

UNIVERSITY OF MYSORE

REGULATIONS

AND SYLLABUS

FOR

**POST GRADUATE DIPLOMA IN
SOFTWARE DEVELOPMENT (PGDSD)**

**EFFECTIVE FROM THE ACADEMIC
YEAR**

2021-2022

UNIVERSITY OF MYSORE
GUIDELINES AND REGULATIONS LEADING TO POST GRADUATE
DIPLOMA IN SOFTWARE DEVELOPMENT (PGDSD)

(Effective from academic year 2021 -2022)

The Post Graduate Diploma in Software Development (PGDSD) programme is one-year duration consisting of two semesters in the Faculty of Science and Technology with a provision to study on full-time basis. The course shall be governed by the following regulations:

1. ELIGIBILITY FOR ADMISSION

A candidate who has passed any Bachelor's degree from a recognized University is eligible for admission to the first Semester of the programme.

The selection of eligible candidates for admission to course shall be based on merit-cum-reservation policy of the Government of Karnataka from time to time.

2. INTAKE

The intake for the admission to the programme is fixed by the University.

3. COURSE OF STUDY

The course of study for the Post Graduate Diploma in Software Development (PGDSD) is a period of one year consisting of two semesters. Each semester shall be of sixteen weeks duration. The academic calendar shall be as notified by the university from time to time. However, a candidate can take a maximum of two years for completion of the programme, as per double the duration of the programme as mentioned in the norms of University of Mysore.

There shall be five papers of theory with practical in the first semester. There shall be four papers with practical's and one project work in the second semester. The hours of instruction shall be two hours/week for each theory paper and four hours (two hours duration Two times a week) for each practical's paper.

Every course offered will have three components associated with the teaching- learning process of the course, namely (i) Lecture – L (ii) Tutorial- T (iii) Practical's - P, where L stands Lecture session. T stands Tutorial session consisting participatory discussion / self study/ desk work/ brief seminar presentations by students and such other novel methods that make a student to absorb and assimilate more effectively the contents delivered in the Lecture classes. P stands Practice session and it consists of Hands on experience / Laboratory Experiments / Field Studies / Case studies that equip students to acquire the much required skill component.

4. MEDIUM OF INSTRUCTION: The medium of instruction shall be English.

5. ATTENDANCE

Only those students, who have at least 75% attendance in a course, shall be permitted to appear for the main examinations.

The Head of the Department / Institute shall notify the list of all students who have less than 75% attendance in each course by the beginning of the 8th and 16th week. A copy of the same should be sent to the Registrar (Evaluation) of the University. If a student did not attend 75% attendance then registrations of such students for those courses shall be treated as cancelled. If the course is a core course, the student should re-register for the course when it is offered next.

The student who fails to complete the course in the manner stated in 5.1 above shall enroll himself/herself in the coming two years. However the admission is subject to the availability of the seats

6. CONDUCT

Every student is required to observe discipline and decorum both inside and outside the campus in accordance with the instructions issued by the University of Mysore / Government of Karnataka time to time. If the conduct/behavior of the student is not found to be satisfactory, action will be initiated as per the University regulations.

7. INTERNAL/CONTINUOUS ASSESSMENT

The internal assessment marks in each theory paper shall be awarded by the concerned course teacher based on (i) two class tests, each of one hour duration, conducted by him/ her during the semester, (ii) one Assignment and (iii) one seminar. Average of the two tests, assignment and seminar to be considered as the final internal assessment marks.

Internal Assessment	20 marks
Test1	15 marks
Test2	15 marks
Assignment	5 marks
Seminar	5 marks

8. SCHEME OF EXAMINATION

There shall be a University examination at the end of each semester.

The duration of theory and practical examination shall be of Two hours duration.

The duration and maximum marks and minimum marks for pass in each of the Theory and Practical shall be as given below:

For each Paper	Marks Allocation						Total	
	IA		Theory		Practical			
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
	20	7	50	18	30	11	100	40

In the Practical examination each student should execute one question out of the 10/12 practical questions approved in the syllabus.

Change of program during lab examinations is not permitted because all the Programmes are given from the predefined list from the syllabus only.

