Bharatiya Vidya
Bhavan

BHAVAN'S VIVEKANANDA COLLEGE
OF SCIENCE, HUMANITIES AND COMMERCE
(Accredited with 'A' grade by NAAC)
Autonomous College, Affiliated to Osmania University
Department of Computer Science
BCA I SEMESTER(CBCS)
BCA143: FUNDAMENTALS OF INFORMATION TECHNOLOGY
Academic Organizer for 2017 - 2018

Unit No.	Sub Unit	Details	Periods Per Sub Unit	Total Periods
I	a)	Introduction , Characteristics of a computers , applications of computers (Science , education ,medicine &health care entertainment ,banking) classification of computers (Micro ,Mini , Mainframe, Super Computers).	4	15
	b)	The computer system , Components of a computer system –input unit ,output unit , central processing unit (CPU),Arithmetic /Logic unit(ALU) , registers ,Control unit(CU) ,main memory unit	4	
	c)	Cache memory, memory representation , Memory hierarchy –RAM & its types ,ROM & its types	3	
	d)	Types of secondary storage devices,	2	
	e)	Instruction set , CISC &RISC(introduction, advantages and disadvantages only).	2	
II	a)	Programming languages: Introduction, program development cycle, characteristics of a good program, types of programming languages (Machine, Assembly, High-level languages),	4	15
	b)	Generations of programming languages, features of good programming language. Computer Software: Categories of software(System &Application Software)	3	
	c)	Operating system: types & functions of O.S ,popular O.S like Windows &UNIX ,languages translators (Compiler , interpreter ,assembler).	3	
	d)	Database fundamentals: Introduction ,data versus Information ,data base definition , File oriented approach Vs DBMS approach , physical data concepts(Sequential ,Direct ,indexed sequential) ,Data ware housing &data mining.	4	
	e)	Data ware housing &data mining.	1	
III	a)	Data Communication and computer networks : Data communications ,components , data transmission mode(Simplex ,half duplex ,full duplex modes) , analog and digital data transmission .	4	15
	b)	Transmission media-guided media(twisted pair ,Coaxial cable ,optical fibre) & unguided media ,Asynchronous and Synchronous transmission ,	2	
	c)	switching (circuit switching ,packet switching ,message switching).	3	
	d)	Types of networks –LAN ,MAN, WAN .	3	
	e)	Network topologies(bus topology ,ring topology ,star topology ,tree topology, mesh topology)	3	
IV	a)	The internet : Introduction ,basic internet terms(website ,website ,home page ,browsers) ,URL ,domain names, hyper text , getting connected to internet .	3	15
	b)	Types of internet connections (Dial-up ,ISDN ,cable modem ,leased line ,DSL, broad band) w.w.w , e-mail ,file transfer protocol(FTP) video conferencing .	3	
	c)	Computer Security: Definition ,Security threats ,malicious programs ,other destructive programs.	4	
	d)	Multimedia: introduction, building blocks of multimedia, desirable features of multimedia system, multimedia applications,	3	
	e)	Virtual reality. E-commerce, advantages and disadvantages of e-commerce, Electronic Data Interchange (EDI).	2	
		TOTAL NO OF PERIODS		60

Bhavans Vivekananda College

Department of Computer Science
B.C.A I Semester
Subject: Programming in 'C' language
Academic Organizer 2017-2018

Unit No.	Sub Unit	Details	Periods Per Sub Unit	Total Periods
I	a)	Introduction – Types of Programming Languages. Algorithms- Flow charts.	3	15
	b)	'C' Fundamentals: High Level Languages- Compiling programs – Integrated Development Environment – Language Interpreters –Running the program–Comments	2	
	c)	C-Tokens – Constants, Variable, Data Types, and Arithmetic Expressions. Operators.	4	
	d)	The printf and scanf functions – type casting.	1	
	e)	Decision making: The if statement – if else construct – Nested if statements – The else if construct – switch statement – conditional operator – go to statement.	5	
II	a)	Looping Statements: The while statement – The do statement – for statement,	5	15
	b)	break statement, continue statement. Nesting of loops.	4	
	c)	Working with Arrays: Defining a single dimension Array – Declaration, Initializing, Operations on single dimension arrays(linear search, bubble sort)	6	
III	a)	Arrays: Defining Multidimensional Arrays, Declaration, Initializing, Matrix Operations	5	15
	b)	Strings and string functions.	3	
	c)	Working with Functions: Function Definition, Function Declaration (Function Prototyping), Types of functions (built-in functions, user-defined functions, functions with return type and without return type, functions with parameters and without parameters), Formal and Actual parameters. Recursive Functions.	6	
	d)	Storage Classes.	1	

IV	a)	The preprocessors: The # define statement. # include (user defined header files).	2
	b)	Working with structures: Defining structure – Array of structures – Nested structures – Arrays within structure. Unions	6
	c)	Enumerated Data types- The typedef statement.	2
	d)	Pointers: Defining a pointer variable, Dynamic Memory Allocation Functions (malloc, calloc, free, realloc), Function calling mechanisms – call by value, call by reference.	5
		TOTAL NO OF PERIODS	60

For section IV the total is 15.

Department of Computer Science
B.C.A I Sem ISTA
SUBJECT REVIEW 2017-2018

Unit No.	Sub Unit	Details	Periods	Total	REVIEW
I	a)	**UNIT:I**-Managerial View of IS - Functions of Management, Management role. Levels of Management, Frame work for IS, Sequence of Development of IS.	8	16	
	b)	Systems - Concepts. Boundaries, Structure, Inputs and Outputs, Subsystems, Interfaces, Environment, working of a System, Systems approach to problem solving, feedback, Control.	8		
I&II	a)	Strategic uses of IS. Impact of IT, Business Process Reengineering, IT and Business Process. **UNIT: II-** Operations and Transactions, The value and cost of information, Decision Levels.	9	17	
	b)	Role of Accounting Transaction Processing Systems, Operational Information Systems - Financial Accounting, Marketing, Production. Human Resource Management.	8		
II&III	a)	Models and Decision Support: Introduction to Models- Physical, Process and Business modeling.Types of Business Models, Group Decision Process, DSS and EIS (Expert Information System).	6	14	
	b)	**UNIT: III**-Decision in Business Areas - Accounting, Finance, Marketing, Human resource Management, Production and Design. IS planning - Determination of Information requirements, Business systems planning, End /Means Analysis.	8		
IV	a)	Organizing the IS plan, Systems Analysis and Design - System Development life cycle, proto typing, SSAD, project management cost benefit analysis, detailed Design, implementation.	5	13	
	b)	**UNIT-IV**: Management Control: Control theory. Control of systems development, control of operations, Auditing, management of technical environment, CEO responsibilities, Allocation of Responsibilities in distributed data processing IS Security risks, common controls, common threats, IS protection, Ethical issues Societal implications, Social responsibilities.	8		
		TOTAL NO OF PERIODS		60	

BHAVAN'S VIVEKANANDA COLLEGE
OF SCIENCE, HUMANITIES AND COMMERCE
(Accredited with 'A' grade by NAAC)
Autonomous College
Affiliated to Osmania University
BCA. (Computer Science) I Year, II Semester (CBCS)
CS225:Programming in C++

Work Load: 60 Hrs.

