B. Sc. (IT) - III Year Exam.

BIT 301: Programming in Java

Time: 3 Hrs.   **Max. Marks: 75**

Unit - I
Introduction to Java, Features of Java, Object Oriented Concepts, Lexical Issues, Data Types, Variables, Arrays, Operators, Control Statements.

Unit - II
Classes, Objects, Constructors, Overloading method, Access Control, Static and fixed methods, Inner Classes, String Class, Inheritance, Overriding methods, Using super, Abstract class.

Unit - III
Packages, Access Protection, Importing Packages, Interfaces, Exception Handling, Throw and Throws, Thread, Synchronization, Messaging, Runnable Interface, Inter thread Communication, Deadlock, Suspending, Resuming and stopping threads, Multithreading.

Unit - IV
I/O Streams, File Streams, Applets, String Objects, String Buffer, Char Array, Java Utilities, Code Documentation.

Unit - V
Networks basics, Socket Programming, Proxy Servers, TCP/IP Sockets, Net Address, URL, Datagrams, Working with windows using AWT Classes, AWT Controls, Layout Managers and Menus.

Text / Reference Books

1. Cay S.Horstmann, Gary Cornell – "Core Java 2 Volume I – Fundamentals",5th Edn. PHI, 2000.
2. P. Naughton and H. Schildt – "Java2 (The Complete Reference)" - Third Edition,TMH 1999.
3. K. Arnold and J. Gosling – "The Java Programming Language" - Second Edition, Addison Wesley, 1996.

BIT 302: Client Server Technology

Time:3 Hrs   **Max. Marks:75**

Unit 1

Client/Server Computing: Evolution of client/server concept, definition, history, need and motivation for client/server approach, client/server approach, Client / server types and its examples.

Unit 2

Client/server development tools, advantages of client/server technology connectivity, user productivity reduction in network traffic, faster delivery of system.

Unit 3

The Role of Client - Client request for service, dynamic data exchange, OLE, Common Object Request Broker Architecture (CORBA), Components of client/server application.
The Role of Server - Server function, network operating system: Novel Netware, LAN Manager, Server Operating System Application Architecture.

Unit 4

Architecture : Components of client-server architecture, application partitioning, the two layer and three-layer architectures, communication between clients and servers, use of APIs in client/server computing, middleware technology in client/server computing. Open System Interconnectivity (OSI), Inter Process Communication (IPC).

Unit 5

Client/Server System Development Network Management. Remote System Administration. LAN Network Management, Security Issue, Developing application on RDMS, GII design concepts.

Text / Reference Books

1. Robert Orfali, Dar Harkey and J.Edwards : "the Essential Client/Server Survival Guide": Galgotia, 2001.
2. Beth Gold Bernstien and david Marea Designing Enterprise Client/Server System, PHI, 1998.
3. Devire and Drawna, "Client/Server Computing", McGraw Hill 1993.
4. Thomas S. Ligon, "Client-Server Communication "McGraw Hill 1997.
5. Berson : Client/Server Architecture, Architecture, 2nd Edition, Mc-Graw Hill.

BIT-303 System Analysis & Design

Time: 3 Hrs.   **Max. Marks: 75**

UNIT-I

System Concept: Definition, Characteristics, Elements of system, Physical and abstract system, open and closed system, man-made information systems.

System Development Life Cycle: Various phases of system development, Considerations for system planning and control for system success.

System Planning: Base for planning a system, Dimensions of Planning.

UNIT-II

Initial Investigation: Determining users requirements and analysis, fact finding process and techniques.

Feasibility study: Determination of feasibility study, Technical, Operational & Economic Feasibilities, System performance constraints, and identification of system objectives, feasibility report.

Cost/Benefit Analysis: Data analysis, cost and benefit analysis of a new system. Categories determination and system proposal.

UNIT-III

Tools of structured Analysis: Logical and Physical models, context, diagram, data dictionary, data diagram, form driven methodology, IPO and HIPO charts, Gantt charts, system model, pseudo codes, Flow charts- system flow chart, run flow charts etc., decision tree, decision tables, data validation.

Input/ Output and Form Design: Input and output form design methodologies, menu, screen design, layout consideration.

UNIT-IV

Management standards – Systems analysis standards, Programming standards, Operating standards. Documentation standards –User Manual, system development manual, programming manual, programming specifications, operator manual.

System testing & quality: System testing and quality assurance, steps in system implementation and software maintenance.

System security: Data Security, Disaster/ recovery and ethics in system development, threat and risk analysis. System audit.

UNIT-V

Organisation of EDP: Introduction, Job Responsibilities & duties of EDP Personnels- EDP manager, System Analyst, Programmers, Operators etc. Essential features in EDP rganization.

Selection of Data Processing Resources: purchase, lease, rent-advantages and disadvantages. Hardware and software procurement – In-house purchase v/s hiring and lease.

Text / Reference Books

1. V K Jain, "System Analysis & Design" Dreamtech Press
2. A Hoffer, F George, S Valaciah "Modern System Analysis &Design' Low Priced Edn. Pearson Education.
3. V.K.Kapoor, "Information Technology & Computer Applications", Sultan Chand & Sons, New Delhi

BIT 304: Web Technology II

Time: 3 Hrs.   **Max. Marks: 75**

Unit - I

Internet Basics, Introduction to HTML, List, Creating Table, Linking document, Frames, Graphics to HTML Doc, Style sheet, Style sheet basic, Add style to document, Creating Style sheet rules, Style sheet properties, Font, Text, List, Color and background color, Box, Display properties.

Unit - II

Introduction to Java script, Advantage of Java script, Java script Syntax, Data type, Variable, Array, Operator and Expression, Looping, Constructor, Function, Dialog box.