*In case of practical examination, the following scheme shall be followed:

Writing procedure–05 marks, Execution-12 marks, Viva-voce–8 marks and Record-05 marks

****In case of Project, the following scheme shall be followed:**

Project Demonstration/execution: 30marks, Viva-voce:20 marks, Dissertation:30 marks

Project work can be done with two or three candidates. Candidate shall submit two copies of the project report along with CD/DVD on project work during second semester for evaluation. The project viva shall be conducted by one internal examiner and one external examiner approved by the Registrar (Evaluation).

9. DECLARATION OF RESULTS AND CLASSIFICATION OF SUCCESSFUL CANDIDATES

The candidate who obtains a minimum of 35% of marks in each of the theory and practical examination and a minimum of 40% of marks of theory/practical/Project examination and Internal Assessment marks put together shall be declared to have passed in the respective paper. The candidate is declared to have passed the semester if he/she passes in all the papers. The candidate who fails to get such a minimum marks in any paper(s) shall repeat the theory / practical examination of that paper. The Internal Assessment marks once awarded is final and there is no provision for improvement. Minimum Credits for getting the Diploma: 20 credits from 2 semesters.

The Grades shall be declared on the basis of aggregate marks obtained by the candidate, who has successfully completed both the semesters of the course.

The classification of credits of successful candidates shall be as under:

Sl. No	Marks secured in each course	Grade
1.	Marks secured in the paper is 90% and above	A
2.	Marks secured in the paper is 80% and above but less than 90%	B
3.	Marks secured in the is 70% and above but less than 80%	C
4.	Marks secured in the paper is 60% and above but less than 70%	D
5.	Marks secured in the paper is 50% and above but less than 60%	E
6.	Marks secured in the paper is 40% and above but less than 50%	F
7.	Marks secured in the paper is less than 40%	Dropped

PROGRAMME STRUCTURE

FIRST SEMESTER

SL.NO	PAPERS	TITLE OF THE PAPER	CREDIT PATTERN			CREDITS
			L	T	P	
1	PGDSD-1.1	Computer Concepts and Operating Systems	2	0	2	4
2	PGDSD-1.2	Programming in C and Data Structure	2	0	2	4
3	PGDSD-1.3	Web Programming	2	0	2	4
4	PGDSD-1.4	Software Engineering and Testing	2	0	2	4
5	PGDSD-1.5	Data Communication and Networking	2	0	2	4

SECOND SEMESTER

SL.NO	PAPERS	TITLE OF THE PAPER	CREDIT PATTERN			CREDITS
			L	T	P	
1	PGDSD-2.1	RDBMS with MYSQL	2	0	2	4
2	PGDSD-2.2	Object Oriented Programming in JAVA	2	0	2	4
3	PGDSD-2.3	ASP.NET	2	0	2	4
4	PGDSD-2.4	Software Project Management	2	0	2	4
5	PGDSD-2.5	Project Work	0	1	3	4

DETAILED SYLLABUS OF THE PROGRAMME POST GRADUATE DIPLOMA IN SOFTWARE DEVELOPMENT (PGDSD)

FIRST SEMESTER

PGDSD-1.1: COMPUTER CONCEPTS AND OPERATING SYSTEM

COURSE OUTCOME:

- ✓ Understand the organization of basic computer, its design and the design of control unit.
- ✓ Demonstrate the working of central processing unit.
- ✓ Describe the operations and language of the register transfer, micro-operations and input-output organization.
- ✓ Understand the organization of memory and memory management hardware.

COURSE CONTENT:

UNIT-1

Introduction to computers, Computer Concepts, Input Devices, Output Devices, Secondary Storage Devices, Memory Organization, Computer Architecture, Operating System Basics, Programming Languages.

UNIT-2

Introduction to number system, Binary system, Decimal system, Octal system, Hexadecimal system. Various Conversion in Number system, One's and Two's Complements, Binary Arithmetic, One's and Two's Complement, Subtraction, Floating Point Arithmetic. Boolean Algebra and Venn diagram, Logic Gates.

UNIT-3

Process Management, process, process state, process control block, Thread and Multithreading Process Scheduling algorithm, Concurrency Control, Dead Lock, Interrupt Handler, Memory Management, Logical and physical Address space, swapping, Paging and Segmentation. Virtual Memory, Demand paging, Page replacement, Page Replacement Algorithm, FIFO Page replacement algorithm, Optimal Algorithm, LRU Algorithm.

UNIT-4

File System Interface, Concept of File, File Access Methods, File System Implementation, File system Structure, File system Organization. I/O System, Network systems, Distribution, systems, MS-Dos Internal commands, MS-Dos External commands, Introduction to Unix, Introduction to Linux.