Credits: 4

Month	Unit	Topic	Periods per Subunit	Total Periods
NOV/ DEC 2017	I	**Beginning with C++:** Output operator, Input operator.	1	15
		Structure of C++ program.	1	
		Tokens and Expressions: Tokens – Keywords, Identifiers, Constants.	1	
		Basic data types, Derived data types and User defined data types, Declaration of variables, Dynamic initialization of variables,	1	
		Types of Operators,	2	
		Manipulators, Type Cast Operator,	1	
		Expressions and their types and Operator precedence.		
		Control Flow: Introduction, Statements and Block, Branching statements (if, if...else statement, nested if, switch),	2	
		Looping statements (while, do–while and for), break, continue statement.	2	
		Arrays and Strings: Introduction, Operations on Arrays:	1	
		Array definition, Accessing Array elements,	1	
		Accessing two-dimensional Array elements,	1	
		Strings, String Manipulations.	1	
		Ch-2, Ch-3: Refer Book 1. Ch-3, Ch-5, Ch-6: Refer Book 2.		

DEC / JAN 2017-18	II	**Modular programming with Functions:**		15
		Introduction, Function components	1	
		Library functions		
		Parameter passing (Pass by Value, Pass by Address and Pass by Reference)	2	
		Recursive functions	1	
		Principles of OOP:		
		Basic concepts of OOP	2	
		Benefits and applications of OOP	1	
		Classes and Objects: Introduction, Specifying a class	1	
		Creating objects, Accessing class members	1	
		Defining member functions, Inline functions, Nesting of member functions	2	
		Constructors and Destructors: Introduction, Constructors	1	
		Parameterized constructors	1	
		Constructors with default arguments	1	
		Copy constructors.		
		Destructors	1	
		Ch-7:Refer Book 2.Ch-1, Ch-5, Ch-6: Refer Book 1 **Ch-4(82 -84) (Refer Book-1)Inline Functions**		
JAN / FEB 2018	III			15
		Inheritance: Introduction, Defining derived class	2	
		Single inheritance	1	
		Multilevel inheritance	1	
		Multiple inheritance	1	
		Hierarchical inheritance	1	
		Polymorphism: Function overloading (4 Ch)	2	
		Defining Operator Overloading	1	
		Overloading with Unary Operator	2	
		Pointers(declaring and initializing pointers)	2	
		virtual functions	2	
		Ch-8, Ch-4, Ch-7, Ch-9 Refer Book 1		
FEB / MAR CH 2018	IV	**Templates**: Introduction, Function Templates	2	15
			2	
			2	
			2	
			2	
			2	

		Class Templates	3	
		Exception Handling: Introduction, Basics of Exception Handling, Throwing Mechanism,		
		Catching Mechanism		
		Multiple Catch Statements.		
		Revision		
		Ch-12, Ch-13: Refer Book 1		

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Total   **60**

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Prescribed books:

1. Object Oriented Programming with *C++* 4th Edition, By E Balaguruswamy, Publisher, Tata McGraw-Hill Education 2008.

2. Mastering C++, By K. R. Venugopal. Tata McGraw-Hill Publishing Company, 1997 - C++.

Bharatiya Vidya Bhavan

BHAVAN'S VIVEKANANDA COLLEGE
OF SCIENCE, HUMANITIES AND COMMERCE
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Autonomous College, Affiliated to Osmania University
Department of Computer Science
B.C.A I Year/ IISem
BCA242 IT- HARDWARE
Academic Organizer for 2017 - 2018

Unit No.	Month	Sub Unit	Details	Periods Per Sub Unit	Total Periods
I	Nov-17	a)	Overview of computer systems - features and components.	2	15
		b)	Mother board - Form factors, interface connections.	3	
		c)	Bus - Introduction, types –processor bus, memory bus, address bus, I/O Buses(PCI, PCI Express, AGP), Fire wire, USB,PCMCIA	4	
		d)	Microprocessor –introduction, Processor specification, Intel processors basics (8088, 486,P4& i3)	4	
		e)	Chipsets (north and south bridges).	2	
II	Dec-17	a)	Memory –Introduction to System logical memory layout, physical memory –ROM, types, RAM, types.	5	15
		b)	Power Supply -Functions and operation, Power protection systems (surge suppressors, line conditioners, backup power-UPS/SPS).	3	
		c)	Input Devices - Keyboard, keyboard types,Keyboard switch design, interface connectors, Mouse, mouse types and interfaces	4	
		d)	Output devices – Touch screen/ Touch pad.	1	
		e)	Video Display – Monitors and types, Video card types	2	
III	Jan-18	a)	Communications - Serial ports, parallel ports	2	15
		b)	components of LAN- LAN cables, network topologies.	3	
		c)	sound card - Applications, installation	2	
		d)	Hard Disk Drives - components,operations, interfaces (IDE,SATA, SCSI)	3	
		e)	CD-ROM drives -CD technology, specification, storage capacities, and Drive formats. DVD-Introduction, working principle,storagecapacities BD- Blu ray Disc-Introduction, basics of USB.	5	
IV	Feb-18	a)	Building a system - Tools for maintenance, Disassembly and reassembly procedures	4	15
		b)	preventive maintenance, Active preventive maintenance, passive preventive maintenance.	4	
		c)	Diagnostic tools -POST, IBM Diagnostics, general purpose diagnostic programs, Disk Diagnostics	3	
		d)	Operating systems software,boot process-dos/windows, Anti-virusand troubleshooting	4	
			TOTAL NO OF PERIODS		60

Bhavans Vivekananda College
Department of Computer Science
B.C.A IISemester, Organization and Functions
Academic Organizer 2017-2018

Unit No.	Sub Unit	Details	Periods Per Sub Unit	Total Periods
I	a)	Management - Definition, types of managers, responsibilities, tasks	3	15
	b)	Leadership and motivation - nature of leadership, leadership theories, delegation	3	
	c)	Defining motivation, motivation theories, defining needs, motivation techniques	3	
	d)	Time management - importance of time, characteristics of management tasks, determining time elements, time management techniques	3	
	e)	Organization - definition, structures, quality, organizational change, managing change	3	
II	a)	Financial Management - Financial environment- basics, financial accounts. Budgets and controls, Obtaining finance, valuing a company	5	15
	b)	Investment Decisions - definition, ranking process, payback period, average rate of returns, discounted cash flows	7	
	c)	Decision making - The nature of decisions, decision making process, decision making techniques .	3	
III	a)	Project and operations management - Project planning and control - projects and management,	5	15
	b)	Network analysis,critical path, Gantt chart	5	
	c)	Manufacturing operations - manufacturing environment, experience curve, manufacturing technology, global operations, logistics, design, quality	5	

Unit No.	Sub Unit	Details	Periods Per Sub Unit	Total Periods
IV	a)	Marketing and Sales management-Markets and Marketing- market, marketing information, market segmentation, consumer and industrial markets	7	15
	b)	Product management, sales and distribution - product management, pricing, marketing communications, sales, physical distribution	8	
		TOTAL NO OF PERIODS		60

BHAVAN'S VIVEKNANDA COLLEGE
Department of Computer Science
B.C.A III SEM, Data Communications and Networking
Academic Organizer 2017-2018

