J.J. College of Arts and Science (Autonomous)

Sivapuram, Pudukkottai - 622 422

Department of Information Technology

M.Sc., Information Technology

Syllabus based on

TANSCHE Regulations on Learning Outcomes - Based Curriculum Frame Work for Post Graduate Education

[Those who Join 2023 - 2024 Onwards]

J.J College of Arts and Science (Autonomous), Pudukkottai – 622 422

M.Sc. – Information Technology (Course Structure under CBCS)

Proposed Course Structure based on TANSCHE and UGC-LOCF

(For the Candidates admitted from academic year 2023 – 2024)

Sem.	Paper Code	Title	Instruct Hours/ Week	credit	Exam Hours	Marks		Total
						Int.	Ext.	
I	P1R3ITCC1	Python Programming	7	5	3	25	75	100
	P1R3ITCC2P	Python Programming – Practical	7	5	3	40	60	100
	P1R3ITCC3P	Web Development using Word Press– Practical	6	4	3	40	60	100
	P1R3ITDSE1:1/ P1R3ITDSE1:2	Networks and Security/ Principles of Compiler Design	5	3	3	25	75	100
	P1R3ITDSE2:1/ P1R3ITDSE2:2	Object oriented analysis and design/ Pervasive Computing	5	3	3	25	75	100
			30	**20**				**500**
II	P2R3ITCC4	Database Systems	6	5	3	25	75	100
	P2R3ITCC5P	Practical III - RDBMS Lab	6	5	3	40	60	100
	P2R3ITCC6P	Practical IV - Open Source Technologies – Practical	6	4	3	40	60	100
	P2R3ITDSE3:1/ P2R3ITDSE3:2	Digital Image Processing/ Biometric Techniques	4	3	3	25	75	100
	P2R3ITDSE4:1/ P2R3ITDSE4:2	Operating Systems / Human Computer Interaction	4	3	3	25	75	100
	P2R3ITSEC1	Web Design	4	2	3	25	75	100
			30	**22**				**600**

CORE COURSE – 1 PYTHON PROGRAMMING (P1R3ITCC1)

Hours/Week: 5 **Max. Marks:100 (CIA:25+Ext.:75)**

Total Hours: 75 **Credit:5**

Nature of the Course: Skill Development

Objectives:

1. To discover principles of **Core Python**
2. To acquire knowledge about **Functions**
3. To learn **Modules**
4. To explore knowledge about **GUI Programming** .
5. To understand **Database Programming**

Unit I

Core Python: Introduction - Python Basics: Comments - Statements and syntax - variable Assignment - Identifiers - **Python objects :** Built-in-types - Internal types - Standard Type operators - Standard type Built-in-functions. **Numbers :** Introduction to Numbers - Integers - Floating point numbers - Complex numbers - Operators - Built-in and factory functions – Conditionals and Loops -**Sequences :** Strings, Lists and Tuples.

Unit II

Mapping and set types.- **Functions and functional programming**: Introduction - Calling functions - Creating functions - passing functions - Formal arguments - Variable - Length Arguments - Functional Programming - Variable Scope – Recursion.

Unit III

Modules: Modules and Files – namespaces - Importing Modules - Features - Built-in functions.

Object Oriented Programming: Introduction - Object Oriented Programming – Encapsulation Inheritance – Polymorphism - **Errors and Exceptions**: Introduction – Exceptions in Python.

Unit IV

GUI Programming: Introduction – **Using Widgets**: Core widgets- Generic widget properties – Labels – Buttons – Radio Buttons – Check Buttons – Text – Entry – List Boxes – Menus – Frame – Scroll Bars – Scale.

Unit V

Database Programming: Connecting to a database using MongoDB - Creating Tables - INSERT-UPDATE - DELETE - READ operations.

Text Books:

1. Wesley J. Chun, (2007), "Core Python Programming", Pearson Education, Second Edition .
2. Charles Dierbach, (2015), "Introduction to Computer Science Using Python A Computational Problem-Solving Focus", Wiley India Edition- (Unit III- Object Oriented Programming)
3. Martin C Brown, (2018), "The Complete Reference Python", McGraw Hill Education (India) Private Limited – (Unit IV)

Book Reference:

1. https://www.mongodb.com/languages/python

Reference Books:

1. Mark Lutz, (2013), "Learning Python Powerful Object Oriented Programming", O"reilly Media, 5 th Edition.
2. Timothy A. Budd, (2011), "Exploring Python", Tata MCGraw Hill Education Private Limited, First Edition.

Web References:

1. http://interactivepython.org/courselib/static/pythonds
2. http://www.ibiblio.org/g2swap/byteofpython/read/
3. http://www.diveintopython3.net/

Course Outcomes

Upon Completion of the course students would be able to		Knowledge Level
CO 1	Explain the basic concepts in python language.	K2
CO 2	Apply the various data types and identify the usage of control statements, loops,functions and modules in python for processing the data	K3
CO 3	Analyze and solve problems using basic constructs and techniques of python.	K4
CO 4	Assess the approaches used in the development of interactive application.	K5
CO 5	To build real time programs using python.	K6

Relationship Matrix for CO, PO, PSO

Course Name – Python Programming						**Course Code – P1R3ITCC1**					
Course Outcomes (COs)	**Programme Outcomes (POs)**					**Programme Specific Outcomes (PSOs)**					**Mean Score of COs**
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO5**	
CO1	2	3	2	2	3	2	2	3	2	2	2.3
CO2	2	2	2	3	2	2	3	2	3	3	2.4
CO3	3	2	3	2	2	2	3	2	3	2	2.4
CO4	3	2	2	2	2	2	2	2	2	2	2.1
CO5	2	2	2	3	2	3	2	3	2	3	2.4
										Mean Overall Score	2.32
										Result	**High**

PYTHON PROGRAMMING – PRACTICAL (P1R3ITCC2P)

Hours/Week: 5 **Max. Marks: 100 (CIA:40+Ext.:60)**

Total Hours: 75 **Credit: 4**

Nature of the Course: Employability

Objectives

1. To acquire knowledge about **Python**
2. To acquire knowledge about **Control Structures**
3. To understand OOPs Concepts
4. To explore knowledge about **GUI Programming** .
5. To understand **Database Programming**

1. Python Basic programs
2. Control Structures
3. Lists
4. Functions and Recursions
5. Modules
6. String Processing
7. Dictionaries and Sets
8. Classes and Objects
9. Polymorphism
10. Inheritance
11. GUI Application
12. Working with Database

Course Outcomes:

Upon Completion of the course students would be able to		Knowledge Level
CO 1	Understand the significance of control statements, loops and functions in creating simple programs.	**K2**
CO 2	Apply the core data structures available in python to store, process and sort the data.	**K3**
CO 3	Analyze the real time problem using suitable python concepts.	**K4**
CO 4	Assess the complex problems using appropriate concepts in python.	**K5**
CO 5	Develop the real time applications using python programming language.	**K6**