REFERENCE BOOKS:

1. Wells, D.(2008). *Computer concepts basics*. Nelson Education.
2. Sangameshwara, BG.(2008). *Computer Concepts & C Programming*. Sanguine Technical Publishers.
3. Godse, A.P., & Godse, D.A.(2008). *Computer Concepts and Programming in C*. Technical Publications.
4. Parsons, J. J., & Oja, D. (2012). *Computer Concepts: Illustrated Introductory*. Cengage Learning.
5. Dixit, J.B.(2005). *Computer Concepts and C Programming*. Laxmi Publications.

PGDSD-1.2: PROGRAMMING IN C AND DATASTRUCTURE

COURSE OUTCOME:

- ✓ Describe the basic concepts of programming.
- ✓ Distinguish various control structures used in programming.
- ✓ Describe and apply the concepts of functions.
- ✓ Design, implement debug and document a program for a given problem statement.

COURSE CONTENT:

UNIT-1

C Language Preliminaries Introduction, History and features of C, Characteristics of C, Applications of C. Constants and Variables, Fundamentals of C, Variables, Constants, Data Types, int, float, char, double. Input-Output statements, formatted input, formatted output statements, Unformatted input statements, unformatted output statements.

UNIT-2

Operators In C, C operators, unary operator, binary operator, arithmetic operator, increment operator, Decrement operator, relational operator, logical operator, bit wise operator, ternary Operator, comma operator, size of()-operator, mathematical functions, header files, Preprocessor directives. Control Statements, Conditional control statements, if-statements, if-else statements, nested if- statements, Switch-statements, go to statement. Loop Control Structures, while statement, do-while statement, for statement, nested for statement, break Statement, continued statement.

UNIT-3

Arrays, Definition, classification of arrays, declaration of an array, One-dimensional array & Multidimensional arrays. Functions Function definitions, arguments and parameters, category of functions, function with No arguments and no return values, function with arguments but no return value, Functions with no arguments and return values, local and global variables. Pointers, Definition, call by value and call by reference, pointer declaration, and pointer notations. Strings, declaring and initializing string variables, reading and writing strings, string handling functions.

UNIT-4

Structures And Unions, File operations, Introduction to data structures, singly linked lists, doubly linked lists, circular list, representing stacks and queues in C using arrays and linked lists, infix to post fix conversion, postfix expression evaluation. Trees- Binary tress, terminology, representation, traversals, graphs-terminology, representation, graph traversals (DFS & BFS).

REFERENCE BOOKS:

1. Balagurusamy,E.(2012).*Programming in ANSIC*. TataMcGraw-Hill Education.
2. Jacqueline A. Jones, Keith Harrow, amp.(2001).*C Programming with Problem Solving*. Dream tech Press
3. Balagurusamy,E.(2018).*Computer Programming and Data Structures*.
4. Forouzan, B. A., & Gilberg, R. F. (2000). *Computer Science: A structured programming approach using C*. Brooks/Cole Publishing Company.
5. Gottfried,B.,&Chhabra,J.(2005).*Programming With C*. TataMcGraw Hill Education.
6. Archana.(2008).*IntroductiontoComputerProgramminginC*.UdhPublishers&Distributors.

7. Langsam, Y., Augenstein, M.J., & Tenenbaum, A.M. (2000). *Data Structures using C and C++*. Prentice-Hall of India.
8. Kochan, S.G. (2015). *Programming in C*. Pearson education.
9. Kotur, P.B. (2013). *Computer Concepts and C Programming*. Sapna Book House (P) Ltd.
10. Kanetkar, Y.P. (2004). *Letus C*. BPB publications.
11. Kernighan, B.W., & Ritchie, D.M. (2006). *The C programming language*.

PGDSD-1.3: WEB PROGRAMMING

COURSE OUTCOME:

- ✓ To understand the standards and structure
- ✓ HTML to create web documents.
- ✓ To understand XML structure.

COURSE CONTENT:

UNIT-1

Basics in Web Design, Brief History of Internet, What is World Wide Web, Why create a web site, Web Standards. Introduction to HTML, HTML Document, Basic structure of an HTML document, Creating an HTML document, Mark up Tags, Heading-Paragraphs, Line Breaks, HTML Tags..