Unit No.	Sub Unit	Details	Periods / subUnit	Total Period
I	a)	Introduction - Data communication, Networks, protocols and standards	4	15
	b)	Network Model – Layered Tasks, OSI Model, Layers in the OSI Model, TCP/IP Protocol Suite, Addressing.	4	
	c)	Data and Signals- Analog and Digital, Periodic Analog Signals, Digital Signals, Transmission Impairments.	4	
	d)	Digital Transmission - Digital to Digital, Analog to Digital Conversion.	3	
II	a)	Analog Transmission- Digital to Analog and Analog to Analog.	3	15
	b)	Multiplexing –FDM, WDM, TDM.	4	
	c)	Transmission Media - Guided Media, Unguided Media.	4	
	d)	Switching - Circuit, Datagram, Virtual Circuit Networks.	4	
III	a)	Error Detection and Correction – Introduction, Block Coding, Cyclic Codes, Checksum.	4	15
	b)	Data Link Control –Framing, Flow and Error Control, Protocols, Noiseless Channels, Noisy Channels, HDLC.	3	
	c)	Wired and Wireless LANS-Ethernet - IEEE Standards, Standard Ethernet, Changes in the Standard, fast Ethernet,IEEE 802.11	5	
	d)	Connecting LANs - Connecting Devices, Backbone Networks, and Virtual LANs.	3	
IV	a)	Logical Addressing- IPv4 Address, IPv6 Address.	3	15
	b)	Internet Protocol – Internetworking, IPv4, IPv6.	4	
	c)	Address Mapping and Error Reporting- Address Mapping, ICMP.	4	
	d)	Delivery, Forwarding and Routing- Direct and Indirect Delivery, Forwarding Techniques, Forwarding Process, Routing Table and Unicast Routing Protocols	4	
		TOTAL NO OF PERIODS		**60**

BHAVAN'S VIVEKNANDA COLLEGE
Department of Computer Science
B.C.A III SEM, Operating Systems
Academic Organizer 2017-2018

Unit No.	Sub Unit	Details	Periods / subUnit	Total Periods
I	a)	Virtual Computers, System Calls, Examples of System Call Interface Processes - Creation, States,	6	15
	b)	Process Switching, Process Tables and Process Descriptors. CPU Scheduling Algorithms	5	
	c)	IPC Patterns: Mutual Exclusion, Signaling, Producer-Consumer, Client- Server, Data Access and Updates	4	
II	a)	Deadlock: conditions for deadlocks, Dealing with Deadlocks, Two-Phase locking	4	16
	b)	Synchronization, Semaphores, Monitors, Threads(Definition, Advantages and Uses)	4	
	c)	Memory Management, Virtual Memory,	5	
	d)	Fragmentation, Segmentation, Paging, Thrashing	3	
III	a)	I/O devices- Devices and Controllers, Disk Drives, Disk Controllers	4	16
	b)	I/O System Software, Disk Device Driver Access Strategies, Unification of Files and Devices, Generalized Disk Device Drivers	5	
	c)	File System - Need for Files, File Naming, File System Objects and Operations.	4	
	d)	File System Organization - File Descriptors, Locating File Blocks on Disk, File System Reliability.	3	
IV	a)	Resource Management – Resources in OS, Types of Resources, Protection of Resources,	4	13
	b)	User Authentication, Mechanisms for Hardware Protection, Mechanisms for Software Protection, Examples of Protection Attacks. Cryptography in Computer Security	5	
	c)	Client-Server Model - System Processes, Micro-Kernel OS (definition only), Development towards a Distributed System (definition only).	4	
		TOTAL NO OF PERIODS		**60**

BCA I YEAR /II SEMESTER
BCA244: OBJECT ORIENTED PROGRAMMING WITH JAVA

Month	Unit	Topic	Periods / Unit	Total Periods
JUNE	I	Java Evolution: Java Features – How Java differs from C - Java and Internet – Java and World Wide Web – Web Browsers – Hardware and Software Requirements.	4	15
		Overview of Java Language: Simple Java Program – Java Program Structure – Java Statements – Implementing a Java Program – Java Virtual Machine – Command Line Arguments.	4	
		Java Tokens- Keywords, Constants , Variables – Data types – Declaration of Variables-Giving Values to Variables- Scope of Variables-Symbolic Constants-Type Casting	4	
		Operators-Arithmetic Operators – Relational Operators- Logical Operators – Assignment Operators – Increment and Decrement Operators – Conditional Operators – Bitwise Operators – Special Operators –Separators	3	
JULY	II	Decision Making and Branching: Decision Making with If statement – Simple If Statement-If else Statement-Nesting If Else Statement- the Else If Ladder-The Switch Statement – The?: operator. Looping: The while statement – The do statement – The for statement – Jumps in Loops.	5	15
		Fundamentals of Object Oriented programming: Object Oriented paradigm – Basic concepts of Object Oriented Programming – Benefits of OOP – Applications of OOP. Class, Objects and Methods: Defining a Class – Fields Declaration – Methods Declaration – Creating Objects – Accessing class members – Constructors – Methods Overloading – Static Members – Nesting of Methods – Inheritance – Overriding Methods – Final Variables and Methods – Final Classes – Abstract Methods and Classes – Visibility Control.	10	
AUG	III	Arrays-Strings – Vectors – Wrapper Classes – Enumerated Types.Interfaces: Multiple Inheritance: Defining Interfaces – Extending Interfaces – Implementing Interfaces – Accessing Interface Variables.	8	15
		Packages: Java API Packages – Using System Packages – Naming Conventions – Creating Packages – Accessing a Package – Using a Package – Adding a Class to a Package – Hiding Classes – Static Import	7	
SEPT	IV	Multithreaded Programming: Creating Threads – Extending the Thread Class – Stopping and Blocking a Thread – Life Cycle of a Thread – Using Thread Methods – Thread Exceptions	7	15
		Thread Priority – Synchronization.Exception handling: Managing Errors and Exceptions: Types of Errors-Exceptions-Syntax of Exception Handling Code-Multiple Catch Statements-Using Finally Statement-Throwing our own Exceptions-Using Exceptions for debugging	8	

Bhavans Vivekananda College
Department of Computer Science
BCA IV SEMESTER
BCA442: MOBILE COMPUTING
ACADEMIC ORGANIZER 2017 2018

Month	Unit No	Sub Unit	Details	Period Topic Wise	Total Periods
Nov, 2017	I	a	**Introduction to Mobile Computing**: Applications, A short history of wireless communication	2	15
			A Simplified Reference Model	1	
		b	**Wireless Transmission**: Frequency for radio transmission	1	
			Regulations, Signals, Antennas	2	
			Signal propagation	1	
			Path Loss of Radio Signals, Additional Signal Propagation Effects Multi-path Propagation	2	
			Multiplexing - SDM, FDM, TDM, CDM	2	
			Modulation, ASK, FSK, PSK, AFSK, APSK, MCM	2	
			Spread Spectrum - DSSS, FHSS	1	
			Cellular Systems	1	
Dec, 2017	II	a	**Medium Access Control**: Motivation for a specialized MAC	1	15
			Hidden and Exposed terminals, Near and Far Terminals SDMA, FDMA	2	
			TDMA: Fixed TDM, Classical Aloha, Slotted Aloha, Carrier sense multiple Demand assigned multiple access, packet reservation multiple access, Reservation TDMA, Multiple access with collision avoidance, Polling, Inhibit sense multiple access.	2	
			CDMA	1	
			Spread Aloha Multiple Access	1	
		b	**Wireless LAN**: Introduction, Infrared vs. Radio transmission	1	
			Infrastructure and Ad hoc Networks	1	
			IEEE 802.11: System architecture, Protocol architecture	2	
			Physical layer, Medium access control layer, MAC management	1	
			HIPERLAN, Histroical HIPERLAN 1	1	
			WATM	1	
			Bluetooth User Scenarios, Architecture	1	
Jan, 2018	III	a	**Mobile Network Layer**: Mobile IP: Goals, assumptions and requirements	1	8
			Entities and Terminology, IP packet delivery	1	
			Agent advertisement and discovery	1	
			Registration, Tunneling and Encapsulation Optimizations, Reverse tunneling	2	
			Dynamic host configuration protocol Ad hoc networks	2	
			Routing, Destination sequence distance vector, Dynamic source routing	1	