Relationship Matrix for CO, PO, PSO

Course Name – Python Programming Practical						**Course Code –P1R3ITCC2P**					
Course Outcomes (COs)	**Programme Outcomes (POs)**					**Programme Specific Outcomes (PSOs)**					**Mean Score of COs**
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO5**	
CO1	3	2	2	3	3	3	3	3	2	2	2.6
CO2	2	3	2	3	3	2	3	2	2	2	2.4
CO3	3	2	3	3	3	3	2	2	2	2	2.5
CO4	2	2	2	3	2	2	3	3	2	2	2.3
CO5	2	2	2	3	2	2	2	2	2	2	2.1
										Mean Overall Score	2.38
										Result	**High**

WEB DEVELOPMENT USING WORD PRESS – PRACTICAL (P1R3ITCC3P)

Hours/Week: 5 **Max. Marks: 100 (CIA:40+Ext.:60)**

Total Hours: 75 **Credit: 4**

Nature of the Course: Employability

Objectives

1. To acquire knowledge about basic web concepts
2. To acquire knowledge about HTML
3. To understand DHTML Concepts
4. To explore knowledge about JavaScript
5. To understand Word Press

Exercises:

1. Creating ordered and unordered Lists using simple tags
2. Creating Tables
3. Creating Hyperlinks
4. Creating Frames
5. Creating Embedded style sheet
6. Use of External style sheet
7. Creating Inline style sheet
8. Using Conditional checking
9. Using Looping constructs
10. Using Arrays and Functions
11. Creating Dialog Box
12. Handling Events
13. Creating Forms
14. Form Validation for Name, E-Mail Id and Password
15. Form Validation for Date, Month and Year
16. Using Built-in Objects

Text Books:

1. Ivan N. Bayross, (2005), Web Enabled Commercial Applications Development UsingHTML, DHTML, JavaScript, perlCGI, 3rd Edition, BPB Publications. (Unit I, II, III and IV)
2. Jesse Friedman,(2012), Web Designer's Guide to WordPress: Plan, Theme, Build, Launch(Voices That Matter), 1st Edition , New Riders. (Unit V)

Reference Books:

1. N.P. Gopalan, J. Akilandeswari, (2009), Web Technology: A Developer‟s Perspective,Eastern Economy Edition, PHI Learning Private Limited.
2. Deitel&Deitel, (2000), Internet and World Wide Web How to program, Prentice Hall.
3. Jon Duckett, (2004), Beginning Web Programming with HTML, XHTML, and CSS, WileyPublishing, Inc.

Web Reference Books:

1. http://www.sergey.com/web_course/content.html
2. http://www.pageresource.com/jscript/index.html
3. http://www.peachpit.com/guides/content.aspx
4. https://www.tutorialspoint.com/wordpress/index.htm

Course Outcomes:

Upon Completion of the course students would be able to		**Knowledge Level**
CO 1	**Identify the tools which will be suitable for the requirement of the webpage.**	**K2**
CO 2	**Implement Java script and Style Sheets effectively in the Web Pages**	**K3**
CO 3	**Analyze the different tools and built-in functions available to be applied in the webpage.**	**K4**
CO 4	**Rate the design and effectiveness of the Web Pages created.**	**K5**
CO 5	**Design and publish a website using Word press.**	**K6**

Relationship Matrix for CO, PO, PSO

Course Name – Web Development using Word Press – Practical						**Course Code – P1R3ITCC3P**					
Course Outcomes (COs)	**Programme Outcomes (POs)**					**Programme Specific Outcomes (PSOs)**					**Mean Score of COs**
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO5**	
CO1	3	2	2	3	3	3	3	3	2	2	2.6
CO2	2	3	2	3	3	2	3	2	3	2	2.5
CO3	3	2	3	3	3	3	2	2	2	2	2.5
CO4	2	2	2	3	2	2	3	3	2	2	2.3
CO5	2	2	3	3	2	3	2	2	3	2	2.4
	Mean Overall Score										2.46
	Result										**High**

DISCIPLINE SPECIFIC ELECTIVE-1

NETWORKS AND SECURITY (P1R3ITDSE1:1)

Hours/Week: 5 **Max. Marks: 100 (CIA:25+Ext.:75)**

Total Hours: 75 **Credit: 3**

Nature of the Course: Skill Development

Objectives

1. To understand Computer Networks .
2. To understand necessary IP Addresses
3. To Techniques to build protection mechanisms in order to secure Computer networks.
4. To know about **Network Security**
5. To gain the knowledge about **Wireless Networks**

UNIT-I :

Uses of Computer Networks – Network Hardware – Line Configuration – Topology – Transmission Modes – **Reference Models:** OSI Reference Model – TCP/IP Reference Model – **Physical Layer:** Guided Transmission Media – Wireless Transmission – Communication Satellites – **Public Switched Telephone Network**: Local Loop – Multiplexing – Switching

UNIT-II :

Data Link Layer: Design Issues - Error Detection and Correction - **Network Layer :** Design Issues – **Routing Algorithms** : Shortest Path Routing – Distance Vector Routing – Link State Routing – Broadcast Routing – Multicast Routing – Congestion Control

UNIT-III :

Network Layer in the Internet: IP Addresses –**Transport Layer:** Elements of Transport Protocols: Addressing – Connection Establishment – Connection Release – **Application Layer:** Domain Name System – **Email:** Architecture and Services

UNIT-IV :

Network Security: Introduction to Cryptography - Symmetric - Key Cryptography - Asymmetric- key Cryptography – Security Services: Message Confidentiality - Message Integrity - Message Authentication - Digital Signature - Entity Authentication – **Security in the Internet:** IPSecurity - SSL/TLS: SSL services - SSL Protocols - Firewalls

UNIT-V: Security for Wireless Networks: Introduction – Protecting the wireless networks – Physical Security – Authentication and access control- **Smartphone Security:** Security Threats - Steps to smartphone security –**Websites and Web application Security:** Definition – Available Technologies - Threats - Strategies.

Case Study: To study recent Wi -Fi and Smartphone technologies

Text Book

1. Andrew S.Tanenbaum, David J. Wetherall (2010), Computer Networks, Prentice Hall of India, V Edition. (Unit I - Unit - III) Unit I – Chapter 1,2
   Unit II – Chapter 3,5 Unit III – Chapter 5,6,7
2. Behrouz A. Forouzan, (2016), Data Communications and Networking, Tata McGraw-Hill Publishing Company Limited, IV Edition. (Unit IV) Unit IV - Chapter 30, 31, 32

Reference Books

1. Charles P. Pfleeger, Shari Lawrence Pfleeger(2002), Security in Computing, 3rd Edition, Pearson Education.
2. James F. Kurose, Keith W. Ross (2005),Computer Networking, 3rd Edition, Addison Wesley,.
3. William Stallings(2006), Cryptography and Network Security: Principles and Practice, 3rd Edition, PHI.

