Networks	Sindhu P M	4
3.	5B 15 BCA Enterprise Java Programming	Fincy Cyriac	4
4.	6B 22 BCA Lab – V Enterprise Java Programming	Fincy Cyriac	4
5.	5B 16 BCA C# and .Net Programming	Vineetha Mathew	3
6.	6B 23 BCA Lab – VI .Net Programming	Vineetha Mathew	4
7.	5D 03 BCA Database Management System	Fincy Cyriac	2
8.			
	Class In-charge	**Fincy Cyriac**	

TIME TABLE

Day	09.50 Am - 10.45 Am	10.45 Am - 11.40 Am	11.55 Am - 12.50 Pm	01.40 Pm - 02.35 Pm	02.35 Pm - 03.30 Pm
1	5B 15 BCA Enterprise Java Programming	5B 16 BCA C# and .Net Programming	6B 23 BCA Lab – VI .Net Programming	5B 13 BCA Software Engineering	6B 22 BCA Lab – V Enterprise Java Programming
2	5B 14 BCA Data Communication & Networks	5B 16 BCA C# and .Net Programming	5B 15 BCA Enterprise Java Programming	5B 13 BCA Software Engineering	6B 23 BCA Lab – VI .Net Programming
3	5B 16 BCA C# and .Net Programming	5B 15 BCA Enterprise Java Programming	Open Course	6B 22 BCA Lab – V Enterprise Java Programming	5B 14 BCA Data Communication & Networks
4	5B 13 BCA Software Engineering	5B 14 BCA Data Communication & Networks	Open Course	5B 16 BCA C# and .Net Programming	6B 22 BCA Lab – V Enterprise Java Programming
5	5B 15 BCA Enterprise Java Programming	5B 13 BCA Software Engineering	6B 22 BCA Lab – V Enterprise Java Programming	5B 14 BCA Data Communication & Networks	6B 23 BCA Lab – VI .Net Programming

Subject Code:	**5B 13 BCA**
Subject Name:	**Software Engineering**
No. of Credits:	**3**
No. of Contact Hours:	**72**
Hours per Week:	**4**
Name of Faculty:	**Hebin Layola**

Objective: -

1. Understand the basic processes in software Development life cycle.
2. Familiarize with different models and their significance.
3. Approach software development in a systematic way.
4. To familiarize students with requirement engineering and classical software design techniques.
5. To familiarize with various software testing techniques and tools.

Module 1:

Introduction to software engineering-Definition, program versus software, softwareprocess, software characteristics, brief introduction about product and process, softwareprocess and product matrices; Software life cycle models – Definition, waterfall model,increment process model, evolutionary process model, selection of the life cycle model.

Module 2:

Software Requirement Analysis and Specification – Requirements engineering,types of requirements, feasibility studies, requirement elicitation, various steps ofrequirement analysis, requirement documentation, requirement validation.

Module 3:

Software design – definition, various types, objectives and importance of designphase, modularity, strategy of design, function oriented design, IEEE recommended practice for software design descriptions.

Module 4:

Objected Oriented Design – Analysis, design concept, design notations andspecifications, design methodology.

Module 5:

Software Testing – What is testing, Why should we test, who should do testing?Test case and Test suit, verification and validation, alpha beta and acceptance testing,functional testing , techniques to design test cases , Boundary value analysis, equivalenceclass testing, decision table based testing; structural testing , path testing , Graphmatrices , Data flow testing , levels of testing ,unit testing , integration testing , systemtesting , validation testing

Text Book:

1. Software Engineering (Third Edition), K KAggarwal, Yogeshsingh, New age International Publication (For unit 1,2,3,5 and case study of unit 4)
2. An integrated approach to software Engineering (Second Edition), PankajJalote , Narosa Publishing House - (For Unit 4)

References:

1. Software Engineering (Seventh edition), Ian Sommerville – Addison Wesley
2. Software Engineering A practitioners approach (Sixth Edition), Roger S Pressman –McGraw Hill.
3. Fundamentals of Software Engineering (Second Edition), Carlo Ghezzi, Mehdi Jazayeri,Dino Mandrioli - Pearson Education

TEACHING SCHEDULE

No of Weeks	Dates	Session	Topic
1	06-06-2019 To 07-06-2019	1	Introduction to software engineering-Definition
		2	program versus software
		3	Software process, software characteristics
2	10-06-2019 To 14-06-2019	4	brief introduction about product and process
		5	Software life cycle models, Definition
		6	waterfall model
		7	increment process model
		8	evolutionary process model
3	17-06-2019 To 21-06-2019	9	selection of the life cycle model
		10	Revision Module 1
		11	Class Test Module 1
		12	Software Requirement Analysis and Specification
		13	Requirements engineering
4	24-06-2019 To 28-06-2019	14	types of requirements
		15	feasibility studies
		16	requirement elicitation
		17	various steps of requirement analysis
		18	requirement documentation
5	01-07-2019 To 05-07-2019	19	requirement validation
		20	Revision module II
		21	Class Test Module II
		22	Software design – definition
		23	various types
6	08-07-2019 To 12-07-2019	24	objectives and importance of designphase
		25	modularity
		26	strategy of design
		27	function oriented design
		28	IEEE recommended practice for software design descriptions
		29	Revision Module III
		30	Class Test Module III
7	15-07-2019 To 19-07-2019	31	Objected Oriented Design
		32	Analysis, design concept
		33	design notations andspecifications
		34	Design methodology.