Month	Unit No	Sub Unit	Details	Period Topic Wise	Total Periods
Jan, 2018	III	b	**Mobile Transport Layer:** Traditional TCP, Congestion Control	1	7
			Slow Start, Fast retransmit / fast recovery	1	
			Classical TCP Improvements	1	
			Indirect TCP, Snooping TCP	1	
			Mobile TCP, Fast retransmit / fast recovery	1	
			Transmission/time-out freezing	1	
			Transaction oriented TCP	1	
Feb, 2018	IV	a	**Support for Mobility:** WWW, HTTP, HTML	1	15
			System Architecture, WAP Architecture	2	
			Wireless Datagram Protocol, Wireless Transport Layer Security	2	
			Wireless Transaction Protocol, Wireless Session Protocol	2	
			Wireless Application Environment	1	
			Wireless Markup Language (WML) script	2	
			Wireless Telephony Application	2	
			Push Architecture, Push / Pull Services	2	
			i-Mode	1	
Total					60

Bhavans Vivekananda College

Dept of Computer Science
BCA - IV Semester, Database Management Systems
Academic Organizer 2017-18

Month	Sub Unit	No of Classes	Total Periods
November	Database Environment,Basic Concepts and Definitions,Traditional File System,Database approach,Range of Database Applications	6	20
	Advantages of Database Approach, Costs and Risks,Components of Database Environment- Three Schema Architecture for database development,Three-tiered database location architecture	6	
	E_R Model-Sample ER Model, ER notation,Entities-strong and Weak Entity Types,Attributes-simple vs compositeAttribute,Single Valued vs Multivalued Attribute, Stored vs Derived Attribute, Relationships-Degree of Relationships, Cardinality Constraints-minimum and maximum	8	
December	Enhanced ER Model-Representing Super Type,Sub Type,Representing Specialization and Generalization,Specifying Completemess Constraints,Disjointness Constraint,Subtype Discriminators, Defining Super type/Sub type Hierarchies	8	16
	Relational Model-Definitions, Integrity Constraints, Transforming EER diagrams into relations, Normalization-Basic Normal Forms(First Normal Form, Second Normal Form, Third Normal Form),Merging Relations, Denormalization.	8	
January	Backing up Databases and Concurrency Control Access:Basic Recovery Facilities-Backup Facilities, Journalizing Facilities,Checkpoint Facility,Recovery Manager,Recovery and Restart Procedures-Switch,Restore/Return,Transaction Integrity,Backward Recovery and Forward Recovery,Types of Database Failures-Aborted Transactions,Incorrect data,System Failure,Database Destruction.	6	11
	The Problem of Lost updates,Serializability,Locking Mechanisms-Locking levels,Types of Locks,Deadlock,Managing Deadlock,Data Dictionary and Repository	5	

Month	Topic	Classes	Total
February	Client/Server and Middle ware-Client/server architectures, Three Tier architecture-partitioning, Middleware,Establishing Client/server Security,Client/Server issues; Distributed Databases- Introduction, Data Replication, Snapshot Replication, Near Real-time Replication, Pull Replication, Database Integrity with Replication, when to use Replication	5	13
	Horizontal Partitioning,Vertical Partitioning,Combination of Operations, Distributed DBMS; Location Transparency, Replication Transparency,Failure Transparency,Commit protocol,Concurrency transparency	5	
	Database Administration- Role of Data and Database Administrators, Traditional Data Administration, Traditional Database Adminstration, Evolving Approaches to Data and Database Administration	3	
TOTAL CLASSES			**60**

Bhavan's Vivekananda College

Accredited with 'A' Grade by NAAC
Department of Computer Science
Academic Organizer for 2017 - 2018
BCA IV SEMESTER
GUI PROGRAMMING & DATA STRUCTURES (Using JAVA)
LESSON PLAN

Unit	Sub Unit	Topic	Periods per subunit	Total periods
I	a)	Applet class-two types applets,Appletbasics,Appletarchitecture,an Applet skeleton,simple Applet display methods,requestingrepainting,a simple Banner Applet,using Status window,<applet>tag,passing parameters to applets,improving Banner applet,getDocumentBase() and getCodeBase()-	4	15
	b)	Event Handling-Two Event handling mechanism-Delegation Event Model-Event Classes-KeyEvent Class-Event Listener InterfaceActionListener,ItemListener,KeyListener,MouseListener,MouseMotionListener,TextListener,FocusListener,WindowsFocusListerner,WindowListener,	4	
	c)	Handling Mouse events,handling Keyboard events-Adapter classes Using AWT controlsLabels,Buttons,CheckBox,CheckboxGroup,TextField,TextArea	4	
	d)	Understanding Layout Managers-FlowLayout,BorderLayout,GridLayout	3	
II	a)	Introducing GUI programming with Swing-The origin of Swing,Swing is Bulit on AWT,two key Swing features,MVCConnection,Componenets and Containers,	4	15
	b)	Swing packages a simple Swing Application,EventHandling,create a Swing Applet,Painting in Swing	4	
	c)	Exploring Swing -JLabel and ImageIcon,JTextField,Swing Buttons-JScrollPane,JButton,JToggleButton,JCheckBox,JRadioButton,JTabbedPanJList,JComboBox,JTable	4	
	d)	Drawing Ellipses , Circles, Arcs,Polygons,working with color,working with Fonts,managing Text output using FontMetrics	3	

III	a)	Data structures creation and manipulation in java –Introduction to Java Collections, Overview of Java Collection framework-Commonly used Collection of interfaces.	4	15
	b)	Collection Interface,ListInterface,SetInterface,SortedSetInterface,QueueInterface,Deque Interface-	3	
	c)	Commonly used Collection classes – ArrayList, LinkedList,HashSet, LinkedHashSet	4	
	d)	TreeSet, PriorityQueue, ArrayDeque, EnumSet,	4	
IV	a)	Accessing a Collection via an Iterator -Iteration over Collections –Iterator interface, ListIterator interface-Legacy classes and Interfaces –Enumeration interface,Vector,Stack	4	15
	b)	Other Utility classes:StringTokenizer, Random, Formatter-constructors,methods,formatting strings and characters,formattingnumbers,formatting Time and Date,specifiers,specifying a minimum field width,specifyingprecision,using format flags,justifyingoutput,space, +,0, and (flags,comma flag,# flag,Uppercaseoption,closing a Formatter	4	
	c)	Scanner-constructor,Scanningbasics,some Scanner examples,setting Delimiters-Introducing Graphics-Drawing lines, rectangles	4	
	d)	Drawing Ellipses , Circles, Arcs,Polygons,working with color,working with Fonts,managing Text output using FontMetrics	3	