Website and e-Learning Source

1. http://wndw.net/pdf/wndw3-en/ch09-security-for-wireless-networks.pdf (Unit V-Wireless Networks Security)
2. https://www.fcc.gov/sites/default/files/smartphone_master_document.pdf (Unit V-Steps to smartphone security)

Course Outcomes:

Upon the completion ion of the course students would be able to		Knowledge Level
CO 1	**Understand the concepts Network Security.**	**K2**
CO 2	**Create knowledge in RSA Algorithm**	**K5**
CO 3	**Improve the knowledge in Virus**	**K6**
CO 4	**Create knowledge in Email Security**	**K5**
CO 5	**Improve the knowledge in DES**	**K6**

Relationship Matrix for CO, PO, PSO

Course Name –Network and Security						**Course Code – P1R3ITDSE1:1**					
Course Outcomes (COs)	**Programme Outcomes (POs)**					**Programme Specific Outcomes (PSOs)**					**Mean Score of COs**
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO5**	
CO1	2	2	2	3	3	2	2	2	2	2	2.2
CO2	3	2	3	2	3	2	3	2	3	2	2.5
CO3	2	2	3	2	2	3	2	2	2	3	2.3
CO4	2	2	2	3	2	3	2	2	2	2	2.2
CO5	2	2	2	3	2	3	2	3	2	2	2.3
	Mean Overall Score										2.30
	Result										**High**

DISCIPLINE SPECIFIC ELECTIVE-1

PRINCIPLE OF COMPILER DESIGN (P1R3ITDSE1:2)

Hours/Week: 5 **Max. Marks: 100 (CIA:25+Ext.:75)**

Total Hours: 75 **Credit: 3**

Nature of the Course: Skill Development

Objectives

1. To discover principles, algorithms and techniques that can be used to construct various phases of compiler.
2. To acquire knowledge about finite automata and regular expressions
3. To learn context free grammars, compiler parsing techniques.
4. To explore knowledge about Syntax Directed definitions and translation Scheme.
5. To understand intermediate machine representations and actual code generation

Unit–I **(13Hours)**

Lexical analysis -Language Processors, The Structure of a Compiler,Parameter passing mechanism – Symbol table - The role of the lexicalanalyzer - Input buffering **(ICT CLASS)**- Specification of tokens - Recognition oftokens(**ASSIGNMENT**)–Finiteautomata-Regularexpressiontoautomata.

Unit–II **(13Hours)**

Syntax Analysis - The role of the parser - Context-free grammars - Writingagrammar-TopdownParsing**(ICT CLASS)**-Bottom-upParsing-LRparsers-LALRparsers.

Unit–III **(13Hours)**

SemanticAnalysis-Inherited and Synthesized attributes –Dependencygraphs–Orderingtheevaluationofattributes – S-attributeddefinitions – L-attributed definitions – Applications ofSyntaxDirectedtranslation**(ICT CLASS)**–SyntaxDirectedtranslationsschemes-Storageorganization–Stackallocationofspace.

Unit–IV **(13Hours)**

IntermediateCodeGeneration-VariantsofSyntaxtrees–ThreeAddress code – Types and Declarations -Translation of Expressions –Typechecking-Controlflow**(ICT CLASS)**-Backpatching-SwitchStatements-Procedurecalls.

Unit–V **(13Hours)**

Code Generation and Code Optimization - Issues in the design of acode generator**(SEMINAR)** - The target language – Address in the Target Code – BasicBlockandFlowgraphs**(ICT CLASS)**–Optimizationof Basic Blocks-Asimplecodegenerator–PeepholeOptimization.

TextBook

Alfred V. Aho, Monica S.Lam, Ravi Sethi and Jeffrey D. Ullman,"Compilers-Principles,TechniquesandTools",Second Edition,PearsonEducationAsia,2009.

References

A.V. Aho, Ravi Sethi, J.D. Ullman, Compilers Principles, Techniques and Tools, Addison-Wesley,2003.

Course Outcomes:

Upon Completion of the course students would be able to		**Knowledge Level**
CO 1	**Understand the concept of Lexical Analysis.**	**K1**
CO 2	**Create knowledge in Syntax Analysis.**	**K2**
CO 3	**Improve the details of Semantic Analysis.**	**K3**
CO 4	**Improve the details of Intermediate code Generation.**	**K5**
CO 5	**Improve the details of Intermediate code Generation and code optimization.**	**K6**

Relationship Matrix for CO, PO, PSO

Course Name – Principles of Compiler Design						**Course Code – P1R3ITDSE1:2**					
Course Outcomes (COs)	**Programme Outcomes (POs)**					**Programme Specific Outcomes (PSOs)**					**Mean Score of COs**
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO5**	
CO1	3	2	2	3	3	3	3	3	2	2	2.6
CO2	2	3	2	3	3	2	3	2	2	2	2.4
CO3	3	2	3	3	3	3	2	2	2	2	2.5
CO4	2	2	2	3	2	2	3	3	2	2	2.3
CO5	2	2	2	3	2	2	2	2	2	2	2.1
	Mean Overall Score										2.38
	Result										**High**

DISCIPLINE SPECIFIC ELECTIVE-2

OBJECT ORIENTED ANALYSIS AND DESIGN (P1R3ITDSE2:1)

Hours/Week: 5 **Max. Marks:100(CIA:25+Ext.:75)**

Total Hours: 75 **Credit:3**

Nature of the Course: Skill Development

Objectives:

1. Develop a working understanding of formal object-oriented analysis and design processes.
2. Develop an appreciation for and understanding of the risks inherent to large-scale software development.
3. Learn (through experience!) techniques, processes, and artifacts that can mitigate these risks.
4. Develop the skills to determine which processes and OOAD techniques should be applied to a given project.
5. Develop an understanding of the application of OOAD practices from a software project management perspective

UNIT I: Overview **(13 Hours)**

Structured approach to system construction: SSADM/SADT - An overview of object oriented systems development & Life cycle

UNIT II: Introduction to UML **(13 Hours)**

Various object oriented methodologies – Introduction to UML

UNIT III: Use cases **(12 Hours)**

Object oriented analysis – Use cases- Object classification, relationships, attributes, methods

UNIT IV: Object oriented Design **(12 Hours)**

Object oriented design – Design axioms – Designing classes – Layering the Software design: - data access layer, User interface layer, Control/business logic layer

UNIT V : Models **(11 Hours)**

UML - Examples on: Behavioral models – Structural models – Architectural models from real world problems.