No of Weeks	Dates	Session	Topic
		35	Revision Module IV
		36	Class Test Module IV
8	22-07-2019 To 26-07-2019	**23 July**	**First Internal Exam**
			First Internal Exam
			First Internal Exam
			First Internal Exam
			First Internal Exam
			First Internal Exam
9	29-07-2019 To 02-08-2019	37	Software Testing – What is testing
		38	Why should we test
		39	who should do testing
		31 July	**KarkadakaVavu**
		40	Test case and Test suit
		41	verification and validation
		42	alpha testing
10	05-08-2019 To 09-08-2019	43	functional testing
		44	techniques to design test cases
		45	Boundary value analysis
		46	Equivalence class testing
		47	decision table based testing
		48	structural testing
11	12-08-2019 To 16-08-2019	49	acceptance testing
		50	beta testing
		15 Aug	**Independence day**
		51	path testing
		52	Graph matrices
12	19-08-2019 To 23-08-2019	53	Data flow testing
		54	levels of testing
		55	unit testing
		56	Viva -I
		57	integration testing
		23 Aug	**SreekrishnaJayanthi**
13	26-08-2019 To 30-08-2019	58	Viva -II
		59	System testing
		28 Aug	**AyyankaliJayanthi**
		60	Project Explanation
		61	validation testing
14	02-09-2019	62	SRS Explanation

No of Weeks	Dates	Session	Topic
	To 06-09-2019	63	SDD Explanation
		64	Module I-REVISION
		65	Module II-REVISION
		66	Module III-REVISION
			Onam Celebration
15	09-09-2019 To 13-09-2019		**Muharram**
			First Onam
			Thiruvonam
			Third Onam
			Fourth Onam - SreeNarayana Guru Jayanthi
16	16-09-2019 To 20-09-2019	67	Module IV-REVISION
		68	Module V-REVISION
		69	Question Paper Discussion
		70	Question Paper Discussion
		71	Question Paper Discussion
		72	Question Paper Discussion
17	23-09-2019 To 27-09-2019	**23 Oct**	**Second Internal**
			Second Internal
			Second Internal
			Second Internal
			Second Internal
18	30-09-2019 To 04-10-2019		**Study Leave**
			Study Leave
		2 Oct	**Gandhi Jayanthi**
			Study Leave
			Study Leave
			Study Leave
19	07-10-2019 To 11-10-2019	**07 Oct**	**Mahanavami**
		08 Oct	**Vijayadashami**
		09 Oct	**University Exam Begin**

Subject Code:	**5B 14 BCA**
Subject Name:	**Data Communication & Networks**
No. of Credits:	**3**
No. of Contact Hours:	**72**
Hours per Week:	**4**
Name of Faculty:	**Sindhu P.M.**

Objective: -

1. Understand the basics of data communication
2. Familiarize with OSI reference model
3. To familiarize students with layers of communication model
4. To introduce concepts of network security

Module -I

Introduction to data communication, important elements /components of datacommunication, Data transmission- Analog, Digital. Transmission media- Guided media,Unguided media. Synchronous / Asynchronous data transmission.Line configuration –Simplex, Half duplex, Duplex.Network topologies – star, Bus, ring, Mesh.Computernetworks, Use, network hardware, network structure- point to point connection, multicast,broadcast, classification of networks-LAN, WAN, Man. Network software – protocolhierarchies. design issues for layers, interfaces and services- connection oriented,connection less.

Module -II

Reference models, the OSI reference model, TCP / IP reference model.Comparison between OSI and TCP / Ip models.Data Link Layer , Design issues, Servicesto network layer, Framing- character count, character stuffing, bit stuffing, physical layercoding violation. Error control, flow control, Elementary data link protocols-unrestrictedsimplex protocol, simplex stop and wait protocol, simplex protocol for a noisy channel.

Module -III

Network layer, design issues, services to the transport layer, routing algorithmsadaptive,non adaptive algorithms, optimality principle, dijkstras shortest path routing
algorithm, flow based routing, hierarchical routing, congestion control algorithms – theleaky bucket algorithm, the token bucket algorithm.

Module -IV

Transport layer, design issues, connection management-addressing, establishingand releasing connection, transport layer protocols- TCP, UDP

Module -V

Application layer, network security, traditional cryptography, substitution ciphers,transposition ciphers, fundamental principles, secret key algorithm, data encryptionstandard, DES chaining, DES breaking.Public key algorithm, RSA algorithm.

Text books

1. A S Tanenbaum . Computer Networks TMH

References

1. B Forousan, Introduction to data communication and networking
2. Data communication and Networks, Achyut S. godbole, TMH
3. Computer Networks – fundamentals and Applications, Rajesh,Easearakumar&Balasubramaian, Vikas pub.