UNIT-2

Working with Forms and controls. Tables & Lists – Creating Tables and Lists in HTML documents. Links: Creating links to local range, other pages, specific part of page, electronic mail. Images: Including icon and picture in HTML document. Creation of animated GIF. Sizing the pictures. Multimedia Objects Adding external images, video, and sound file including device independent (DVI) files. Add marquees of scrolling text. Frames Setting and releasing frames.. Forms Creating basic forms.

UNIT-3

Fundamentals of Web, XHTML – 1: Internet, WWW, Web Browsers and Web Servers, URLs, MIME, HTTP, Security, the Web Programmers Toolbox. XHTML: Basics syntax, Standard

structure, Basic text markup, Images, Hypertext Links. Lists, Tables, Forms, Frames. CSS: Introduction, Levels of style sheets, Style specification formats, Selector forms, Property value forms, Font properties, List properties, Color, Alignment of text, The box model, Background images, The and tags, Conflict resolution.

UNIT-4

XML: Introduction, Syntax, Document structure, Document type definitions, Namespaces, XML schemas, displaying raw XML documents, Displaying XML documents with CSS, XSLT stylesheets, XML processors, Web services. PHP: Origins and uses of PHP, Overview of PHP, General syntactic characteristics, Primitives, operations and expressions, Output, Control statements, Arrays, Functions, Pattern matching, Form handling, Files, Cookies, Session tracking, Database access with PHP and MySQL.

REFERENCE BOOKS:

1. Bates,C.(2002).*WebProgrammingBuildingInternetApplications*.JohnWiley&Sons.
2. Deitel,P.,&Deitel,H. (2007).*Internet &world wideweb:howtoprogram*.PrenticeHall Press.
3. Sebesta,R.W.(2011).*ProgrammingtheWorldWideWeb*(4thed.).PearsonEducation.
4. Bai,X.,Zak,D.,Ekedahl,M.,Farrell,J.M.,&Gosselin,D.(2003).*Thewebwarrior guide to web programming*. Course Technology Ptr.

PGDSD-1.4: SOFTWARE ENGINEERING AND TESTING

COURSE OUTCOME:

- ✓ Identifyuniquefeaturesofvarioussoftwareapplicationdomainsandclassify software applications.
- ✓ Choose and apply appropriate lifecycle model of software development.
- ✓ Understandtheprinciplesofagiledevelopmentanddistinguishagileprocessmodel from other process models.
- ✓ Identify user needs and formulate software specifications, analyze requirements by applying various modeling techniques, Translate the requirements model into the design model.
- ✓ Understand the importance of User-interface design principles in software development, the concepts of clean room software development.

COURSE CONTENT:

UNIT-1

The role of software engineering in system design, software products, emergence of software engineering, notable changes in software development practices, the changing nature of software, the software engineering challenges, Software processes, desired characteristics of software process, the software life cycle, software development process models, comparison of process models.

UNIT-2

Requirement analysis and specification need for SRS, characteristics of SRS, organization of SRS document. Techniques for representing complex logic, functional specification with Use Cases, formal system development techniques. System models: Data-flow models, semantic data models, object models, data dictionaries.

UNIT-3

Testing as an Engineering Activity Role of Process in Software Quality Testing as a Process Basic Definitions Software Testing Principles The Tester's Role in a Software Development Organization Origins of Defects Defect Classes The Defect Repository and Test Design Defect Examples Developer/Tester Support for Developing a Defect Repository.

UNIT-4

Test Case Design: Introduction to testing design strategies, the smarter tester test case design strategies using black box approach to test case design random testing requirements. Based testing positive and negative testing boundary value analysis decision tables equivalence class partitioning state-based testing cause effect graphing error guessing compatibility testing user documentation testing domain testing using whit box approach to test design test adequacy criteria static testing vs. structural testing code functional testing coverage and control flow graphs covering code logic paths their role in whit box based test design code complexity testing evaluating test adequacy criteria.

REFERENCE BOOKS:

1. Desikan,S.,&Ramesh,G.(2006).*Softwaretesting:principlesandpractice*.Pearson Education India.
2. Ghezzi,C.,Jazayeri,M.,&Mandrioli,D.(2002).*Fundamentals of Software Engineering* (2nded.). Pearson.
3. Jalote,P.(2005). *An Integrated Approach To Software Engineering*.Narosa.