TEXT BOOKS:

1. Bahrami Ali, Object oriented systems development, Irwin McGrawHill, 2005 (First 4 units covered here).

2. Booch Grady, Rumbaugh James, Jacobson Ivar, The Unified modeling language – User Guide, Pearson education, 2006 (ISBN 81-7758-372-7) (UNIT -5 covered here).

REFERENCES:

1.Meilir Page-Jones: Fundamentals of Object Oriented Design in UML, Pearson Education.2017

2. Pascal Roques: Modeling Software Systems Using UML2, WILEY-Dreamtech India Pvt. Ltd.2018

Course Outcomes:

Upon Completion of the course students would be able to		**Knowledge Level**
CO 1	**Improved the knowledge in UML concepts**	**K2**
CO 2	**Acquired the Class and Objects concepts**	**K6**
CO 3	**Developed knowledge in Use Cases**	**K3**
CO 4	**Gather the details in Object oriented design**	**K4**
CO 5	**Gather the details in UML Models**	**K4**

Relationship Matrix for CO, PO, PSO

Course Name – Object Oriented Analysis and Design						**Course Code – P1R3ITDSE2:1**					
Course Outcomes (COs)	**Programme Outcomes (POs)**					**Programme Specific Outcomes (PSOs)**					**Mean Score of COs**
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO5**	
CO1	2	3	2	2	3	2	2	3	2	2	2.3
CO2	3	2	2	3	2	2	2	3	2	2	2.3
CO3	2	2	3	2	2	3	2	2	3	2	2.3
CO4	2	3	2	2	2	2	3	2	2	2	2.2
CO5	2	2	3	2	2	3	2	3	2	2	2.3
										Mean Overall Score	2.28
										Result	**High**

DISCIPLINE SPECIFIC ELECTIVE-2

PERVASIVE COMPUTING (P1R3ITDSE2:2)

Hours/Week: 5 **Max. Marks:100 (CIA:25+Ext.:75)**

Total Hours: 75 **Credit:3**

Nature of the Course: Skill Development

OBJECTIVE:

1. To understand the basics of pervasive computing.
2. To understand the device technology.
3. To understand the concept of device connectivity.
4. To gain the knowledge about WAP and Beyond.
5. To get the knowledge about personal digital assistant.

Unit I: Pervasive Computing **(13 Hours)**

Pervasive Computing : Past, Present and Future – Pervasive Computing Market – M-Business – Application examples: Retail, Airline check-in and booking – Health care – Car information system – E-mail access via WAP and voice.

Unit II : Device Technology **(13 Hours)**

Device technology : Hardware – Human machine interfaces – Biometrics – Operating Systems – Java for Pervasive devices.

Unit III : Device Connectivity **(12 Hours)**

Device Connectivity : Protocols – Security – Device management – Web application concepts: WWW architecture – Protocols – Transcoding – Client authentication via internet.

Unit IV : WAP and Beyond **(12 Hours)**

WAP and Beyond : Components of WAP architecture – WAP infrastructure – WAP security issues – WML – WAP push – Products – i-mode –Voice technology : Basics of speech recognition – Voice standards – Speech applications – Speech and Pervasive Computing.

Unit V: Personal Digital Assistant **(11 Hours)**

PDA : Device categories – PDA operation systems – Device Characteristics – Software components – Standards – Mobile Applications – PDA Browsers – Pervasive web application architecture : Background – Development of pervasive computing web applications – Pervasive application architecture.

TEXT BOOK :

1. Pervasive Computing, Technology and Architecture of Mobile Internet Applications, Jochen Burkhardt, Horst Henn, Stefan Hepper, Thomas Schaech & Klaus Rindtorff, Pearson Education,2006.

Unit I - Chapter 1 2, Unit II - Chapter 3, Unit III Chapter 4,5 Unit IV - Chapter 6,7 Unit V Chapter 8,10

REFERENCE BOOK :

1. Pervasive Computing and Networking, Mohammad S.Obaidat, Mieso Denko, and Isaac Woungang, Wiley, 2018.

Course Outcome:

Upon Completion of the course students would be able to		**Knowledge Level**
CO 1	**Understand the basic concept of Pervasive Computing**	**K2**
CO 2	**Know the device technology.**	**K6**
CO 3	**Improve the knowledge of device connectivity.**	**K3**
CO 4	**Gather the details in WAP Concept**	**K4**
CO 5	**Gather the details in different types of PDA**	**K4**

Relationship Matrix for CO, PO, PSO

Course Name – Pervasive Computing						**Course Code – P1R3ITDSE2:2**					
Course Outcomes (COs)	**Programme Outcomes (POs)**					**Programme Specific Outcomes (PSOs)**					**Mean Score of COs**
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO5**	
CO1	2	3	2	3	2	3	3	3	2	2	2.5
CO2	2	3	2	2	2	3	2	2	3	2	2.3
CO3	2	2	2	2	2	2	2	2	2	2	2
CO4	2	3	3	2	2	3	2	3	3	2	2.5
CO5	2	3	3	3	3	2	2	2	2	2	2.4
	Mean Overall Score										2.34
	Result										**High**

SEMESTER - II

DATABASE SYSTEMS (P2R3ITCC4)

Hours/Week: 6 **Max. Marks: 100 (CIA:25+Ext.:75)**

Total Hours: 90 **Credit: 5**

Nature of the Course: Employability

OBJECTIVE:

1. To understand the basics of Database.
2. To understand the Database Design Process.
3. To understand the concept of Transaction.
4. To gain the knowledge about Distributed Data storage.
5. To get the knowledge about **SQL**.

Unit I **18 Hours**

Introduction: Database System Applications-Purpose of Database Systems-View of Data- Database Users and Administrators. **Relational Database**: Structure of Relational Databases- Databases Schema- Keys-Schema Diagrams.

Unit II **18 Hours**

Database Design: Overview of Design Process-The Entity Relationship Model-Constraints- Removing Redundant Attributes in Entity Sets-Entity-Relationship Diagrams-Reduction to Relational Schemas-Extended E-R features -Alternative Notations for Modeling Data**. Relational Database Design:** Features of Good Relational Design-Functional Dependency- **Normalization**: 1NF, 2NF, 3NF, BCNF, 4NF, 5NF- Functional Dependency Theory.

Unit III **18 Hours**

Transaction Management: Transaction Concept-Simple Transaction Model-Storage Structure- Transaction Atomicity and Durability-Transaction Isolation-Serializability. **Concurrency Control:** Lock Based Protocols-Locks-Granting of Locks-Two Phase Locking Protocol-Time Stamp Based Protocol - **Recovery System:** Failure Classification-**Recovery and Atomicity**: LogRecords-Database Modification.