TEACHING SCHEDULE

No of Weeks	Dates	Session	Topic
1	06-06-2019 To 07-06-2019	1	Introduction to data communication, important elements.
		2	Components of data communication.
		3	Data transmission
2	10-06-2019 To 14-06-2019	4	Analog
		5	Digital.
		6	Transmission media
		7	Guided media
		8	Synchronous
3	17-06-2019 To 21-06-2019	9	Asynchronous data transmission
		10	Line configuration
		11	Simplex
		12	Half duplex, Duplex.
		13	Network topologies – star, Bus
4	24-06-2019 To 28-06-2019	14	Ring, Mesh.
		15	Computer networks, Use.
		16	Network hardware.
		17	Network structure- point to point connection
		18	Multicast, broadcast
5	01-07-2019 To 05-07-2019	19	Classification of networks-LAN, WAN, Man.
		20	Network software – protocol hierarchies.
		21	Design issues for layers.
		22	Interfaces and services- connection oriented, connection less.
		23	**Class test module I**
6	08-07-2019 To 12-07-2019	24	Reference models, the OSI reference model.
		25	TCP / IP reference model. Comparison between OSI and TCP / Ip models.
		26	Data Link Layer , Design issues.
		27	Services to network layer, Framing- character count, character stuffing, bit stuffing.
		28	Physical layer coding violation.
		29	Error control
		30	Flow control
7	15-07-2019	31	Elementary data link protocols- unrestricted simplex

No of Weeks	Dates	Session	Topic
	To 19-07-2019		protocol.
		32	Simplex stop and wait protocol
		33	Simplex protocol for a noisy channel
		34	**Class test module II**
		35	Question paper discussion
		36	Question paper discussion
8	22-07-2019 To 26-07-2019	**23 July**	**First Internal Exam**
			First Internal Exam
			First Internal Exam
			First Internal Exam
			First Internal Exam
			First Internal Exam
9	29-07-2019 To 02-08-2019	37	Network layer, design issues
		38	Services to the transport layer
		39	Routing algorithms
		31 July	**KarkadakaVavu**
		40	Adaptive
		41	Non adaptive algorithms,
		42	Optimality principle
10	05-08-2019 To 09-08-2019	43	Dijkstras shortest path routing algorithm
		44	Flow based routing
		45	Hierarchical routing
		46	Congestion control algorithms
		47	The leaky bucket algorithm
		48	The token bucket algorithm.
11	12-08-2019 To 16-08-2019	49	Revision
		50	Seminar
		15 Aug	**Independence day**
		51	Seminar
		52	**Class test module III**
12	19-08-2019 To 23-08-2019	53	Transport layer, design issues
		54	Connection management-addressing
		55	Establishing and releasing connection
		56	Transport layer protocols- TCP
		57	UDP
		23 Aug	**SreekrishnaJayanthi**
13	26-08-2019	58	**Class test module IV**
		59	Application layer, network security

No of Weeks	Dates	Session	Topic
	To 30-08-2019	28 Aug	AyyankaliJayanthi
		60	Traditional cryptography, substitution ciphers
		61	Transposition ciphers
14	02-09-2019 To 06-09-2019	62	Fundamental principles
		63	Secret key algorithm
		64	Data encryption standard
		65	DES chaining, DES breaking.
		66	Public key algorithm
			Onam Celebration
15	09-09-2019 To 13-09-2019		Muharram
			First Onam
			Thiruvonam
			Third Onam
			Fourth Onam - SreeNarayana Guru Jayanthi
16	16-09-2019 To 20-09-2019	67	RSA algorithm
		68	**Class test module V**
		69	Question paper discussion
		70	Question paper discussion
		71	Question paper discussion
		72	Revision
17	23-09-2019 To 27-09-2019	23 Oct	**Second Internal**
			Second Internal
			Second Internal
			Second Internal
			Second Internal
18	30-09-2019 To 04-10-2019		Study Leave
			Study Leave
		2 Oct	Gandhi Jayanthi
			Study Leave
			Study Leave
			Study Leave
19	07-10-2019 To 11-10-2019	07 Oct	Mahanavami
		08 Oct	Vijayadashami
		09 Oct	University Exam Begin

Subject Code:	**5B 15 BCA**
Subject Name:	**Enterprise Java Programming**
No. of Credits:	**3**
No. of Contact Hours:	**72**
Hours per Week:	**4**
Name of Faculty:	**Fincy Cyriac**

Objective: -

1 To understand the Enterprise Java platform

2 To provides an API and runtime environment for developing and running large-scale

3 To develop programming skills in multi-tiered, scalable, reliable, and secure networkapplication

Module- I

Java Database Connectivity: JDBC architecture; Drivers, JDBC-ODBC bridge,native API partly java driver, Net Protocol all Java driver, Native protocol all Java driver;Connecting to Database; statements; Multiple result sets; Large data types; Handling Errors; SQL warning; Metadata, database meta data, result set meta data

Module -II

Remote Method Invocation: RMI architecture; RMI Object services; Naming/registry service, object activation service, distributed garbage collection; Defining Remote objects;Key RMI classes for remote object implementations; Stubs and skeletons; Accessingremote object as a client; Remote method arguments and return values; Factory classes;Dynamically loaded classes; Configuring clients and servers for remote class loading;