B.C.A IIYear-IISem, BCA445-SYSTEM ANALYSIS AND LOGICAL DESIGN
Academic Organizer 2017-2018

Unit No.	Sub Unit	Details	Periods / subUnit	Total Periods
I	a)	The Systems Development Environment: Information Systems Analysis and Design-Application Software , System Analyst ,Data ,Information, Dataflow ,Processing Logic ,Key Differences between Process Oriented and Data oriented Approach , Database ,Application Independence	3	15
	b)	Characteristics of Successful Teams, Types of Information Systems and Systems Development –Transaction Processing System(TPS), Management Information System (MIS) , Decision Support System(DSS) , Expert System	3	
	c)	Developing Systems and the Systems Development Life cycle	2	
	d)	Product of SDLC Phases , Approaches to Improving Developing : Prototyping , Joint Application Design(JAD).	3	
	e)	Succeeding as a System Analyst: Analytical Skills for System Analysts, Definition of a System and its parts, Important System Concepts (Decomposition, Modularity, Coupling, and Cohesion only) Decomposition functions,	4	
II	a)	Identifying and Selecting System Development Projects, Corporate and Information Systems Planning ,Top Down &	4	15
	b)	E-commerce application : Identifying and Selecting System Developing Projects : Internet ,E-commerce , Intranet , Extranet ,Electronic Data Interchange(EDI)	4	
	c)	Initiating and Planning System Development Projects : The Process of Initiating and Planning IS Development Projects	4	
	d)	Accessing Project Feasibility :Economic ,Technical ,Operational , Schedule ,Legal ,Contractual & Political , Guidelines for Better Cost Estimating ,Time Value Money(TVM) , Accessing Technical Feasibility , Project Risk Assessment Factors.	3	
III	a)	Determining System requirements: Performing Requirement Determination, Traditional Methods for Determining Requirements : Interviewing and Listening , Guidelines for Effective Interviewing , Choosing Interview Questions , Interview	4	15
	b)	Administering Questionnaires , Designing Questionnaires , Interviewing groups . Modern methods for Determining System Requirements: Joint Application Design (JAD),Scribe (definition), Radical methods for System requirements.	3	

Unit No.	Sub Unit	Details	Periods Per Sub	Total Periods
	c)	Structuring System Requirements: Process Modeling Data Flow Diagram, System Development Life Cycle with highlighting the Analysis phase (Diagram) , Deliverables for Process Modeling ,DFD Mechanics	5	
	d)	Context Diagram(Definition) , Simple examples of DFD , Incorrect and Correct ways to draw Data Flow Diagrams (Fig 8.6) , Four different types of DFDs.	3	
IV	a)	Structuring System Requirements: Logic Modeling, Deliverables for Logical Modeling, Structured English, Modeling Logic with Decision Tables, Modeling Logic with Decision Trees.	4	15
	b)	Designing forms and Reports: Designing Forms and Reports ,Form ,Report , Fundamental Questions when Designing Forms and Reports ,Formatting Forms and Reports.	4	
	c)	Designing Interfaces: System Development Life Cycle with highlighting the Design phase (Diagram), Deliverables and Outcomes, Interface (Definition) ,Interaction Methods & Devices ,Command Language Interaction	3	
	d)	Pop-Up Menu , Drop Down Menu ,Guidelines for menu design	1	
	e)	Form Interaction , Object –Based interaction , Icon , Natural Language Interaction ,Common Devices for Interacting With an Information System	3	
		TOTAL NO OF PERIODS		60

BHAVAN'S VIVEKANANDA COLLEGE

SAINIKPURI SECUNDERABD

(Accredited With 'A' Grade By NAAC) -Autonomous college

Department of Computer Science

BCA-SEMESTER-V

SUBJECT: IP

MONTH	TOPIC	NO.of classes	Total classes
JUNE	**UNIT-I**		13
	Protocols And Standards: Protocols, Standards, TCP/IP- Protocol Suite, Addressing	3	
	IP Addressing - Decimal Notation, Classes, Special Addresses, Unicast- Multicast And Broadcast Addresses	2	
	Sub Netting And Super Netting – Sub Netting, Masking, Super Netting,	2	
	Delivery And Routing Of IP Packets - Connection Oriented Versus Connectionless Services,	3	
	Direct Versus Indirect Delivery, Routing Methods, Static Versus Dynamic Routing	3	
JULY	**UNIT-II**		17
	Internet Protocol - Datagram, Fragmentation, Options, Checksum	3	
	ARP And RARP –ARP, Packet Format, Encapsulation, Operation, Proxy ARP, RARP Packet Format	2	
	Internet Control Message Protocol (ICMP) - Types Of Messages, Message Format, Error Reporting, Query.	4	
	User Datagram Protocol (UDP) - Process To Process Communications, User Datagram,, Operation, Use.	4	
	Transmission Control Protocol (TCP) - Process To Process Communication, Services, Segment, Options, Checksum,	2	
	Flow Control, Error Control, Timers, Connection	2	
AUG	**Unit III**		15
	Routing Protocols:		
	RIP-Distance Vector Routing, Routing Table, Rip Message Format, Timers	3	
	OSPF- Areas, Metric, Link State Routing, Types Of Links	2	
	BGP-Path Vector Routing-Path Vector Messages	4	
	Client-Server Model - Concurrency, BOOTP, DHCP	2	
	Domain Name System (DNS) - Name Space, Domain Name Space, Distribution, DNS In Internet,	4	

MONTH	TOPIC	NO.of classes	Total classes
SEPT	**Telnet-** Concepts, NVT, Options, Escape Character, Mode Of Operation, User Interface, Rlogin,	2	15
	File Transfer Protocol (FTP)-Connections, Communication, Command Processing, File Transfer,	2	
	Simple Mail Transfer Protocol (SMTP) - User Agent, Addresses, Delayed Delivery, Aliases, MTA, Commands and Responses,	4	
	Mail Transfer Phases, Mime, Pop,	2	
	Hyper Text Transfer Protocol - HTTP Transactions, Request Messages, Response Messages, Header	2	
	Next Generation Ipv6:Ipv6, Addresses, Packet Format, Comparison between Ipv4 and Ipv6 Headers	3	
	Total		60

Bhavans Vivekananda College
Department of Computer Science
BCA V SEMESTER
BCA542: MOBILE APPLICATION DEVELOPMENT
ACADEMIC ORGANIZER 2017 2018

Unit No	Sub Unit	Details	Period Topic Wise	Total Periods
I	a	**Hello Android**: Android isn't, Android: An Open Platform for Mobile Development Native Android Applications	2	15
	b	Android SDK features Android Run on	2	
	c	Introducing the Development Framework Understanding the Android Software Stack	3	
	d	The Dalvlk Virtual Machine Android Application Architecture Android Libraries	1	
	e	**Getting Started**: Developing for Android Creating your First Android Application	3	
	f	Types of Android Applications Developing for Mobile and Embedded Devices	1	
	g	Developing for Android Android Development Tools	1	
	h	The Android Virtual Device Manager Android SDK Manager	1	
	i	The Android Emulator The Android Debug Bridge	1	
II	a	**Creating Applications and Activities**: Introduction the Application Manifest File Using the Manifest Editor	2	13
	b	Externalizing Resources Creating Resources Layouts –Animations – Menus Using Resources, Using System Resources	2	
	c	The Android Application Lifecycle Understanding an Applications Priority and its Process States	1	
	d	Introducing the Android Application Class Overriding the Application Lifecycle Events	1	
	e	A Closer Look at Android Activities Creating Activities The Activity Lifecycle	2	
	f	**Building User Interfaces**: Fundamental Android User Interfaces (UI) Design Android UI Fundamentals Assigning UI to Activities	1	
	g	Introducing Layouts – Defining Layouts, Using Layouts to Create Device Independent UI	2	
	h	The Android Widget Toolbar	1	
	i	Creating New Views Modifying Existing Views	1	

