

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR – 625 514

(Reaccredited by NAAC with "A" Grade with a CGPA of 3.66)

DEPARTMENT OF IT & M

Programme Specific Outcome (PSO)

1. Learn current techniques and modern tools necessary to develop the software applications and business.
2. Identify, analyze, formulate and solve technical problems by applying principles of Information Technology and Management to the problem.
3. Take up multidisciplinary projects and to carry out it as per industry standards.
4. Comprehend and apply the technical solutions in a global and social context.
5. Understand and practice professional, ethical, legal, and social responsibilities as a matured citizen.

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR
DEPARTMENT OF IT & M
OBE SYLLABUS (From 2022-2023 onwards)

I SEMESTER				
Part	Subject Code	Subject Title	Hours	Credits
I	22UTAL11/ 22UHN11/ 22USNL11	Tamil/ Hindi/ French	6	4
II	22UENA11/ 22UENB11	English through Prose & Short Story – Stream – A English through Prose & Short Story – Stream – B	5	4
III	22UITC11	Core – 1 Principles of Management	4	4
	22UITC21	Core – 2 Programming in C	3	3
	22UITP11	Programming in C - Lab-1	5	3
	22UITA11	Allied -1 Digital Principles	5	4
IV	22UFCE11	FC – Personality Development	1	1
	22UCSH12	Communication Skill	1	-
	22UBRC11	Bridge Course		1
V	22UNCC/NSS/ PHY.EDU./YRC/ ROT/ACF/NCB12	Extension Activities NSS/NCC/Phy.Edn./YRC / ROTARACT/AICUF/Nature Club	-	-
Total			30	24
II SEMESTER				
I	22UTAL22/ 22UHN22/ 22USNL22	Tamil/ Hindi/ French	6	4
II	22UENA22 22UENB22	English through Prose & Short Story – Stream – A English through Prose & Short Story – Stream – B	5	4
III	22UITC32	Core – 3 Programming in C++	3	3
	22UITC42	Core – 4 Data Structures & Algorithms	4	3
	22UITP22	Programming in C++ - Lab - 2	5	3
	22UITA22	Allied – 2 Environment of Business	5	4
IV	22UFCH22	FC- Social Responsibility and Global Citizenship	1	1
	22UCSH12	Communication Skill	1	1
V	22UNCC/NSS/ PHY.EDU./YRC/ ROT/ACF/NCB12	Extension Activities NSS/NCC/Phy. Edn./YRC / ROTARACT/AICUF/Nature Club	-	1
Total			30	24
III SEMESTER				
III	22UITC53	Core – 5 Operating Systems	5	4
	22UITC63	Core – 6 DBMS	4	3
	22UITC73	Core – 7 Web Technology	4	3
	22UITP33	Programming in Web Technology Lab -3	5	3

	22UITA33	Allied – 3 Business Accounting	5	4
IV	22UITN13	Basic Tamil / Advanced Tamil / NME-1 Image Editing Tools	3	2
	22UITS13	Skill based Elective- 1 Business Law	3	2
	22UFCE33	FC-Environmental Studies	1	1
V	22UNCC/NSS/ PHY.EDU./YRC/ ROT/ACF/NCB24	Extension Activities NSS / NCC / Phy.Edn./ YRC /ROTARACT / AICUF /Nature Club	-	-
	22UARE14	ARISE	-	-
		Total	30	22
IV SEMESTER				
III	22UITC84	Core – 8 Organizational Behaviour	4	4
	22UITC94	Core – 9 Computer Network	5	4
	22UITD04	Core – 10 Dot Net Programming	4	2
	22UITP44	Dot Net Programming Lab - 4	5	3
	22UITA44	Allied–4 Web Marketing	5	4
IV	22UITN24	Basic Tamil / Advanced Tamil / NME- 2 Ethical Hacking	3	2
	22UITS24	Skill based Elective - 2 Business Statistics	3	2
	22UFCH44	FC - Religious Literacy and Peace Ethics	1	1
V	22UNCC/NSS/ PHY.EDU./YRC/ ROT/ACF/NCB24	Extension Activities NSS / NCC / Phy.Edn. / YRC /ROTARACT / AICUF /Nature Club		1
	22UARE14	ARISE	-	1
		Total	30	24
V SEMESTER				
III	22UITD15	Core - 11 Software Engineering	5	4
	22UITD25	Core – 12 Research Methodology	5	4
	22UITD35	Core – 13 Marketing Management	5	4
	22UITD45	Core – 14 Java Programming	5	4
	22UITP55	Programming in Java Lab - 5	5	4
	22UITE15	Core Elective - 1 Human Resource Management	3	3
IV	22UINT15	Internship (Holidays)		1
	22USSI16	Soft Skills	2	
		Total	30	24
VI SEMESTER				
	22UITD56	Core – 14 Mobile Application Development	5	4
	22UITP66	Mobile Programming Lab - 6	5	4