Module -III

Java Servlets: Life cycle; HTTP Servlets, forms and interaction; POST**,** HEAD andother requests; Servlet responses; Servlet requests; Error handling, status codes; Servletchaining; Custom Servlet Initialisation; Thread safety; Server side includes; Cookies;Session tracking

Module -IV

Common Object Request Broker Architecture: Introduction to CORBA, About Object management group, CORBA architecture, architectural similarities, CORBA versus JavaRMI, CORBA services, CORBA facilities-Vertical CORBA facilities, Horizontal facilities.CORBA domains. IDL Compiler, Interface definition language, IDL stub, IDL Skeltoninterface , Repositories, Object request broker; Naming service;

Module -V

Inter-ORB communication; Creating CORBA objects; IDL, modules, interfaces, data

members and methods; IDL and Java; Simple server class, helper class, holder class,client and server stubs; Initializing ORB, Registering with a naming service; Adding objectsto a naming context; Finding remote objects; Initial ORB references;

Reference:

1. Java Enterprise in a nutshell by David Flanagan and Jim Parley, O'Reilly Associates

TEACHING SCHEDULE

No of Weeks	Dates	Session	Topic
1	06-06-2019 To 07-06-2019	1	Java Database Connectivity-Introduction
		2	JDBC architecture;
		3	Drivers- JDBC-ODBC bridge, native API partly java driver
2	10-06-2019 To 14-06-2019	4	Drivers-Net Protocol all Java driver, Native protocol all Java driver
		5	Connecting to Database
		6	Statements
		7	Multiple result sets
		8	Large data types
3	17-06-2019 To 21-06-2019	9	Handling Errors
		10	SQL warning
		11	Metadata- database meta data, result set meta data
		12	Remote Method Invocation
		13	RMI architecture
4	24-06-2019 To 28-06-2019	14	RMI Object services; Naming/registry service, object activation service, distributed garbage collection
		15	Defining Remote objects
		16	Key RMI classes for remote object implementations
		17	Stubs and skeletons
		18	Module 1 Class Test
5	01-07-2019 To 05-07-2019	19	Accessingremote object as a client
		20	Remote method arguments and return values
		21	Factory classes
		22	Dynamically loaded classes
		23	Configuring clients and servers for remote class loading
6	08-07-2019 To 12-07-2019	24	Java Servlets
		25	Servlets Life cycle
		26	HTTP Servlets
		27	forms and interaction
		28	POST, HEAD and other requests
		29	Servlet responses
		30	**Module 2 Class Test**
7	15-07-2019 To	31	Servlet requests
		32	Error handling status codes
		33	Servlet chaining

No of Weeks	Dates	Session	Topic
	19-07-2019	34	Custom Servlet Initialisation
		35	Thread safety, Server side includes
		36	Cookies, Session tracking
8	22-07-2019 To 26-07-2019	**23 July**	**First Internal Exam**
			First Internal Exam
			First Internal Exam
			First Internal Exam
			First Internal Exam
			First Internal Exam
9	29-07-2019 To 02-08-2019	37	Common Object Request Broker Architecture - Introduction to CORBA
		38	About Object management group
		39	CORBA architecture
		31 July	**KarkadakaVavu**
		40	Architectural similarities
		41	CORBA versus Java and RMI
		42	**Module 3 Class Test**
10	05-08-2019 To 09-08-2019	43	CORBA services, CORBA facilities-Vertical CORBA facilities, Horizontal facilities.
		44	CORBA domains
		45	IDL Compiler
		46	Interface Definition Language
		47	IDL stub, IDL Skelton interface
		48	Repositories
11	12-08-2019 To 16-08-2019	49	Object request broker
		50	Naming service
		15 Aug	**Independence day**
		51	Inter-ORB communication
		52	Creating CORBA objects
12	19-08-2019 To 23-08-2019	53	IDL
		54	Modules
		55	**Module 4 Class Test**
		56	Interfaces
		57	Data members and methods
		23 Aug	**SreekrishnaJayanthi**
13	26-08-2019 To	58	IDL and Java
		59	Simple server class
		28 Aug	**AyyankaliJayanthi**

No of Weeks	Dates	Session	Topic
	30-08-2019	60	helper class and holder class
		61	client and server stubs
14	02-09-2019 To 06-09-2019	62	Initializing ORB
		63	Registering with a naming service
		64	Adding objects to a naming context
		65	Finding remote objects
		66	Initial ORB references
			Onam Celebration
15	09-09-2019 To 13-09-2019		**Muharram**
			First Onam
			Thiruvonam
			Third Onam
			Fourth Onam - SreeNarayana Guru Jayanthi
16	16-09-2019 To 20-09-2019	67	**Module 5 Class Test**
		68	Revision module 1
		69	Revision module 2
		70	Revision module 3
		71	Revision module 4
		72	Revision module 5
17	23-09-2019 To 27-09-2019	**23 Oct**	**Second Internal**
			Second Internal
			Second Internal
			Second Internal
			Second Internal
18	30-09-2019 To 04-10-2019		**Study Leave**
			Study Leave
		2 Oct	**Gandhi Jayanthi**
			Study Leave
			Study Leave
			Study Leave
19	07-10-2019 To 11-10-2019	**07 Oct**	**Mahanavami**
		08 Oct	**Vijayadashami**
		09 Oct	**University Exam Begin**