Unit - III

Javascript document object model, Introduction, Object in HTMl, Event Handling, Window Object, Document object, Browser Object, Form Object, Navigator object, Screen object Build in Object, User defined object, Cookies.

Unit - IV

ASP. NET Language Structure, Page Structure - Page event, Properties &Compiler Directives. HTML server controls - Anchor, Tables, Forms, Files. Basic Web server Controls, Lable, Textbox, Button, Image, Links, Check & Radio button, Hyperlink. Data List Web Server Controls - Check box list, Radio button list, Drop down list, List box, Data grid, Repeater.

Unit - V

Request and Response Objects, Cookies, Working with Data - OLEDB connection class, command class, transaction class, data adaptor class, data set class. Advanced Issues - Email, Application Issues, Working with ITS and page Directives, Error handling. Security-Authentication, IP Address, Secure by SSL & Client Certificates.

Text / Reference Books

1. I. Bayross, "Web Enable Commercial Application Development Using HTML, DHTML, Javascript, Perl CGI", BPB Publications, 2000
2. J. Jaworski, "Mastering Javascript", BPB Publications, 1999
3. T. A. Powell, "Complete Reference HTML" (Third Edition),TMH, 2002
4. G.Buczek, "ASP.NET Developers Guide", TMH, 2002

BIT 305: MULTIMEDIA TOOLS AND APPLICATIONS

Time: 3 Hrs.   **Max. Marks: 75**

Unit - I
Multimedia : Introduction, Main elements, Need, Benefits, Framework. Multimedia devices, Applications, Introduction to multimedia presentation software, Concept of virtual reality.

Unit - II
Image Editing Software (Photoshop): Basic Concepts, Image handling, Layers, Channel and Masks, Screen Capture, Different File formats (GIF, JPEG & PNG), painting and editing.

Unit - III
Web Development : Internet and WWW, History of Internet, Basic services, Concept of Web browser, Web document, Web server, Basics of Web site design, Characteristics of good website, Publishing and Registering websites, Introduction to Internet Service Providers and Search Engines.

Unit - IV
HTML : Introduction to HTML, structure of HTML code, various tags, Frames, creating link in Web pages, Forms, APPLET tag, CSS, DOM, DHTML, XML : Introduction, Structure, XML Markup, Viewing XML, document (using CSS, DOM)

Unit - V
Web Scripting : Installing & Managing Web Server (IIS, PWS), Javascript, VBScript, ASP : Introduction, features, ASP objects, Database connectivity (ODBC).

Text / Reference Books

1. Deborah S. Roy, Eric J Roy, Mastering HTML, 4.0.
2. A. Russel Jones, Mastering Active Server Pages 3.0, BPB Publications
3. Reinhardt, Lentz, Flash 5 Bible, IDG Books, New Delhi
4. Deke, McClelland & Ulrichfiller Laurie, Photoshop 9 CS2 Bible, Wiley India.
5. Bangia Ramesh, Multimedia and Web Technology, Firewall Media.
6. Leon Alexis, Leon Mathews, Internet For Everyone, Leon TECHWorld.
7. WiraSinha Anushka, Flash in a Flash Web Development, PHI
8. Jeffcoate Judith, Multimedia In Practice- Technology and Applications, Pearson Education.

BIT 306: Practical - I
System Design Project: The students have to design and develop a software project by adopting
SDLC approach in groups (not more than 3 or 4).
   • Problem definition and requirement Analysis report
   • Design and implementation
   • Documentation (report)

BIT 307: Practical – II
Experiments based on the paper BIT 204 and project development for Internal Assessment.

Innovations and Employability in the area of Computer Science

Innovations

Computer Science is the most creative and diverse field of all the technology fields. If you can imagine an outcome, this major will provide you the tools to create it. In addition to providing a solid grounding in all the most significant areas of computer science, The syllabus is designed for students considering their individual needs, who want to study a broad computer science curriculum with an emphasis on combining both the theory and practice of computer science. Then the syllabus will be able to develop computer professionals with a good grasp of how to design and build high quality systems for industry that are usable in real world socio-technical contexts.

The overall aim to develop this syllabus of Computer Science course is to deliver a broad but rigorous Computer Science education coupled with direct exposure to cutting edge research. Graduates and Post Graduate of this programme are intended to continue directly into careers involving innovative thinking and problem solving, as part of an advanced research, development or other applied field of computer science.

Employability

Selection to study the Computer Science opens up many avenues for future career prospects.
Almost every major challenge in the world turns to the use of computer science to solve problems; from medical research, education, supporting aid work in disaster areas, helping to create a sustainable environment, the logistics of moving products around the world, to the world of business and securing and managing the vast levels of data through visualisation, security and transmission; not to mention the world of media.

Being a successful Computer professional is not just about solving technical problems, but also collaboration, leadership, and teamwork; which is why our degree courses encourage you to gain these interdisciplinary and interpersonal skills in addition too.

- Computers and computing technology lies at the heart of organisations across all industrial sectors; and our graduates are equipped to support and develop these systems.

- Computer Technology is the fastest developing technology in the world, and the requirement for graduates with the skills to work in this field is continuing to grow, whilst the actual supply of graduates with the skills is dropping worldwide.

Computer Science will fulfill the growing market demand in government and private sectors both for expertise in following:

Databases

Communication Networking

Image processing

Animation

Software development .... etc

JOB OPPORTUNITIES FOR UNDERGRADUATE STUDENTS

    A. [BCA/B.Sc. (CS/IT)/BA/BSc./B.Com (with Computer)/PGDCA] graduate can work as a

1. Computer Operator/Computer
2. Informatic Assistant etc. In a government sector
3. BDP, Desktop Publishing, BPO professionals
4. Low-level Web designers, Graphic designers
5. Data entry operators
6. Technical Assistant