	22UITD66	Core – 15 Advertising and Salesmanship	5	4
	22UITD76	Core – 16 Entrepreneurship Development	5	4
	22UITD86	Core – 17 Project	5	4
	22UITE26	Core Elective– 2 Internet of Things	3	3
	22USSI16	Soft Skills	2	2
		Total	30	25

Semester	I	II	III	IV	V	VI	TOTAL
Credits	24	24	22	24	24	26	144*

Non-Major Electives

For Non-Science Students : Image Editing Tools

For Science Students : Ethical Hacker

Self-Learning Course

Semester	Subject Code	Title of the Paper	Credits
Semester-III	22UITSL3	Scripting Languages	3
Semester-IV	22UITSL4	Stress Management	3
Semester-V	22UITSL5	Cyber Security	3
Semester-VI	22UITSL6	Export and Import Management	3

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR
DEPARTMENT OF IT & M

Class : I IT & M
Semester : I
Subject Code : 22UITC11

Part : III Core-1
Hours : 60
Credits : 04

PRINCIPLES OF MANAGEMENT

1. Title of the Paper : Principles of Management

2. Course Educational Objectives (CEO)

- ❖ Understanding the basic concepts and functions of Principles of Management
- ❖ Knowing the importance and guidelines for effective planning
- ❖ Learning the process of decision making and factors affecting organizational structure
- ❖ Comprehending the concept of Direction and different types of leadership style
- ❖ Applying the skills and knowledge given by Management experts.

3. Five Units of the Syllabus

UNIT	Content	No. of Hours
I	Introduction on Management Management – Definition –Features- Importance – Nature – Levels – functions – Management VS Administration.	12
II	Planning Planning – Characteristics – Importance. Types of Planning – Steps in Planning Process- Advantages and Limitations of Planning – Guidelines for Effective Planning.	12
III	Decision Making and Organization Decision Making – Process – Types of decisions – Organizational structure – types – Staffing – functions.	12
IV	Direction and Controlling Direction – Techniques of direction – Leadership – Types of leadership styles – Controlling – Definition – Process.	12
V	Contribution of Management Thinkers F.W.Taylor- Scientific Management - Henry Fayol – 14 Principles of Management - Elton Mayo – Hawthorne Experiment - Peter Drucker – MBO Concept.	12

4. Book for Study:

1. T. Ramasamy, “Principles of Management”, Himalaya publishing House , Mumbai, 2010.

5. Book for Reference:

1. Prasad L. M, “Principles of Management”, Sultan Chand & Sons Publications, New Delhi, 2006.
2. Dr.S.Arunprasad, “Principles of Management”, Notion Press Publication, Chennai 2021.

6. Teaching Learning Methods:

(PPT, GD, Seminar, Quiz programme, Brain Storming, Case Study, Assignments etc.,)

7. Course Outcome (CO)

On completion of the course, students should be able to

CO1. Discover the students to become professional Managers

CO2. Generalized the knowledge of principles of management in the working environment

CO3. Manipulate their managerial skills through principles of management

CO4. Describe the basic techniques of directing and controlling

CO5. Extend the contribution of Management thinkers

8. Course Outcome Level (Preferable one for each objective)

CO1 - K₃

CO2 - K₃

CO3 - K₃

CO4 - K₃

CO5 - K₃

9. Mapping Course outcome with

(i) Programme Specific Objectives - **PSO** (put tick mark in the correlating box)

(ii) Programme Objectives - **PO** (put tick mark in the correlating box)

Outcomes	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	Sum of COs with PSOs & POs
CO1	3	2	1	3		3	3	3	1					19
CO2	2	2	3	2	1	2	2	2	3					19
CO3	2	2	3	2		3	1	2	2	2				19
CO4	2	3	2	2	1	2	3	2	2	1				20
CO5	3	3	2	3		3	2	2	2	1				21
Grand Total of COs with PSOs and POs														98
Mean Value of Cos with PSO and POs														2.18

*: S-Strong; M-Medium; L-Low

Mapping Scale	1	2	3
Relation	0.01 to 1.0	1.01 to 2.0	2.01 to 3.0
Quality	Low	Medium	Strong
Mean value of Cos with PSOs and POs			2.18
Observation	COs of Advanced Principles of Management Strongly related with PSOs and POs		

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR

DEPARTMENT OF IT & M

Class : I IT & M

Part : III Core - 2

Semester : I

Hours : 45

Subject Code : 22UITC21

Credits : 03

PROGRAMMING IN C

1. Title of the Paper : Programming in C

2. Course Educational Objectives (CEO)

- ❖ Understand the concepts of Procedural-Oriented Programming (POP).
- ❖ Impart the knowledge of decision making and control statements in C programming.
- ❖ Develop Generic programming skills by using array concept.
- ❖ Develop the efficient programs using functions.
- ❖ Able to understand and apply the concept of pointers in real time applications.