Subject Code:	**6B 22 BCA Lab – V**
Subject Name:	**Enterprise Java Programming**
No. of Credits:	**3**
No. of Contact Hours:	**72**
Hours per Week:	**4**
Name of Faculty:	**Fincy Cyriac**

Program List

1. Develop five demo programs that includes all the concepts of JDBC
2. Develop Three demo programs that includes all the concepts of RMI
3. Develop five demo programs that includes all the concepts of Java Servlets
4. Develop two simple demo programs that includes all the concepts of CORBA

TEACHING SCHEDULE

No of Weeks	Dates	Session	Topic
1	06-06-2019 To 07-06-2019	1	Jdbc program to insert ,delete and update record into employee table
		2	Jdbc program to insert ,delete and update record into employee table
		3	Jdbc program to insert ,delete and update record into employee table
2	10-06-2019 To 14-06-2019	4	Jdbc program to implement scrolling functions
		5	Jdbc program to implement scrolling functions
		6	Jdbc program to implement scrolling functions
		7	Jdbc program for bank operations
		8	Jdbc program for bank operations
3	17-06-2019 To 21-06-2019	9	Jdbc program for bank operations
		10	Jdbc program for bank operations
		11	Jdbc program for resultset data
		12	Jdbc program for resultset data
		13	Jdbc program for database meta data
4	24-06-2019 To 28-06-2019	14	Jdbc program for database meta data
		15	RMI program for complex number operation
		16	RMI program for complex number operation
		17	RMI program for complex number operation
		18	RMI program for complex number operation
5	01-07-2019 To 05-07-2019	19	RMI program for complex number operation
		20	RMI program for matrix operations
		21	RMI program for matrix operations
		22	RMI program for matrix operations
		23	RMI program for matrix operations
6	08-07-2019 To 12-07-2019	24	RMI program for matrix operations
		25	RMI program for matrix operations
		26	RMI program for bank operations
		27	RMI program for bank operations

No of Weeks	Dates	Session	Topic
		28	RMI program for bank operations
		29	RMI program for bank operations
		30	RMI program for bank operations
7	15-07-2019 To 19-07-2019	31	RMI program for bank operations
		32	Servlet program to read student details using
		33	Servlet program to read student details using
		34	Servlet program to read student details using
		35	Servlet program to read a file
		36	Servlet program to read a file
8	22-07-2019 To 26-07-2019	**23 July**	**First Internal Exam**
			First Internal Exam
			First Internal Exam
			First Internal Exam
			First Internal Exam
			First Internal Exam
9	29-07-2019 To 02-08-2019	37	Servlet program to display session details
		38	Servlet program to display session details
		39	Servlet program to display session details
		31 July	**KarkadakaVavu**
		40	Servlet program to display request informations
		41	Servlet program to display request informations
		42	Servlet program to display request informations
10	05-08-2019 To 09-08-2019	43	Servlet program for ATM operations
		44	Servlet program for ATM operations
		45	Servlet program for ATM operations
		46	Servlet program for ATM operations
		47	Servlet program for ATM operations
		48	CORBA program for bank operations
11	12-08-2019	49	CORBA program for bank operations

No of Weeks	Dates	Session	Topic
	To 16-08-2019	50	CORBA program for bank operations
		15 Aug	Independence day
		51	CORBA program for bank operations
		52	CORBA program for bank operations
12	19-08-2019 To 23-08-2019	53	CORBA program for bank operations
		54	CORBA program for bank operations
		55	CORBA program for bank operations
		56	CORBA program for arithmetic operations
		57	CORBA program for arithmetic operations
		23 Aug	SreekrishnaJayanthi
13	26-08-2019 To 30-08-2019	58	CORBA program for arithmetic operations
		59	CORBA program for arithmetic operations
		28 Aug	AyyankaliJayanthi
		60	CORBA program for arithmetic operations
		61	CORBA program for arithmetic operations
14	02-09-2019 To 06-09-2019	62	CORBA program for arithmetic operations
		63	Lab practice
		64	Lab practice
		65	Lab practice
		66	Lab practice
			Onam Celebration
15	09-09-2019 To 13-09-2019		Muharram
			First Onam
			Thiruvonam
			Third Onam
			Fourth Onam - SreeNarayana Guru Jayanthi
16	16-09-2019 To	67	Lab practice
		68	Lab practice

No of Weeks	Dates	Session	Topic
	20-09-2019	69	Lab practice
		70	Lab practice
		71	Lab practice
		72	Model exam
17	23-09-2019 To 27-09-2019	23 Oct	**Second Internal**
			Second Internal
			Second Internal
			Second Internal
			Second Internal
18	30-09-2019 To 04-10-2019		**Study Leave**
			Study Leave
		2 Oct	**Gandhi Jayanthi**
			Study Leave
			Study Leave
			Study Leave
19	07-10-2019 To 11-10-2019	07 Oct	**Mahanavami**
		08 Oct	**Vijayadashami**
		09 Oct	**University Exam Begin**

Subject Code:	**5B 16 BCA**
Subject Name:	**C# and .Net Programming**
No. of Credits:	**2**
No. of Contact Hours:	**54**
Hours per Week:	**3**
Name of Faculty:	**Vineetha Mathew**

Objective:-

1.To expose students to current trends and styles in programming

2.To familiarize simple, modern, general-purpose, object-oriented programming language.