Unit IV **18 Hours**

Distributed Database: Homogeneous and Heterogeneous Databases-Distributed Data storage- Distributed Transactions-Commit Protocols-Concurrency Control in Distributed Databases.

Unit V **18 Hours**

SQL - Table Fundamentals - Viewing Data - Inserting - Deleting - Updating - Modifying - Constraints - Functions - Grouping - Subqueries - Joins - Views.

PL/SQL: Introduction - PL/SQL Block - Data Types And Variables - Control Structure - Cursors - PL/SQL Security - Locks. PL/SQL Database Objects: Exception Handling- Packages - Procedures and Functions - Database Triggers.

Text Books:

1. Abraham Silberchatz, Henry F.Korth, S.Sudarshan, Database Systems Concepts, SixthEdition, Tata Mcgraw Hill.
2. Ivan Bayross, SQL, PL/SQL The Programming Language of ORACLE, Fourth edition, BPBPublications. Unit IV & V

Reference Books:

1. AtulKahate, Introduction to Database Management systems, Pearson education.
2. Carlo Zaniolo, Stefano Ceri, Christos Faloustsos, R.T.Snodgrass, V.S.Subrahmanian, (1997),Advanced Database Systems, Morgan Kaufman.
3. George Koch, Kelvin Loney, (2002), Oracle 9i : The Complete Reference, Oracle Press, TataMcGrawHill Publication.
4. RamezElmasri, Shamkant B. Navathe (2014), "Database Systems", Sixth edition, PearsonEducation, New Delhi

Web References:

1. http://awtrey.com/tutorials/dbeweb/database.php
2. http://www.slideshare.net/SalamaAlbusaidi/emerging-database-technology-multimedia- database.

Course Outcomes

Upon Completion of the course students would be able to		Knowledge Level
CO 1	**Explain the relational databases and uses of PL/SQL.**	**K2**
CO 2	**Apply Schema, ER- Model, normalization, transaction, concurrency, andrecovery on tables using SQL and PL/SQL.**	**K3**
CO 3	**Analyze and manage relational and distributed database, transaction, concurrency control and query languages.**	**K4**
CO 4	**Assess databases based on models and Normal Forms.**	**K5**
CO 5	**Design and construct tables and manipulate it effectively using PL/SQLdatabase objects.**	**K6**

Relationship Matrix for CO, PO, PSO

Course Name – Database Systems						**Course Code – P2R3ITCC4**					
Course Outcomes (COs)	**Programme Outcomes (POs)**					**Programme Specific Outcomes (PSOs)**					**Mean Score of COs**
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO5**	
CO1	2	3	3	3	2	2	3	3	2	2	2.5
CO2	2	3	2	2	3	2	3	2	2	2	2.3
CO3	2	3	2	2	3	3	3	2	3	2	2.5
CO4	2	3	2	3	2	2	3	3	2	2	2.4
CO5	2	3	2	2	3	2	2	3	3	2	2.4
										Mean Overall Score	2.42
										Result	**High**

RDBMS LAB (P2R3ITCC5P)

Hours/Week: 6 **Max. Marks: 100 (CIA: 40+Ext.:60)**

Total Hours: 90 **Credit: 5**

Nature of the Course: Employability

Objectives

1. To understand the basics of **SQL**.
2. To understand the Cursor Process.
3. To understand the concept of DDL.
4. To gain the knowledge about PL/SQL.
5. To get the knowledge about Triggers

Exercises:

1. DDL Commands
2. DML Commands
3. DCL Commands
4. Usage of Sub Queries in DML and Create-SQL
5. Solving queries using built-in functions
6. Simple programs in PL/SQL block
7. Exception Handling in PL/SQL
8. Programs using Implicit Cursors
9. Programs using Explicit Cursors
10. Procedures & User-defined functions
11. Creation of Triggers

Course Outcomes:

Upon Completion of the course students would be able to		Knowledge Level
CO 1	**Understand the basic concept of DDL Commends.**	**K2**
CO 2	**Improve the knowledge of DML Commends.**	**K3**
CO 3	**Develop the Knowledge in DCL Commends.**	**K4**
CO 4	**Gather the details of PL/SQL.**	**K5**
CO 5	**Gather the details of Cursors and Triggers Concepts.**	**K6**

Relationship Matrix for CO, PO, PSO

Course Name – RDBMS LAB						**Course Code – P2R3ITCC5P**					
Course Outcomes (COs)	**Programme Outcomes (POs)**					**Programme Specific Outcomes (PSOs)**					**Mean Score of COs**
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO5**	
CO1	2	3	3	3	2	2	3	3	2	2	2.5
CO2	2	3	2	2	3	2	3	2	2	2	2.3
CO3	2	3	2	2	3	3	3	2	3	2	2.5
CO4	2	3	2	3	2	2	3	3	2	2	2.4
CO5	2	3	2	2	3	2	2	3	3	2	2.4
										Mean Overall Score	2.42
										Result	**High**

OPEN SOURCE TECHNOLOGIES – PRACTICAL (P2R3ITCC6P)

Hours/Week: 6 **Max. Marks: 100 (CIA: 40+Ext.:60)**
Total Hours: 90 **Credit: 4**
Nature of the Course: Employability

Objectives

1. To understand of control structures.
2. To understand the concept of functions..
3. To understand the concept of arrays.
4. To gain the knowledge about MySQL.
5. To get the knowledge about Cookies, Sessions.

Exercises:

1. Working with Control Structures
2. String Functions
3. Number Functions
4. Date Functions
5. Time Functions
6. Working with Arrays
7. Associative Array
8. Working with Functions
9. Working with Form Data
10. Working with Files
11. Working with MySql
12. Working with Cookies
13. Working with Sessions
14. Working with Strings
15. Working with Arrays

Text Books:

1. Steven Holzner, (2016), "PHP: The Complete Reference", McGraw Hill Education Private Limited, Indian Edition. (Unit I, II)
2. RachnaKapur, Mario Briggs, Tapas Saha, Ulisses Costa, Pedro Carvalho, Raul F. Chong, Peter Kohlmann (2010), "Getting Started with Open Source Development", DB2 on Campus Book Series. (Unit III)

Text References

1. http://index-of.es/Ruby/Beginning%20Ruby%20On%20Rails.pdf (Unit IV)
2. http://www.cs.uni.edu/~wallingf/teaching/agile-may2010/ruby/programming-ruby.pdf(Unit V)

Reference Books

1. W. Jason Gilmore (2010), "Beginning PHP &MySql", Apress.
2. Joel Murach, Ray Harris (2010), "PHP and MySQL",Shroff Publishers & Distributors
3. Larry Ullman (2008), "PHP 6 and MySQL 5", Pearson Education.
4. John Coggeshall (2006), "PHP 5", Pearson Education.
5. Michale C. Glass (2004), "Beginning PHP, Apache, MySQL Web Development", WileyDreamTech Press.