4. Mathur,A.P.(2013).*Foundationsofsoftwaretesting,2/e*.PearsonEducation India.
5. Pressman,R.S.(2005).*Softwareengineering:apractitioner'sapproach*.Palgrave macmillan.
6. Sommerville,I.(1995).*SoftwareEngineering(5thed.)*.AddisonWesley.

PGDSD-1.5: DATA COMMUNICATION AND NETWORKING

COURSE OUTCOME:

- ✓ Understand the data communications system and its components.
Summarizes signal conversions techniques for digital communication.
Identify and categorize various types of transmission media.
- ✓ Understand various analog and digital services for data communication.
Evaluate bandwidth utilization using multiplexing techniques.
- ✓ ImplementadvancedtechniquesuchasDataencodingandCompressionforImage processing Applications.

COURSE CONTENT:

UNIT–1

Networking: Needs and Advantages, Network, Network Types – Client, Server and Peers, introductiontovarioustypesofservers.TCP / IP reference Model and ISO reference Model, Physical layer, Data link layer, MAC (Medium Access Control) and LLC (Logical Link Control), Error Detection and Correction. Multiplexing, and types of Multiplexing. Signals: Analog and digital signals. Types of Networking, devices and their uses.

UNIT–2

Network topology – Bus, Star, Ring, Star bus, Starring, Mesh, features, Advantages and Disadvantages of each type. Transmission media – Guided transmission media, unguided transmission media. LAN standard, 802.3,802.4, 802.5, Ethernet, Fast Ethernet, TokenRings,FDDI,ATM.Digitaldatatransmission,DTE-DCEInterface,Modems,56K Modems Cable Modem.

UNIT–3

Network layer: circuit switching, packet switching, routing and congestion control. Transport layer, connection oriented service, connection less oriented service, TCP/IP protocols: IP, ARP, RARP, ICMP, TCP, UDP.

UNIT-4

Value Added Networks: X.25 Interface Network, Frame Relay, ISDN (Integrated Service Digital Network. Interface Devices. Application Layer: Email, WWW, and FTP. Network Security, Satellite communication.

REFERENCE BOOKS:

1. Berg, G., Tetz, E., & Reeves, J. (1998). *MCSE Networking Essentials: Training Guide*.
2. *Computer-Networks-Data-Communication.pdf*. (n.d.).
3. Shay, W. A. (1998). *Understanding Data Communications and Networks* (2nd ed.). Cengage Learning.
4. Stallings, W. (2007). *Data and computer communications*. Pearson Education India.
5. Tanenbaum, A. S., & Wetherall, D. (1996). *Computer networks*. Prentice-Hall international editions, I-XVII.

SECOND SEMESTER

PGDSD-2.1: RDBMS WITH MYSQL

COURSE OUTCOME:

- ✓ Understand the basic concepts and appreciate the applications of database systems; design principles for logical design of databases, including the ER method and normalization approach; the basics of SQL and construct queries using SQL.
- ✓ Be familiar with a commercial relational database system (Oracle) by writing SQL using the system, the relational database theory, and be able to write relational algebra expressions for queries.
- ✓ Understand the basic database storage structures and access techniques: file and page organizations, indexing methods including B- tree, and hashing.
- ✓ Acquire the knowledge of working successfully in a team with the responsibility of designing and developing a database application.

COURSE CONTENT:

UNIT-1:

SQL, SQL*Plus: Introduction to SQL SQL Commands and Data types Introduction to SQL*Plus SQL*Plus formatting commands Operator and Expression SQL v/s SQL*Plus. Managing Tables and Data: Creating and Altering tables (Including constraints) Data Manipulation Command like Insert, update, delete SELECT statement with WHERE, GROUP BY and HAVING, ORDER BY, DISTINCT, Special operator like IN, ANY, ALL, BETWEEN, EXISTS, LIKE Join, sub query, Built in functions, View, Sequence Synonyms, Database Links Index.

UNIT-2:

Data Control and Transaction Control Command: Grant, Revoke, Role, Creating Users What is transaction? Starting and Ending of Transaction Commit, Rollback, Save point. Creating and Using Procedure, Functions, Package, Triggers. Creating Objects, PL/SQL Tables, Nested Tables, V arrays etc...

UNIT-3:

Oracle Database Structure Instance Architecture (Database Processes, Memory Structure, Data files) Creating & Altering Database Opening & Shutdown Database Initialization Parameter Control Files, Redo Logs files Table space(Create, Alter, Drop) Rollback Segment (Create, Alter, System, Transaction RBS) Oracle Blocks Import, Export and SQL*Loader.