BCA V SEMESTER
BCA542: MOBILE APPLICATION DEVELOPMENT
ACADEMIC ORGANIZER 2017 2018

Unit No	Sub Unit	Details	Period Topic Wise	Total Periods
II	j	Introducing Adapters	2	2
		Introducing Some Native Adapters		
		Customizing the Array Adapter		
		Using Adapters to Bind Data to a View		
III	a	**Intents and Broadcast Receivers**: Introducing Intents	2	15
		Using Intents to Lunch Activities		
	b	Introducing Linkify	3	
		Using Intents to Broadcast Events		
	c	Introducing the Local Broadcast Manager	1	
		Introducing Pending Intents		
	d	**Using Internet Resources:** Downloading and Parsing Internet Resources	3	
		Connecting to an Internet Resources		
		Parsing XML using the XML Pull Parser,		
	e	Using the Download Manager	4	
		Downloading Files		
		Customizing Download Manager Notifications		
		Specifying a Download Location		
		Cancelling and Removing Downloads		
	f	Using Internet Services.	2	
IV	a	**Databases and Content Providers**: Introducing Android Databases	2	15
		SQLite Databases		
		Content Providers		
	b	Introducing SQLite	2	
		Content Values and Cursors		
	c	Working with SQLite Databases	4	
		Introducing the SQLiteOpenHelper		
		Opening and Creating Databases without the SQLiteOpenHelper		
		Android Database Design Consideration		
		Querying a Database		
		Extracting Values from a Cursor		
	d	Adding, Updating and Removing Rows — Inserting Rows — Updating Rows — Deleting Rows	3	
	e	Creating Content Providers — Registering Content Providers	4	
		Publishing your Content Provider's URI Address		
		Creating the Content Provider's Database		
		Implementing Content Provider Queries		
		Content Provider Transactions		
		Storing Files in a Content Provider		
		A Skeleton Content Provider Implementation		
		Total		60

Bhavans Vivekananda College
Department of Computer Science
BCA V SEMESTER
BCA543: OBJECT ORIENTED SYSTEM DEVELOPMENT
ACADEMIC ORGANIZER 2017 2018

Unit No	Sub Unit	Details	Period Topic Wise	Total Periods
I	a	Introduction to CASE tool and its advantages	4	15
		Introduction to OOSD.		
		overview of Unified Approach		
	b	OOSD Life Cycle and its stages.	4	
		Problem Analysis		
	c	Problem solution design	2	
		Implementation		
	d	Object oriented methodologies	3	
		Booch, Jacobson and Rumbaugh methodologies.		
		Unified Approach		
	e	Layered Approach UML	2	
		Object Modeling Techniques		
II	a	UML Diagrams	4	15
		Class Diagram		
	b	Interaction Diagrams	4	
		Packages		
		UML extensibility features		
		Notations used for UML diagrams		
	c	UML meta data	3	
		Object Oriented Analysis		
	d	Business object analysis	3	
		Usecase modeling		
	e	Effective Document and rules to develop a document	1	
III	a	Object Analysis	3	15
		Classification theory		
		Noun phase approach		
		Common class patterns		
	b	Use Case driven approach	3	
		Classes, responsibilities and collaborations		
	c	Class naming	2	
		Object relationships		
	d	Associations	3	
		super and sub class relationships		
	e	A-Part relationship	2	
		Class responsibilities		
		Object Oriented Design		
	f	Design axioms	2	
		Corollaries		
		design patterns		
	a	Class design rules	2	
		class visibility		
		class attributes and methods design		

IV	b	designing methods and protocols	3
		Access Layer Design	
	c	Object persistence	4
		DBMS and models	
		client/server computing	
		distributed object computing COM, DCOM, ACTIVE X CONTROLS	
		OODBMS and its importance	
		Multi database systems	
	d	View Layer	4
		User interface design	
		Designing view layer classes	
		Macro level process	
		Micro level process design	
	e	UI design lrules	2
		view layer interface & prototyping	
		Quality assurance test, Testing strategies	
		Test cases, test plans and continuous testing	
			60

The IV group total is 15.

Bhavans Vivekananda College
Department of Computer Science
B.C.A V Semester, Advanced Java Programming
Academic Organizer 2017-2018

Unit No.	Sub Unit	Details	Periods Per Sub Unit	Total Periods
I	a)	Introducing JDBC: Describing Components of JDBC, Features of JDBC	3	15
	b)	JDBC Architecture: Types of Drivers, Advantages and Disadvantages of Drivers, Use of Drivers	4	
	c)	JDBC Statement and Methods: Statement, PreparedStatement	5	
	d)	CallableStatement, Working with ResultSet Interface.	3	
II	a)	Introducing CGI , Introducing Java Servlet , Advantages of Servlet over CGI , Features of Servlet	2	15
	b)	Introducing Servlet API - Javax.servlet package , Javax.servlet.http package	2	
	c)	Servlet Lifecycle ,Working with GenericServlet class methods, HttpServlet , Understanding Request Dispatching ,Dispatching the Request.	7	
	d)	Session in Servlet - Introducing Session Tracking, Describing URL Rewriting, Exploring Hidden Form Field, Describing Cookies, HttpSession.	4	
III	a)	Introduction to JSP - Advantages of JSP over Servlet , JSP architecture , JSP Life Cycle	5	15
	b)	Exploring Scripting Tags, Exploring Implicit Objects in JSP, Exploring Directive Tags.	5	
	c)	Java Bean- Advantages & Disadvantages, Action Tags, Describing the useBean Tag - setProperty and getProperty.	5	

Unit No.	Sub Unit	Details	Periods Per Sub Unit	Total Periods
IV	a)	JSTL Core Tags - General-Purpose Tags, Conditional and Looping Tags, Networking Tags, JSTL SQL Tags, JSTL Formatting Tags, JSTL XML Tags.	7	15
	b)	Working with JSF - Features of JSF, JSF Architecture, Describing JSF Elements, JSF Request Processing Life cycle, JSF Tag Libraries, JSF HTML Tags, JSF Core Tags.	8	
		TOTAL NO OF PERIODS		60

Bhavans Vivekananda College

Department of Computer Science
B.C.A VI Semester, Information Security
Academic Organizer 2017-2018