Web References

1. http://www.w3schools.com/php/
2. http://howtostartprogramming.com/PHP/
3. http://www.massey.ac.nz/~nhreyes/MASSEY/159339/Lectures/Lecture%2011%20-%20PHP%20-%20Part%205%20-%20CookiesSessions.pdf
4. http://www.tutorialspoint.com/mysql/
5. http://ruby.bastardsbook.com/chapters/exception-handling/

Course Outcomes

Upon Completion of the course students would be able to		Knowledge Level
CO 1	**Demonstrate the setup and configuration of development environment to write PHP and Ruby Scripts**	**K2**
CO 2	**Select the appropriate language fundamentals and techniques to write and compile PHP and Ruby programs**	**K6**
CO 3	**Examine the bugs and analyze how to prevent and remove the bugs**	**K3**
CO 4	**Test and debug the application with sample inputs to check the correctness andconsistency of the scripts**	**K4**
CO 5	**Create simple programs that make use of various PHP and Ruby features and functions and solve web application and database tasks using PHP**	**K4**

Relationship Matrix for CO, PO, PSO

Course Name – Open Source Technology – Practical						**Course Code – P2R3ITCC6P**					
Course Outcomes (COs)	**Programme Outcomes (POs)**					**Programme Specific Outcomes (PSOs)**					**Mean Score of COs**
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO5**	
xCO1	3	2	2	3	2	3	3	3	2	2	2.5
CO2	2	3	2	3	3	2	3	2	3	2	2.5
CO3	3	2	2	3	3	2	2	2	2	2	2.3
CO4	2	2	2	3	2	2	2	3	2	2	2.2
CO5	2	2	3	3	2	3	2	2	3	2	2.4
									Mean Overall Score		2.38
									Result		**High**

DISCIPLINE SPECIFIC ELECTIVE - 3

DIGITAL IMAGE PROCESSING (P2R3ITDSE3:1)

Hours/Week: 4 **Max. Marks: 100 (CIA: 25+Ext.:75)**

Total Hours: 60 **Credit: 3**

Nature of the Course: Skill Development

Objectives

1. To provide complete knowledge on Digital Image Processing method.
2. To gain knowledge about processing methods in spatial domain and Frequency domain.
3. To provide Edge detection, Compression, Segmentation, and Morphological concepts.
4. To understand the concepts and implement them empirically.
5. To gain knowledge about image segmentation and morphological Image Processing.

UNIT–I **(12 Hours)**

Fundamentals: Image Sensing and Acquisition, Image Sampling and Quantization, relationship between Pixels; Random noise. **Color Models:** Color Fundamentals, Color Models, Pseudo-color Image Processing, Full Color Image Processing**(ICT CLASS)**, Color Transformation, Noise in Color Images.

UNIT–II **(12 Hours)**

Spatial Domain: Enhancement in spatial domain: Point processing; Mask processing; Smoothing Spatial Filters; Sharpening Spatial Filters; Combining Spatial Enhancement Methods. **Frequency Domain:** Image transforms: FFT, DCT, Karhunen – Loeve transform, Wavelet transforms and their properties**(ICT CLASS)**.Image filtering in frequency domain.

UNIT–III **(12 Hours)**

Edge Detection: Types of edges; threshold; zero-crossing; Gradient operators: Roberts, Prewitt, and Sobel operators; Canny edge detection **(ICT CLASS)**.Edge features and their applications.

UNIT–IV **(12 Hours)**

Image Compression: Fundamentals, Image Compression Models, Elements of Information Theory. Error Free Compression: Huff-man coding; Arithmetic coding **(ICT CLASS)**; Wavelet transform based coding; Lossy Compression: FFT; DCT;KLT; DPCM;MRFM based compression; Wave lettrans form based; Image Compression standards.

UNIT–V **(12 Hours)**

Image Segmentation: Detection and Discontinuities: Edge Linking and Boundary Deduction; Threshold **(SEMINAR)**; Region-Based Segmentation. Segmentation by Morphological water sheds. The use of motion in segmentation, Image Segmentation based on Color.

TextBooks

1. RafaelGonzalez,RichardE.Woods,"DigitalImageProcessing",FourthEdition,PHI/PearsonEducation,2013.
2. A.K.Jain,FundamentalsofImageProcessing,SecondEd.,PHI,NewDelhi, 2015.

References

1. B.Chanla,D.DuttaMajumder,"DigitalImageProcessingandAnalysis",PHI,2003.
2. NickElford,"DigitalImageProcessingapracticalintroducingusingJava", PearsonEducation,2004.
3. ToddR.Reed,"DigitalImageSequenceProcessing,Compression,andAnalysis",CRCPress,2015.
4. L.Prasad,S.S.Iyengar,"WaveletAnalysiswithApplicationstoImageProcessing",CRCPress,2015.

Course Outcomes

Upon Completion of the course students would be able to		**Knowledge Level**
CO 1	**Understand the DIP.**	**K2**
CO 2	**Create knowledge in Line drawing Algorithm.**	**K3**
CO 3	**Improve the details of 3D image.**	**K5**
CO 4	**Improve the details of Image Enhancement.**	**K4**
CO 5	**Improve the details of Image Transformation.**	**K6**

Relationship Matrix for CO, PO, PSO

Course Name – Digital Image Processing						**Course Code – P2R3ITDSE3:1**					
Course Outcomes (COs)	**Programme Outcomes (POs)**					**Programme Specific Outcomes (PSOs)**					**Mean Score of COs**
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO5**	
CO1	3	3	3	3	2	2	3	2	2	2	2.5
CO2	2	3	2	2	3	3	3	2	2	2	2.4
CO3	2	3	2	2	3	3	3	3	2	2	2.5
CO4	2	3	3	2	2	2	3	2	2	2	2.3
CO5	2	3	2	2	3	3	3	3	2	2	2.5
										Mean Overall Score	2.44
										Result	**High**

DISCIPLINE SPECIFIC ELECTIVE - 3

BIOMETRIC TECHNIQUES (P2R3ITDSE3:2)

Hours/Week: 4 **Max. Marks: 100 (CIA: 25+Ext.:75)**

Total Hours: 60 **Credit: 3**

Nature of the Course: Skill Development

Objectives

1. To provide complete knowledge on **Notion of biometrics**.
2. To gain knowledge about **Fingerprint recognition**
3. To provide **Iris recognition** concepts.
4. To understand the concepts and implement them **Face recognition**.
5. To gain knowledge about **Physical biometric methods**.

Unit 1 **(12 Hours)**

Notion of biometrics : Introduction of biometric traits and its aim, Image processing/pattern recognition/statistics, Error types, Development of biometric authentication; Basic terms, biometric data, biometric characteristics, biometric features, biometric templates and references; Expected properties of biometric identifiers; Basics in biometric errors estimation; Enrollment, verification and identification.

