MCC 401: PROGRAMMING WITH JAVA

Module – 1 (16 hours)
Introduction to Java Programming Language, Data Types and Operations, Structured Programming, Selection Statements, Loops, Methods, Method Abstraction and Stepwise Refinement, Arrays, Object-Oriented Programming: Classes and Objects, Constructors, Implementing & Designing Classes, Use of Keywords: static, final, this, Class Abstraction and Encapsulation, Strings and Text I/O, Inheritance and Polymorphism, use of super keyword, Overriding vs. Overloading, Object: The Cosmic Super class, Abstract Classes and Interfaces, Packages, Object-Oriented Design and Patterns.

Module – 2 (12 hours)

Module – 3 (12 hours)
Multithreading, Networking, JDBC, Internationalization, Advanced GUI Programming: MVC, JavaBeans and Bean Events, Containers, Layout Managers, and Borders, Menus, Toolbars, Dialogs and Swing Models, JTable and JTree, New Features of Java.

Text Books:
   (Book Chapters: 1 to 24, 26, 29 to 37)

Reference Books:
**MCC 402 COMPUTER GRAPHICS AND MULTIMEDIA**

**Module – 1 (14 hours)**


**Module – 2 (14 hours)**


**Module – 3 (12 hours)**


**Text Books:**

**Reference Books:**
MCC 403 SOFTWARE ENGINEERING

Module-I (12 hours)


Module-II (14 hours)


Module-III (14 hours)


Text Books:

Reference Books:
MCC 404 COMPILER DESIGN

Module 1 (12 hours)
Introduction, Lexical Analysis (Scanning), Lexical-Analyzer Generators: Lex & Flex, Syntax Analysis (Parsing): CFG, Top-Down Parsing, Bottom-Up Parsing, LR Parsing Methods: SLR, Canonical LR, LALR, Parser Generators-YACC & BISON.

Module 2 (12 hour)

Module 3 (16 hours)

Text Books:

References Books:
MCC: 405 QUANTITATIVE TECHNIQUE-I (OR)

Module-I (13 hours)

**Introduction to Linear Programming:** Problem formulation, graphical solution of LPP, Simplex algorithm, Big-O method, Two phase simplex method, Duality, Dual theorems, Transportation Problem, Assignment problem, Transshipment Problem.

Module-II (13 hours)

**Queuing Theory:** Basic structure of queuing model, Role of exponential distribution, Birth and death process, Queuing models based on Birth-and-death process, Queueing models based on Nonexponential distributions

**Inventory Theory:** Components of inventory models, Deterministic Continuous-Review model, deterministic Periodic-Review model, Deterministic Multiechelon inventory models for supply chain management.

Module-III (14 hours)

**Project management:** Visual display of a project, Sheduling a project with PERT/CPM, Dealing with uncertain activity, Time-cost trade-offs, Scheduling and controlling project costs, Evaluation of PERT/CPM

**Decision analysis:** Decision making without experimentations, Decision making without experimentations, Decision trees, Utility theory.

**Text Book:**

**Reference Books:**
MCC: 406 E-COMMERCE AND ERP

Module-I (12 hours)

Introduction to e-commerce: Business models, revenue models and business processes, economic forces & e-commerce, identifying e-commerce opportunities, international nature of e-commerce, technology infrastructure-internet & WWW; Business strategies for e-commerce: Revenue models in transaction, revenue strategic issues, creating an effective web presence, website usability; Marketing on the web: Web marketing strategies, communicating with different market segments, customer behavior and relationship intensity, advertising on the web, e-mail marketing, technology enabled CRM, search engine positioning and domain names.

Module-II (14 hours)

Business to business strategies: (Overview strategic methods for Developing E-Commerce) Purchasing, logistics and supply activities, electronic data interchange (EDI), electronic data interchange on the internet, supply chain management using internet technologies, electronic market place & portals (Home shopping, E-marketing, Tele marketing), auctions, online auctions, virtual communicative & web portals; legal, ethical & tax issues in e-commerce — use and protection of intellectual property in online business, online crime, terrorism & warfare, ethical issues.

Four C’s (Convergence, Collaborative computing, Content management & Call centre)

Technologies for e-commerce: web server hardware & software, e-commerce software, ecommerce security — online security issues, security for client computers, communication channel security, security for server computers, organizations that promote computer security; Payment statements in e-commerce(Payment through card system, E-cheque, E-cash, E-payment threats and protection), planning for e-commerce— planning e-commerce initiatives, strategies for delivering e-commerce web sites, managing e-commerce Implementations.

Module-III (14 hours)

Enterprise resource planning: Business functions, processes & data requirements, development of ERP systems, marketing information systems & sales order process, production & supply chain management information systems, accounting in ERP systems, human resource processes with ERP, process modeling, process improvement and ERP implementations, Relationship between ecommerce and ERP.

Text Books

Reference Books:
Topic

01. Introduction, Compiling & executing a java program.
02. Program with data types & variables.
03. Program with decision control structures: if, nested if etc.
04. Program with loop control structures: do, while, for etc.
05. Program with classes and objects.
06. Implementing data abstraction & data hiding.
07. Implementing inheritance.
08. Implementing and polymorphism.
09. Implementing packages.
10. Implementing generics.
11. Program with modern features of java.
12. Implementing interfaces and inner classes
13. Implementing wrapper classes
15. Implementing cloning.
16. Implementing Reflections
17. Working with files.
18. Implementing a Lexical Analyzer
19. Implementing a parser
20. Implementing a code generator
MCL: 408 COMPUTER GRAPHICS AND MULTIMEDIA LAB

Topic

01. Introduction to OpenGL Programming.
02. Implementing line drawing algorithms.
03. Implementing circle drawing algorithms.
04. Implementing ellipse drawing algorithms.
05. Implementing Line Clipping Algorithms.
06. Implementing Polygon Clipping Algorithms.
07. Implementing 2-d Transformations.
08. Implementing 3-d Transformations.
09. Implementing scan fill, boundary fill algorithms.
10. Implementing seed fill, flood fill algorithm.
11. Writing program on B-Splines, Bezier Curves
13. Writing program on Sierpinski gasket, Koch curve.
14. Writing program on Fractal trees & forest.
15. Writing program on wire frame model & terrain generation.
17. Writing program on Animation & Morphing techniques.
MCS409 – Seminar: (Each student must present a seminar & should attend seminar presentation of others student as per regulation prescribed by the University.)