Unit No.	Sub Unit	Details	Periods Per Sub Unit	Total Periods
I	a)	Introduction to Information Security: History, What is Security?, CNSS Security Model, Components of an Information System	3	15
	b)	Balancing Information Security and Access, The SDLC, The security SDLC.	6	
	c)	The Need for Security: Introduction, Business Needs First, Threats, Attacks-secure software development.	6	
II	a)	Introduction, Law and Ethics in Information Security, Relevant U.S Laws, International Laws and Legal Bodies, Ethics and Information Security.	6	15
	b)	Introduction, An Overview of Risk Management, Risk Identification, Risk Assessment	4	
	c)	Risk Control Strategies, Selecting a Risk Control Strategy, Quantitative versus Qualitative Risk Control Practices	3	
	d)	Risk Management Discussion Points, Recommended Risk Control Practices.	2	
III	a)	Information Security policy, Standards and Practices, The Information Security Blueprint, Security Education, Training and Awareness Program, Continuity Strategies.	6	15
	b)	Security Technology-Firewalls and VPNs: Introduction, Access Control	5	
	c)	Firewalls, Protecting Remote Connections.	4	

Unit No.	Sub Unit	Details	Periods Per Sub Unit	Total Periods
IV	a)	Introduction, Intrusion Detection and Prevention Systems, Honeypots, Honeynets, and Padded Cell Systems,	5	15
	b)	Scanning and Analysis Tools, Biometric Access Controls.	3	
	c)	Introduction, Foundations of Cryptology, Cipher Methods, Cryptographic Algorithms	4	
	d)	Cryptographic Tools, Protocols for Secure Communications, Attacks on Cryptosystems.	3	
		TOTAL NO OF PERIODS		60

Bhavans Vivekananda College
Department of Computer Science
BCA VI SEMESTER
BCA642: SYSTEM AND NETWORK ADMINISTRATION
ACADEMIC ORGANIZER 2017 2018

Month	Unit No	Sub Unit	Details	Period Topic Wise	Total Periods
NOV, 2017	I	a	**Introduction to System Administration**: Thinking about System Administration	1	15
			Becoming Superuser,Communicating with Users	1	
		b	**The UNIX Way**: Files	1	
			File Ownership, File Protection		
			Mapping Files to Disk	1	
			Process Interactive Processes	1	
			Batch Processes		
			Daemons		
			Process Attributes	1	
			Devices,	1	
			The Root Directory		
		c	**Essential Administrative Tools and Techniques**: Getting the most from Common Commands	1	
			Piping into grep and awk	1	
			Finding Files - Repeating Commands		
			Essential Administrative Techniques	1	
			Periodic Program Execution: The cron Facility		
			System Messages, Administrative Log Files.	1	
		d	**Startup and Shutdown**: About the UNIX Boot Process	1	
			From Power on to Loading the kernel		
			Booting to Multiuser Mode - Booting to Single-User Mode	1	
			Initialization Files and Boot Scripts	1	
			Shutting Down a UNIX System		
			Troubleshooting: Handling Crashes and Boot Failures	1	
DEC, 2017	II	a	**Managing Users and Groups**: UNIX Users and Groups	1	7
			The Password File, The Shadow Password File		
			The Group File, Dynamic Group Memberships	1	
			User Account Database File Protections	1	
			Managing User Accounts, Adding a New User Account,Defining a New User Account	1	
			Assigning a Shell	1	
			Creating a Home Directory		
			User Environment Initialization Files	1	
			Setting File Ownership		
			Disabling and Removing User Accounts, Administering User Passwords,Selecting Effective Passwords.	1	

Month	Unit No	Sub Unit	Details	Period Topic Wise	Total Periods
DEC, 2017	II	b	**Managing System Resources:** Thinking about System Performance	1	8
			Monitoring and Controlling Processes,The ps command,Other Process Listing Utilities	1	
			The /proc File System	2	
			Kernel Idle Processes, Process Resource Limits		
			Managing CPU Recourses	1	
			Nice Numbers and Process Priorities		
			Monitoring CPU Usage	1	
			Managing Memory		
			Disk I/O Performance Issues,Monitoring Disk I/O Performance	1	
			Getting the Most from the Disk Subsystem, Monitoring and Managing Disk Space Usage	1	
JAN, 2018	III	a	**File System and Disks:** Filesystem Types, Managing Filesystems	2	15
			Mounting and Dismounting Filesystems		
			Disk Special File Naming Conventions	2	
			The Mount and Unmount Commands		
			Figuring out who's using a File		
			The Filesystem Configuring File		
			Automatic Filesystem Mounting	1	
			Using fsck to validate a Filesystem	1	
			From Disks to Filesystems		
			Defining Disk Partions	1	
			Adding Disks,Logical Volume Managers		
			CD-ROM Devices.	1	
		b	**Backup and Restore:** Planning for Disasters and Everyday Needs	1	
			Backup Capacity Planning,Backup Strategies, Backup Media, Comparing Backup Media, Backing Up Files and Filesystem, Backing Up Individual Filesystems with Dump, Restoring Files from Backups	2	
			Restores from tar and cpio Archives	1	
			Restoring from Dump Archives		
			Moving Data Between Systems.		
		c	**Printers and the Spooling Subsystem:** The BSD Spooling Facility	1	
			User Commands		
			Manipulating Print Jobs	1	
			Managing Queues		
			The Spooling Daemon	1	
			Remote Printing, Adding a New Printer		
Feb, 2018	IV	a	**TCP / IP Networking:** Understanding TCP / IP Networking	1	15
			Media and Topologies,Protocols and Layers	2	
			Administrative Commands, Adding a New Network Host	2	
			Configuring the Network Interface with ifconfig,	2	
		b	**Managing Network Services:** Managing DNS Servers	1	
			Name Server Types, About BIND, Configuring Named	2	
		c	**Electronic Mail:** About Electronic Mall –	1	
			Mail Addressing and Delivery,Electronic Mail Policies, Configuring User Mail Programs.	2	
		d	Configuring and Building Kernel for LINUX.	2	
			Total		60

Bhavans Vivekananda College
Department of Computer Science
BCA VI SEMESTER
BCA353 : SOFTWARE TESTING
ACADEMIC ORGANIZER 2017 2018

UNIT NO	SUB UNIT	DETAILS	PERIOD TOPIC WISE	TOTAL PERIODS
I	a	Example test series - first cycle, second cycle, subsequent cycles	5	11
		Objectives and limits of testing Testing in software development process		
		planning stage, design stage, glass box code testing regression testing		
	b	black box' testing Software errors Reporting and analyzing bugs	3	
		problem report: contents, characteristics		
	c	analysis of reproducible bug, tactics for analyzing a reproducible bug	3	
		making a bug reproducible	1	
II	a	Problem tracking systems - objectives, tasks, overview	3	20
		users, mechanics, further thoughts on problem reporting	5	
		Test case design - characteristics of a good test, equivalence classes and boundary values	3	
	b	visible state transitions, race conditions, load testing, error guessing	3	
		function equivalence testing, regression testing, executing the tests.	4	
III	a	Building a software testing strategy	2	14
		Establishing a software testing methodology	2	
	b	Determining software testing techniques	1	
		Eleven steps of software testing process	2	
	c	Overview, Assess project management	2	
IV	a	Develop test plan, requirement phase testing	1	
		Design phase testing, program phase testing	2	
	b	Test execution, Acceptance testing.	2	
V	a	Test software changes Software maintenance	2	15
		definition, maintenance characteristics	2	
		maintainability, maintenance tasks, sideeffects	2	
		reverse engineering and reengineering	2	
	b	Software configuration management	2	
		configuration items, SCM process, version control	3	
	c	change con-{ml, .configuration audit, status reporting.	2	
		TOTAL		60