Unit 2 **(12 Hours)**

Fingerprint recognition: Fingerprint capture, sensor types, latent fingerprints. Fingerprint image preprocessing, segmentation, binary and skeletal images. Fingerprint singularities, detection of loops, deltas, whirls and cores, using singularities in fingerprints classification; Galton's details, base and complex minutiae, detection of minutiae; Fingerprint recognition, minutiae- and correlation-based methods; Fingerprints in forensics and biometrics, similarities and differences.

Unit 3 **(12 Hours)**

Iris recognition: Eye and iris morphogenesis, genetic penetrance; Principles of iris image capture, iris sensors; Iris image preprocessing, segmentation, formatting and filtering; Daugman's method, iris code, statistical properties of the iris code; Other iris coding methods, wavelet analysis.

Unit 4 **(12 Hours)**

Face recognition: Face detection in still images and sequences; Face features. Face space, principal component analysis and its application, eigen faces, linear discriminant analysis and its application, Fisher faces; Face recognition methods.

Unit 5 **(12 Hours)**

Physical biometric methods: Use of vein patterns of a hand, finger and retina; Thermal imaging and geometry of a hand. Recognition of handwritten signatures: Signature capture, off-line (scanned) and on-line (captured by tablets) signatures; Signature as a

multidimensional curve, two- and multi-dimensional analyses. Signature features, hidden and visible features; Use of dynamic time warping in signature recognition.

References:

1. Digital Image Processing using MATLAB,By: Rafael C. Gonzalez, Richard Eugene Woods, 2nd Edition, Tata McGraw-Hill Education 2010

2. Guide to Biometrics,By: Ruud M.Bolle,Sharath Pankanti, Nalini K. Ratha,Andrew W. Senior, Jonathan H. Connell,Springer 2009

3. Pattern Classification,By: Richard O. Duda, David G.Stork,Peter E. Hart, Wiley 2007

Course Outcomes:

Upon Completion of the course students would be able to		**Knowledge Level**
CO 1	**Understand the basic concept of notion of biometrics.**	**K2**
CO 2	**Improve the knowledge of Fingerprint recognition**	**K6**
CO 3	**Improve the knowledge of an Iris recognition.**	**K3**
CO 4	**Develop the Knowledge in face recognition.**	**K4**
CO 5	**Gather the details of Physical biometric methods**	**K4**

Relationship Matrix for CO, PO, PSO

Course Name – Biometric Techniques						**Course Code – P2R3ITDSE3:2**					
Course Outcomes (COs)	**Programme Outcomes (POs)**					**Programme Specific Outcomes (PSOs)**					**Mean Score of COs**
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO5**	
CO1	2	3	2	2	3	2	3	3	2	2	2.4
CO2	3	2	3	3	2	2	2	3	2	2	2.4
CO3	3	2	2	2	2	2	2	3	2	2	2.2
CO4	3	2	2	2	2	2	3	2	2	2	2.2
CO5	3	2	2	3	2	2	3	3	2	2	2.4
										Mean Overall Score	2.32
										Result	**High**

DISCIPLINE SPECIFIC ELECTIVE - 4

OPERATING SYSTEMS (P2R3ITDSE4:1)

Hours/Week: 4 **Max. Marks: 100 (CIA: 25+Ext.:75)**

Total Hours: 60 **Credit: 3**

Nature of the Course: Employability

Objectives

1. To study distributed operating system concepts
2. To understand hardware, software and communication in distributed OS.
3. To learn the distributed resource management components.
4. Practices to learn concepts of OS
5. To practice Program the principles ofoperating system.

UNITI: Introduction– (12 Hours)

Operating System Definition–Functions of Operating System – Types of Advanced Operating System – Design Approaches –Synchronization Mechanisms – concepts of a Process – Critical Section Problem–Process Deadlock**(ICT CLASS)**–Models of Deadlock–Conditions for Deadlock.

UNITII: Distributed Operating Systems: (12 Hours)

Introduction-Issues–Communication Primitives – Inherent Limitations –Lamport's Logical Clock, Vector Clock, Global State , Cuts–Termination Detection–Distributed Mutual Exclusion–Non Token Based Algorithms **(ICT CLASS)**–Lamport's Algorithm - Token Based Algorithms –Distributed Deadlock Detection–Distributed Deadlock Detection Algorithms.

UNITIII: Distributed Resource Management (12 Hours)

Distributed File Systems–Architecture–Mechanisms–Design Issues – Distributed shared Memory–Architecture **(ICT CLASS)**–Algorithm–Protocols–DesignIssues–DistributedScheduling–Issues–Components–Algorithms.

UNITIV: Failure Recovery and Fault Tolerance (12 Hours)

Concepts**(ICT CLASS)**–Failure Classifications – Approaches to Recovery – Recovery in Concurrent Systems–Synchronous and Asynchronous Check pointing and Recovery–Check pointing in Distributed Database Systems–Fault Tolerance Issues – Two-Phase and Non blocking Commit Protocols.

UNITV: Multiprocessor and Database Operating Systems (12 Hours)

Structures – Design Issues**(ICT CLASS)** – Threads – Process Synchronization – Processor Scheduling –Memory management (**SEMINAR**)–Reliability/FaultTolerance–DatabaseOperatingSystems–concepts–Features of Android OS, Ubuntu, Google Chrome OS and Linux operating systems.

TextBooks

1. MukeshSinghal N.G.Shivaratri, "Advanced Concepts in Operating Systems",McGrawHill2000.
2. Distributed Operating System–Andrew S.Tanenbaum, PHI.

ReferenceBooks

1. Abraham Silberschatz, Peter B.Galvin, G.Gagne, "OperatingConcepts",6thEditionAddisonWesleypublications2003.
2. AndrewS.Tanenbaum,"ModernOperatingSystems",2ndEditionAddisonWesley2001.