Module I

Introduction to C# - Evolution , Characteristics, applications.Understanding .NETOriginof .NET Technology, .NET Framework, Common Language Runtime (CLR), .NETApproach. Overview of C#- Program Structure, A Simple C# Program, Namespaces,CommandLine Argument, Errors.

Module II

Basic concepts of Programming: Literals, Variables, Boxing and Unboxing, Datatypes, Expressions, Branching, Looping, Methods, Arrays, Strings, Structures,Enumerations.

Module III

Object Oriented aspects of C# ,Classes, Objects, Inheritance, Polymorphism,Interfaces, Operator Overloading, Delegates, Events, Errors and Exceptions,Multithreading.

Module IV

Application Development on .NET Web Applications – Web form Fundamentals,Web form Events, Webform Life cycle, Creating a Web Application, Web Services.Windows Applications – Creating a Windows Application.

Module V

Database Access and .NET Components Accessing Data with ADO.NETAssemblies, Versioning, Attributes, Reflection, Viewing Meta Data, Type Discovery,Reflecting on a type, Marshalling, Remoting.

Text Books

1. Programming in C#, E.Balagurusamy (Unit I, II)
2. Programming in C#, J. Liberty 2nd Edition – O'Reilly (Unit III, IV, V)

Reference

1 C# Programming Bible, Jeff Ferguson, Brian Patterson, Jason Beres, Wiley PublishingInc., Reprint 2006.

2 Programming .Net , Jeff Prosise, , 2nd Edition, WP Publishers & Distributors Pvt. Ltd,2009.
3 Professional .Net Framework , Kevin Hoffman & Jeff Gabriel, , 1st Edition, Wrox PressPublishers, 2006.

TEACHING SCHEDULE

No of Weeks	Dates	Session	Topic
1	06-06-2019 To 07-06-2019	1	Introduction to C#
		2	Evolution
		3	Characteristics, applications
2	10-06-2019 To 14-06-2019	4	Understanding .NET
		5	Origin of .NET Technology
		6	.NET Framework, Common Language Runtime (CLR)
		7	.NET Approach
		8	Overview of C#
3	17-06-2019 To 21-06-2019	9	Program Structure
		10	A Simple C# Program
		11	Namespaces, CommandLine Argument
		12	Errors
		13	**Revision**
4	24-06-2019 To 28-06-2019	14	**Module I Exam**
		15	Basic concepts of Programming: Literals, Variables
		16	Boxing and Unboxing
		17	Data types
		18	Expressions
5	01-07-2019 To 05-07-2019	19	Branching
		20	Looping
		21	Methods
		22	Methods
		23	Arrays
6	08-07-2019 To 12-07-2019	24	Arrays
		25	Strings
		26	Strings
		27	Structures
7	15-07-2019 To 19-07-2019	28	Enumerations
		29	Revision
		30	Question Paper Discussion
		31	**Module II Exam**
8	22-07-2019 To 26-07-2019	**23 July**	**First Internal Exam**
			First Internal Exam
			First Internal Exam
			First Internal Exam

No of Weeks	Dates	Session	Topic
			First Internal Exam
			First Internal Exam
9	29-07-2019 To 02-08-2019	32	Object Oriented aspects of C#
		33	Classes, Objects
		34	Inheritance
		31 July	KarkadakaVavu
		35	Polymorphism
10	05-08-2019 To 09-08-2019	36	Interfaces
		37	Operator Overloading
		38	Delegates
11	12-08-2019 To 16-08-2019	39	Events
		15 Aug	Independence day
		40	Errors
		41	Exceptions
12	19-08-2019 To 23-08-2019	42	Multithreading
		43	**Module III Exam**
		44	Application Development on .NET Web Applications
		23 Aug	SreekrishnaJayanthi
13	26-08-2019 To 30-08-2019	45	Web form Fundamentals, Web form Events, Web form Life cycle
		46	Creating a Web Application, Web Services
		28 Aug	AyyankaliJayanthi
		47	Windows Applications – Creating a Windows Application
14	02-09-2019 To 06-09-2019	48	**Module IV Exam**
		49	Database Access and .NET Components
		50	Accessing Data with ADO.NET Assemblies
			Onam Celebration
15	09-09-2019 To 13-09-2019		Muharram
			First Onam
			Thiruvonam
			Third Onam
			Fourth Onam - SreeNarayana Guru Jayanthi
16	16-09-2019 To 20-09-2019	51	Versioning, Attributes, Reflection, Viewing Meta Data
		52	Type Discovery, Reflecting on a type, Marshalling, Remoting
		53	Module V Exam
		54	Question Paper Discussion
17	23-09-2019	23 Oct	**Second Internal**