Bhavans Vivekananda College
Department of Computer Science
BCA VISEMESTER
BCA644A: E-COMMERCE
ACADEMIC ORGANIZER 2017 2018

Unit No	Sub Unit	Details	Period Topic Wise	Total Periods
I	a	Overview of Electronic Commerce Definition of E-Commerce, Definition of E-Business Potential Benefits of E-Commerce,	2	15
	b	The Internet and WWW as Enablers of E-Commerce Impact of E-Commerce on Business Models	2	
	c	Overall Business and E-Commerce Goal Congruence The Impact of E-Commerce on the value chain, The ICDT Business Strategy Model	3	
	d	Three Pillars of E-Commerce,	1	
	e	E-commerce and the Role of Independent Third Parties: (AICPA) ,CPA ,The Elliott Committee and Cohen Committee, Impact of E-commerce on the Traditional Assurance Function Three waves of E-Commerce	3	
	f	Third –Party Assurance of Web- based E-Commerce:	1	
	g	Security of Data, Business Policies Business Policies	1	
	h	Transaction Processing Integrity	1	
	i	Privacy of Data Website Seal options (BBB, TRUSTe, Veri-Sign, Inc, ISCA)	1	
II	a	EDI-Introduction Traditional EDI Systems	2	15
	b	Non-EDI Systems van	2	
	c	Partially Integrated EDI System Fully Integrated Systems	1	
	d	Benefits of EDI Systems	1	
	e	Data Transfer and Standards (ANSI ,ASC , EDIFACT) Financial EDI	2	
	f	EDI Systems and the Internet	1	
	g	Risks of Insecure Systems	2	
	h	Internet Associated Risks and Intranet Associated risks	2	
	i	Sniffers, Financial Fraud Social Engineering (Definition only).	2	

BCA V SEMESTER
ACADEMIC ORGANIZER 2017 2018

Unit No	Sub Unit	Details	Period Topic Wise	Total Periods
III	a	Risk Management: Introduction	2	
		Control Weakness Vs Control Risk: Security Gaps		
	b	Risk Management Paradigm, Disaster Recovery Plans & Objectives.	3	
		Internet Standards , Protocols ,and Languages		
	c	Standard Setting Issues and Committees	1	
		ANSI , UN/EDIFACT		
	d	Major Standard Setting Structures and interfaces	3	15
		Internet and World Wide Web (WWW) Specific Committees		
		Security Committees and Organizations		
	e	Security Protocols and Languages : Domain Names	4	
		FTP & TELNET ,NNTP ,HTTP ,SGML		
		HTML		
		XML		
		DOM & DHTML		
	f	Java ,STEP (Basics only)	2	
IV	a	Firewalls: Introduction, Definition, TCP/IP	2	
		OSI		
	b	Components of a Firewall	1	
	c	Typical Functionalities of Firewall	4	
		Packet Filtering , Network Address Translation		
		Application Level Proxies		
		Stateful Inspection ,VPN, Real Time Monitoring		15
	d	Network Topology ,Demilitarized zone(DMZ) ,Securing the Firewall	3	
	e	Factors to consider in Firewall.	5	
		E-commerce Payment Mechanisms		
		the SET PROTOCOL		
		SET Vs. SSL		
		Magnetic Strip Cards ,Smart cards , E-Checks		
		E-CASH ,FSTC & BIPS		
Total				60

BHAVAN'S VIVEKNANDA COLLEGE
Department of Computer Science
B.Sc - VI Semester ADBMS
Academic Organizer 2017-2018

Unit No.	Month	Sub Unit	No of classes	Total Periods
Unit-I	November	SDLC- Planning, Analysis, Detailed System Design Implementation, Maintenance	3	8
		DDLC- Database Initial Study, Database Design, Implementation and Loading, Testing and Evaluation. Operation and Evolution	3	
		Database Design, Centralized Design vs Decentralized Design	2	
Unit-II	December	Transaction- Transaction Properties, Transaction Management with SQL, Transaction Log	3	15
		Concurrency Control- Lost Updates, Uncommitted Data, Inconsistent Retrievals	3	
		Scheduler, Concurrency Control with locking methods, Lock Granularity, Lock Types	2	
		Two Phase Locking to ensure Serializability, Deadlocks, Concurrency Control with Time Stamping Methods, Wait/Die and Wound Wait Schemes,	4	
		Concurrency Control with Optimistic Methods, Database Recovery Management, Transaction Recovery.	3	
Unit-III	January	Distributed Database Management Systems: The evolution of Distributed Database Management Systems, DDBMS Advantages and Disadvantages, Distribution Processing and Distribution Databases,	3	11
		Levels of Data and Process Distribution, Distributed Database Transparency Features, Distribution Transparency, Transaction Transparency - Distributed Requests and Distributed Transactions,	4	
		Distributed Concurrency Control, Two-Phase Commit Protocol, Distributed Database Design - Data Fragmentation, Data Replication. C.J. DATE'S Twelve Commandments for Distributed Databases.	4	
Unit-IV	February	The Data Warehouse: The need for data analysis, Decision Support Systems(Data), - Operational Data vs. Decision Support Data, Decision Support Database Requirements	2	11
		The Data Warehouse – Twelve Rules that Define a Data Warehouse, Online Analytical Processing- Multi-Dimensional Data Analysis Techniques, Advanced Database Support,	4	
		Easy-to-use End-user Interface, Client-Server Architecture, OLAP Architecture. Relational Vs. Multidimensional OLAP, Star Schemas – Facts, Dimensions, Attributes, Attribute Hierarchies, Star Schema Representation, Data Mining	5	
TOTAL				45

Bhavan's Vivekananda College

Department of Computer Science
Academic Organizer 2017-2018

B.Sc 3rd year 6th Semester

CS625A: Web Programming with Client Side Scripting (Elective – I) (Paper IV-A)

Month	Details	Total Classes alloted	Unit wise Total
Nov 11Hrs	Unit-I: Java Script Basics An introduction to Java Script: JavaScript - The Basics, Variables,	3	11
	Dialog Boxes (Prompt, Alert Messages and Confirmations), I/O Statements,	4	
	Operators, Statements-Sequential, Conditional, Looping.	4	
Dec 11Hrs	Unit-II: Functions &Arrays in JavaScript Functions – Defining Functions ,Parameter Passing, Examining Function Call,	4	11
	String Objects, Creating Arrays ,Adding Elements to Array, Accessing Array Members, Searching Array Element, Removing Array Element,	4	
	Object-based Array Functions	3	
Jan 11 Hrs	Unit-III: Object in JavaScript Data and Objects in JavaScript, Objects-A Brief introduction, JavaScript Objects-new, this,.(dot)	3	11
	Exception Handling, Built-in Objects (Document, Window, Form, Navigator/Browser, Date),	4	
	JavaScript Events. Dynamic HTML with JavaScript: Data Validation.	4	
Feb 12 Hrs	Unit-IV: XML and Protocols XML: Defining Data for Web Applications: Basic XML, Document Type Definition, XML Namespaces, XML Schema, XML Document Object Model,	4	12
	Presenting XML-(XSL elements, Styling xml with CSS). Protocols: Introduction to Protocols, IP and TCP, IP Address, HyperText Transfer Protocol,	4	
	what is Common Gateway Interface, the Document Object Model. Useful Software: Web Browsers- Introduction, Types of Browser, Factors for Choosing a Browser.	4	
Total Classes		45	45