Course Outcomes

Upon Completion of the course students would be able to		Knowledge Level
CO 1	**Understand the basic concept of an Operating System.**	**K2**
CO 2	**Improve the knowledge of Distributed Operating System.**	**K6**
CO 3	**Develop the Knowledge in Distributed File System.**	**K3**
CO 4	**Gather the details of Fault Tolerance.**	**K4**
CO 5	**Gather the details of Multi Processor and Database OS.**	**K4**

Relationship Matrix for CO, PO, PSO

Course Name – Operating Systems						**Course Code – P2R3ITDSE4:1**					
Course Outcomes (COs)	**Programme Outcomes (POs)**					**Programme Specific Outcomes (PSOs)**					**Mean Score of COs**
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO5**	
CO1	2	3	2	2	3	2	3	3	2	2	2.4
CO2	3	2	3	3	2	2	2	3	2	2	2.4
CO3	3	2	2	2	2	2	2	3	2	2	2.2
CO4	3	2	2	2	2	2	3	2	2	2	2.2
CO5	3	2	2	3	2	2	3	3	2	2	2.4
										Mean Overall Score	2.32
										Result	**High**

DISCIPLINE SPECIFIC ELECTIVE – 4
HUMAN COMPUTER INTERACTION (P2R3ITDSE4:2)

Hours/Week: 4 **Max. Marks: 100(CIA: 25+Ext.:75)**
Total Hours: 60 **Credit: 3**
Nature of the Course: Entrepreneurship

OBJECTIVE:

1. To understand the basics of human-computer interaction.
2. To understand the interaction design basics.
3. To get the knowledge about HCI in the software process.
4. To gain the knowledge about cognitive models.
5. To gain the knowledge about task analysis.

UNIT I : (12 Hours)

The Interaction: Introduction: Models of interaction-Frameworks and HCI-Ergonomics-Interaction styles-Elements of the WIMP interface-interactivity-The context of the interaction-Experience, engagement and fun**.**

UNIT II : (12 Hours)

Interaction design basics: Introduction-what is design? – The process of design-User focus-Scenarios-Navigation design-Screen design and layout-Iteration and prototyping.

UNIT III : (12 Hours)

HCI in the software process: Introduction-The software life cycle-Usability engineering-Iterative design and prototyping-Design rationale.

Design rules: Introduction-Principles to support usability-Standards-Guidelines-Golden rules and heuristics-HCI patterns.

UNIT IV : (12 Hours)

Cognitive Models: Introduction-Goal and task hierarchies-Linguistic models-The challenge of display-based systems-Physical and device models-Cognitive architectures.

Communication and collaboration models: Introduction-Face-to-face communication-Conversation-Text-based communication-Group working.

UNIT V : (12 Hours)

Task analysis: Introduction-Differences between task analysis and other techniques-Task decomposition-knowledge-based analysis-Entity-relationship-based techniques-Sources of information and data collection-Uses of task analysis. **Dialog notations and design:** What is dialog?-Dialog design notations-Diagrammatic notations-Textual dialog notations-Dialog semantics-Dialog analysis and design.

TEXT BOOK:

1.Alan Dix, Janet Finlay, Gregory D.Abowd, Russell Beale, "Human-Computer interaction" 3rd edition, Pearson Education.

Unit-1 : Chapter-1 Unit-2 : Chapter-5 Unit-3 : Chapter-6,7 Unit-4 : Chapter-12,14 Unit-5 : Chapter-15,16

REFERENCE BOOK:

1. " Human Computer Interaction fundamental", Andrew sears Julie A.Jacko,2019.

Course Outcome:

Upon Completion of the course students would be able to		Knowledge Level
CO 1	The Students would have understood the HCI.	**K2**
CO 2	They should have created knowledge in WIMP.	**K6**
CO 3	They should have improved the details of task analysis.	**K3**
CO 4	**Gather the details of Communication and collaboration models .**	**K4**
CO 5	**Gather the details of Task Analysis.**	**K4**

Relationship Matrix for CO, PO, PSO

Course Name – Human Computer Interaction						**Course Code – P2R3ITDSE4:2**					
Course Outcomes (COs)	**Programme Outcomes (POs)**					**Programme Specific Outcomes (PSOs)**					**Mean Score of COs**
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO5**	
CO1	2	3	2	2	2	3	3	2	3	2	2.4
CO2	2	2	2	2	2	2	2	2	2	3	2.1
CO3	2	2	2	2	2	2	3	2	2	2	2.1
CO4	2	2	2	3	2	2	2	2	2	2	2.1
CO5	2	2	3	2	3	2	3	2	2	2	2.3
										Mean Overall Score	2.20
										Result	**High**

SKILL ENHANCEMENT COURSE 1

WEB DESIGN (P2R3ITSEC1)

Hours/Week: 04 **Max. Marks: 100 (CIA:25+Ext.:75)**
Total Hours: 60 **Credits : 2**
Nature of the Course: Skill Development

Objectives:

1. To Teach the Details of Scripting Languages
2. To gain the knowledge about control and looping statements.
3. To give details of String functions in JScripts
4. To provide the ideas of object oriented JAVA script.
5. TO gain the knowledge about validating forms.

UNIT-1: JAVA SCRIPT BASICS (12 Hours)
Introduction- Identifiers –Literals – Keywords- Data Types- Variables – Operators.

UNIT-2: CONTROL AND LOOPING STATEMENTS (12 Hours)
If, if-else statements- Switch statement- While loop-Do-while loop – for loop-Arrays : single and multi Dimensional Arrays.

UNIT-3: STRINGS AND FUNCTIONS (12 Hours)
String specific properties and methods – Java script functions : Defining functions-Invoking functions – Functions scope.

UNIT-4: OBJECT ORIENTED JAVA SCRIPT (12 Hours)
Object properties and methods- Object constructors –Native objects : Boolean , Date, Documents, Event, Math, Number, Object, script and window object.

UNIT-5: VALIDATING FORMS (12 Hours)
Defining dynamic forms – Adding form Elements – changing selection -list-Reset events-Submit events-select events- form validation prior to submission-Enabling and disabling form fields.

TEXT BOOK :
"JAVA script professional projects", Paul Hatcher with John Gosney, Thomson course technology,ISE.[Unit 1: Chapter 1, Unit 2: Chapters 2 Unit 3: Chapter 3,4 Unit 4: Chapter 5, Unit 5: Chapter 8.]

REFERENCE BOOK :
Web Technologies, Black Book – Dreamtech Press, 2018

COURSE OUTCOMES:

Upon Completion of the course students would be able to		Knowledge Level
CO 1	Improve the knowledge in JAVA Script.	K2
CO 2	Improved the programming knowledge in Java Script.	K6
CO 3	Know the concept of strings and Functions.	K3
CO 4	Gather the depth ideas in Object Oriented Java Script.	K4
CO 5	Gather the details in validating forms.	K4

Relationship Matrix for CO, PO, PSO

Course Name – Web Design						Course Code – P2R3ITSEC1					
Course Outcomes (COs)	Programme Outcomes (POs)					Programme Specific Outcomes (PSOs)					Mean Score of COs
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	
CO1	2	3	2	2	3	2	3	3	2	2	2.4
CO2	3	2	3	3	2	2	2	3	2	2	2.4
CO3	3	2	2	2	2	2	2	3	2	2	2.2
CO4	3	2	2	2	2	2	3	2	2	2	2.2
CO5	3	2	2	3	2	2	3	3	2	2	2.4
	Mean Overall Score										2.32
	Result										High