UNIT-4:

Backup & Recovery Backup & Recovery Type of Backup(Control file, Redologfile, Cold, Hot)
What is Net 8? Why use Net 8?

REFERENCE BOOKS:

1. Bayross, I. (2010). *Sql, pl/sql the programming language of oracle*. Place of publication not identified: Bpb Publications.
2. Hursch, C.J., Hursch, J.L., & Hursch, C.J. (1988). *SQL, the Structured Query Language*. Tab Books.
3. Lee, S.K. (n.d.). *Using Oracle Database Resource Manager*. 26.
4. Loney, K. (2004). *Oracle database 10g: the complete reference*. London: McGraw-Hill/Osborne.

PGDSD-2.2: OBJECT ORIENTED PROGRAMMING IN JAVA

COURSE OUTCOME:

- ✓ Justify the philosophy of Object-Oriented Design and the concepts of encapsulation, abstraction, inheritance, and polymorphism.
- ✓ Design, implement, test, and debug simple programs in an Object-Oriented Programming language.
- ✓ Describe how the class mechanism supports encapsulation and information hiding.
- ✓ Compare and contrast the notions of overloading and overriding methods in an Object-Oriented language.

COURSE CONTENT:

UNIT-1

Introduction to Java and its Features, Introduction to object oriented paradigm, Concepts of Object - Oriented programming (Objects and Classes, data abstraction and data abstraction and encapsulation, inheritance, polymorphism, Dynamic binding). Basics of Java, Java

history; Java features (Compiled and interpreted, Platform-independent and portable, Object - Oriented, Robust and Secure, Distributed, Simple, Small and Familiar, Multithreaded and interactive, High performance, Dynamic and extensible); How Java differs from C and C++.

UNIT-2

Classes, Objects and Methods, Introduction, Defining a class, adding variables and methods, creating objects, accessing class members, constructors, method overloading and overriding, this keyword, finalize () and garbage collection, inheritance and abstract classes. Packages - Introduction, Java API packages, using system packages, naming conventions, creating packages, accessing a package, using a package, adding a class to a package, Java script.

UNIT-3

Interfaces - Introduction, Defining interfaces Extending Interfaces, implementing interfaces, accessing interface Variables. Managing Error and Exceptions - Introduction, types of errors (Compile-time and run-time errors), Exceptions, syntax of exception Handling code, multiple catch statements, using finally statement, throwing our own exceptions.

UNIT-4

Applet Programming - Introduction, how applets differ from applications, building applet code, applet Life Cycle (initialization state, running state, idle or stopped state, dead state, Display state, Creating an executable applet, designing a web page, AWT and swings Event handling. Managing Input/output files in Java - Introduction, concept of streams, stream classes, byte stream classes, character stream classes, using Streams, other useful I/O classes.

REFERENCE BOOKS:

1. Garrido,J.M.(2003).*Object-OrientedProgramming*(1sted.).CharlesRiverMedia.
2. Kabilan,E.R.(2017).*SecretsofJava*(1sted.).Laxmi Publications Pvt Ltd.
3. Levenick, J. (2005). *Simply Java: An Introduction to Java Programming*. Charles River Media.
4. Taluja, H. K. (2016). *Internet & Java Programming* (1st ed.). Laxmi Publications Private Limited.
5. Vasappanavara, R. (2011). *Object Oriented Programming Using C++ and Java*. Pearson Education India.

PGDSD 2.3: ASP.NET

COURSE OUTCOME

- ✓ Students will be able to understand the development of C# programs.
- ✓ To utilize the .NET framework to build Asp.net web applications.
- ✓ Able to understand the 3-tier software architecture.

COURSE CONTENT:

UNIT-1

Introduction, Common Language Runtime, Common Type System, Common Language Specification, The Base Class Library, The .NET class library Intermediate language, Just-in-Time compilation, garbage collection, Application installation & Assemblies, Web Services, Unified classes.

UNIT-2

ASP.NET Controls: Overview of dynamic web page, introduction & features of ASP.NET, understanding ASP.NET controls, applications, web servers, installation of IIS. Web forms, web form controls, server controls, client controls, adding controls to web form, buttons, text box, labels, checkbox, radio buttons, list box. Adding controls at runtime, Running a web application, creating a multi form web project, Form validation: client side and server side validation, Validation controls: required field comparison range, Calendar control, Ad rotator control, Internet Explorer control.