No of Weeks	Dates	Session	Topic
	To 27-09-2019		Second Internal
			Second Internal
			Second Internal
			Second Internal
18	30-09-2019 To 04-10-2019		Study Leave
			Study Leave
		2 Oct	Gandhi Jayanthi
			Study Leave
			Study Leave
			Study Leave
19	07-10-2019 To 11-10-2019	07 Oct	Mahanavami
		08 Oct	Vijayadashami
		09 Oct	University Exam Begin

Subject Code:	**6B 23 BCA Lab – VI**
Subject Name:	**.Net Programming**
No. of Credits:	**3**
No. of Contact Hours:	**72**
Hours per Week:	**4**
Name of Faculty:	**Vineetha Mathew**

Sample Program List

1. To implement output parameter and reference parameter
2. To implement the concept of indexers
3. To implement the concept of sealed class
4. To implement the concept of namespace
5. To implement the concept of interfaces
6. To implement the concept of events
7. To implement exception handling
8. To design a calculator in windows form
9. To implement data controls in windows form
10. To implement validation controls in web form

TEACHING SCHEDULE

No of Weeks	Dates	Session	Topic
1	06-06-2019 To 07-06-2019	1	Sample Program
		2	Sample Program
		3	Sample Program
2	10-06-2019 To 14-06-2019	4	Sample Program
		5	Sample Program
		6	Sample Program
		7	To implement output parameter and reference parameter
		8	To implement output parameter and reference parameter
3	17-06-2019 To 21-06-2019	9	To implement output parameter and reference parameter
		10	To implement output parameter and reference parameter
		11	To implement output parameter and reference parameter
		12	To implement output parameter and reference parameter
		13	To implement the concept of indexers
4	24-06-2019 To 28-06-2019	14	To implement the concept of indexers
		15	To implement the concept of indexers
		16	To implement the concept of indexers
		17	To implement the concept of indexers
		18	To implement the concept of sealed class
5	01-07-2019 To 05-07-2019	19	To implement the concept of sealed class
		20	To implement the concept of sealed class
		21	To implement the concept of sealed class
		22	To implement the concept of namespace
		23	To implement the concept of namespace
6	08-07-2019 To 12-07-2019	24	To implement the concept of namespace
		25	To implement the concept of interfaces
		26	To implement the concept of interfaces
		27	To implement the concept of interfaces
		28	To implement the concept of interfaces
		29	To implement the concept of events
		30	To implement the concept of events
7	15-07-2019 To 19-07-2019	31	To implement the concept of events
		32	Sample Program
		33	Sample Program
		34	Sample Program
		35	Sample Program

No of Weeks	Dates	Session	Topic
		36	Sample Program
8	22-07-2019 To 26-07-2019	23 July	**First Internal Exam**
			First Internal Exam
			First Internal Exam
			First Internal Exam
			First Internal Exam
			First Internal Exam
9	29-07-2019 To 02-08-2019	37	Sample Program
		38	Sample Program
		39	Sample Program
		31 July	**KarkadakaVavu**
		40	Sample Program
		41	Sample Program
		42	Sample Program
10	05-08-2019 To 09-08-2019	43	Sample Program
		44	Sample Program
		45	Sample Program
		46	Sample Program
		47	Sample Program
		48	To implement exception handling
11	12-08-2019 To 16-08-2019	49	To implement exception handling
		50	To implement exception handling
		15 Aug	**Independence day**
		51	To implement exception handling
		52	To implement exception handling
12	19-08-2019 To 23-08-2019	53	To implement exception handling
		54	To design a calculator in windows form
		55	To design a calculator in windows form
		56	To design a calculator in windows form
		57	To design a calculator in windows form
		23 Aug	**SreekrishnaJayanthi**
13	26-08-2019 To 30-08-2019	58	To design a calculator in windows form
		59	To design a calculator in windows form
		28 Aug	**AyyankaliJayanthi**
		60	To implement data controls in windows form
		61	To implement data controls in windows form
14	02-09-2019	62	To implement data controls in windows form
		63	To implement data controls in windows form

No of Weeks	Dates	Session	Topic
	To 06-09-2019	64	To implement data controls in windows form
		65	To implement data controls in windows form
		66	To implement validation controls in web form
			Onam Celebration
15	09-09-2019 To 13-09-2019		**Muharram**
			First Onam
			Thiruvonam
			Third Onam
			Fourth Onam - SreeNarayana Guru Jayanthi
16	16-09-2019 To 20-09-2019	67	To implement validation controls in web form
		68	To implement validation controls in web form
		69	To implement validation controls in web form
		70	To implement validation controls in web form
		71	To implement validation controls in web form
		72	To implement validation controls in web form
17	23-09-2019 To 27-09-2019	**23 Oct**	**Second Internal**
			Second Internal
			Second Internal
			Second Internal
			Second Internal
18	30-09-2019 To 04-10-2019		**Study Leave**
			Study Leave
		2 Oct	**Gandhi Jayanthi**
			Study Leave
			Study Leave
			Study Leave
19	07-10-2019 To 11-10-2019	**07 Oct**	**Mahanavami**
		08 Oct	**Vijayadashami**
		09 Oct	**University Exam Begin**

Subject Code:	**5D 03 BCA Open Course-**
Subject Name:	**Database Management System**
No. of Credits:	**2**
No. of Contact Hours:	**36**
Hours per Week:	**2**
Name of Faculty:	**Fincy Cyriac**

Module I

Introduction–Field,Record,Entity,Attribute,Relation,Domain,Tuple-Advantages ofdatabase systems- data models (Network model, Hierarchical Model, DBTG CODASYLmodel, Relational Model(E-R)) - system structure.