UNIT-3

ADO.NET: Overview of ADO.NET, from ADO to ADO.NET, ADO.NET architecture, Accessing data using data adapters and datasets, using command and data reader, binding data to data bind controls, displaying data in data grid. **XML in .NET:** XML basics, attributes, fundamentals of XML classes: Document, text writer, text reader, XML validations, XML in ADO.NET, Data document

UNIT-4

Web Services: Introduction, State management, view state, session state, application state, service description language, building & consuming a web service. Web application development, Caching, Threading concepts, Creating threads in .NET, Managing threads, Thread Synchronization, features of .NET, role based security & code access security, permissions. Features of ASP.NET 2.0, Stages in Web Forms Processing, Introduction to Server Controls, HTML Controls, Validation Controls, User control, Data Binding Controls, Configuration, Personalization, Session State, ADO.NET.

REFERENCE BOOKS:

1. Development, W.(2001). *Introducing .NET*. WROX Press Ltd.
2. Isrd.(2011). *Application Of .Net Technology*. Tata McGraw-Hill Education.
3. Callihan, S.E.(2000). *Learn HTML in a Weekend with Cdrom*. Premier Press.
4. MacDonald, M.(2002). *ASP.NET: The Complete Reference*. McGraw-Hill Osborne Media.
5. Phillips, L.A.(1999). *Practical HTML4* (1sted.). Sams Publishing.
6. Gordon, R. S. (2006). *SAMS teach yourself ASP. NET 2.0 in 24 hours*.
7. Phillips, L.A., & Darnell, R.(1998). *Using HTML4*. Que Corp..
8. Holzner, S.(2005). *Visual Basic .Net Programming BlackBook (W/Cd)*. Dreamtech Press.
9. Walther, S.(2011). *Asp.Net 3.5 Unleashed*. Sams Publishing.

PGDSD-2.4: SOFTWARE PROJECT MANAGEMENT**COURSE OUTCOME:**

- ✓ Decide on a process model for a developing a software project. Classify software applications and Identify unique features of various domains.
- ✓ Design test cases of a software system. Understand basics of IT Project management.
- ✓ Plan, schedule and execute a project considering the risk management.
- ✓ Apply quality attributes in software development lifecycle.

COURSE CONTENT:**UNIT-1**

Introduction to Software Project Management. Project Definition – Contract Management – Activities Covered By Software Project Management–Overview of Project Planning – Stepwise Project Planning. Project Evaluation Strategic Assessment–Technical Assessment–Cost Benefit Analysis–Cash Flow Forecasting – Cost Benefit Evaluation Techniques – Risk Evaluation.

UNIT-2

Activity Planning :Objectives – Project Schedule – Sequencing and Scheduling Activities – Network Planning Models – Forward Pass – Backward Pass – Activity Float – Shortening Project Duration – Activity on Arrow Networks – Risk Management – Nature Of Risk – Types of Risk – Managing Risk – Hazard Identification – Hazard Analysis – Risk Planning and Control.

UNIT-3

Monitoring And Control: Creating Framework–Collecting The Data–Visualizing Progress
–Cost Monitoring–Earned Value–Prioritizing Monitoring –Getting Project Back To Target
– Change Control – Managing Contracts – Introduction – Types Of Contract – Stages In
Contract Placement – Typical Terms Of A Contract – Contract Management – Acceptance.

UNIT- 4

Managing People and Organizing Teams :Introduction – Understanding Behavior –
Organizational Behavior: A Background – Selecting The Right Person For The Job –
Instruction In The Best Methods – Motivation – The Old man – Hack man Job Characteristics
Model – Working In Groups – Becoming A Team –Decision Making – Leadership–
Organizational Structures – Stress –Health and Safety – Case Studies.

REFERENCE BOOKS:

1. 2K6CS606(C):*software project management*|ITGEEKS.(n.d.).
2. Hughes, B., & Cotterell, M.(1968). *Software project management*. Tata McGraw-Hill Education.
3. Jalote,P.(2005).*Software project management in practice*.
4. Royce,W.(1998).*Software project management*. Pearson Education India.

PGDSD2.5: PROJECT WORK

NOTE: Project work can be done with two or three candidates.