Module II

Database administrator- data base users, Constraints(Primary, Foreign, Candidate,Unique)- Relational Algebra (Union, Intersection, Difference, Product, Project, Selection).

Module III

Normalization (First, Second, Third, Fourth, BCNF),SQL: Introduction To SQLTablesDDL, DML, DCL (In Detail), Data Types.

Module IV

SQL Functions(Different Types of Functions),Operators(Arithmetic, Relational,Logical), Sub Quires (in Detail), Clauses(Having, Group By)

Module V

Joins(Different Types of Join Statements),View, Introduction to Sequence, Indexand Triggers

Textbook:

1. Data Base Concept 3 edition Abraham Silberschatz, Henery f Korth McGraw Hill
2. A Guide to the SQL Standard, C. J. Date and Hugh Darwen, 1997, Addison-Wesley

Reference:

1. An Introduction to Database Systems, C. J. Date, 1994, Addison-Wesley
2. Understanding the New SQL, Jim Melton and Alan R. Simon, 1993, Morgan Kaufmann.
3. Principles of Database & Knowledge Jeffrey D. Ullman, Computer Science Press, 1988

TEACHING SCHEDULE

No of Weeks	Dates	Session	Topic
1	06-06-2019 To 07-06-2019	1	Introduction– Field,Record,Entity,Attribute,Relation,Domain,Tuple
		2	Advantages of database systems-
2	10-06-2019 To 14-06-2019	3	Data models -Network model, Hierarchical Model
		4	Data models- DBTG CODASYL model, Relational Model, E-R model
		5	System structure
		6	Database administrator- data base users,
3	17-06-2019 To 21-06-2019	7	Constraints- Unique, Null, Check, Default
		8	Constraints- Primary, Foreign, Candidate
		9	**Module 1 Class Test**
		10	Relational Algebra-Union, Intersection, Difference
4	24-06-2019 To 28-06-2019	11	Relational Algebra -Product, Project, Selection
		12	Normalization -First, Second, Third
		13	Normalization- Fourth, BCNF
		14	**Module 2 Class Test**
5	01-07-2019 To 05-07-2019	15	SQL: Introduction To SQL
		16	Tables DDL
		17	DML
6	08-07-2019 To 12-07-2019	18	DCL (In Detail)
		19	Data Types
		20	SQL Functions- Aggregate functions, character functions
7	15-07-2019 To 19-07-2019	21	SQL Functions-Mathematical functions
		22	**Module 3 Class Test**
		23	Operators- Arithmetic, Relational, Logical
8	22-07-2019 To 26-07-2019	**23 July**	**First Internal Exam**
			First Internal Exam
			First Internal Exam
			First Internal Exam
			First Internal Exam
			First Internal Exam
9	29-07-2019	24	Sub Quires (in Detail)
		31 July	**KarkadakaVavu**

No of Weeks	Dates	Session	Topic
	To 02-08-2019	25	Clauses- Having, Group By
10	05-08-2019 To 09-08-2019	26	Joins(Different Types of Join Statements)
		27	**Module 4 Class Test**
11	12-08-2019 To 16-08-2019	28	Joins(Different Types of Join Statements)
		15 Aug	**Independence day**
		29	View
12	19-08-2019 To 23-08-2019	30	Introduction to Sequenc,
		31	Index and Triggers
		23 Aug	**SreekrishnaJayanthi**
13	26-08-2019 To 30-08-2019		**Module 5 Class Test**
		28 Aug	**AyyankaliJayanthi**
		32	Revision module 1
14	02-09-2019 To 06-09-2019	33	Revision module 2
		34	Revision module 3
			Onam Celebration
15	09-09-2019 To 13-09-2019		**Muharram**
			First Onam
			Thiruvonam
			Third Onam
			Fourth Onam - SreeNarayana Guru Jayanthi
16	16-09-2019 To 20-09-2019	35	Revision module 4
		36	Revision module 5
17	23-09-2019 To 27-09-2019	23 Oct	**Second Internal**
			Second Internal
			Second Internal
			Second Internal
			Second Internal
18	30-09-2019 To 04-10-2019		**Study Leave**
			Study Leave
		2 Oct	**Gandhi Jayanthi**
			Study Leave
			Study Leave
			Study Leave

No of Weeks	Dates	Session	Topic
19	07-10-2019 To 11-10-2019	07 Oct	Mahanavami
		08 Oct	Vijayadashami
		09 Oct	University Exam Begin