3. Five Units of the Syllabus

UNIT	Content	No. of Hours
I	Overview of C Introduction -Importance of C - Basic structure of C program -Character set - C token - keywords and identifiers – constants - variables and data types - Declaration of variables, operators and expression. Managing input and output operators: formatted input and formatted output.	9
II	Decision making and Branching If statement, if else statement, nesting if else statement, switch statement, go to statement. Decision and looping : the while statement, Do statement, for statement.	9
III	Arrays One dimensional array, two dimensional array, multidimensional array. Handling of character String : Declaring and initializing string variables, Reading string, writing string, string handling functions.	9
IV	Functions Library functions, user defined functions, parameters, function calling, call by value, call by reference, Recursion. Structure : Declaring structure, array of structure. Unions : case studies.	9
V	Pointers Pointer declaration, Pointers and arrays. File : opening a file, Closing a file, Input/Output operations on files, getw() – putw() functions, fprintf(), fscanf().	9

4. Book for Study:

E. Balagurusamy, "Programming in ANSI C", Tata McGraw Hill, New Delhi, 2017.

5. Book for References:

I. Brain W.Kernighan, Dennis M.Ritchie, " Programming in C Language", Pearson Education India, New Delhi, 2015.

II. D. Ravichandran, "Programming in C", New Age Publishers, New Delhi ,2006.

III. Yashavant Kanetkar, Let us C", 8th Edition, BPB Publications, New Delhi, 2014.

6. Teaching Learning Methods:

(PPT, GD, Seminar, Quiz Programme, Brain Storming, Case Study, Assignment etc.)

7. Course Outcome (CO)

On completion of the course, students should be able to

CO1: Identify the concepts of C programming.

CO2: Classify the Strong knowledge about the Decision Making and Control Statements in C programming.

CO3: Convert Write, Compile and Execute the real time programs using C concepts.

CO4: Classify write the array, functions, pointers and structure programs in C language.

CO5: Discover the knowledge and write the file operations programs in C language.

8. Course Outcome Level (preferable one for each objective)

CO₁ - K₃

CO₂ - K₃

CO₃ - K₃

CO₄ - K₃

CO₅ - K₃

9. Mapping Course outcome with

(iii) Programme Specific Objectives - **PSO** (put tick mark in the correlating box)

(iv) Programme Objectives - **PO** (put tick mark in the correlating box)

Outcomes	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	Sum of COs with PSOs & POs
CO1	3	2	1	3		3	2	3	1					18
CO2	2	2	3	2	1	2	2	1	3					18
CO3	2	2	3	2		3	1	1	2	2				18
CO4	2	3	2	2	1	2	3	2	2	1				20
CO5	3	3	2	3		3	2	2	2	1				21
Grand Total of COs with PSOs and POs														95
Mean Value of Cos with PSO and POs														2.11

*: S-Strong; M-Medium; L-Low

Mapping Scale	1	2	3
Relation	0.01 to 1.0	1.01 to 2.0	2.01 to 3.0
Quality	Low	Medium	Strong
Mean value of Cos with PSOs and POs			2.11
Observation	COs of Programming in C Strongly related with PSOs and POs		

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR
DEPARTMENT OF IT & M

Class	: I IT&M	Part	: III Core Lab - 1
Semester	: I	Hours	: 75
Sub code	: 22UITP11	Credits	: 03

PROGRAMMING IN C LAB

1. Title of the Paper : Programming in C LAB

2. Course Educational Objectives (CEO)

- ❖ Understand the concepts of Procedural-Oriented Programming (POP).
- ❖ Impart the knowledge of decision making and control statements in C programming.
- ❖ Develop Generic programming skills by using array concept.
- ❖ Develop the efficient programs using functions.
- ❖ Able to understand and apply the concept of pointers in real time applications.

3. Five Units of the Syllabus

UNIT	Content	No. of Hours
I	Tokens, Data-types, Variables and Operators	15
II	Using Decision making and Branching Statements	15
III	Using Arrays and Strings	15
IV	Using Functions. Write a C Program using Call by Value – Call by Reference	15
V	Program Using Pointers and File	15

4. Book for Study:

E. Balagurusamy, "Programming in ANSI C", Tata McGraw Hill, New Delhi, 2017.

5. Book for References:

- I. Brain W.Kernighan, Dennis M.Ritchie, " Programming in C Language", Pearson Education India, New Delhi, 2015.
- II. D. Ravichandran, "Programming in C", New Age Publishers, New Delhi, 2006.
- III. Yashavant Kanetkar, Let us C", 8th Edition, BPB Publications, New Delhi, 2014.

6. Teaching Learning Methods:

(PPT, GD, Seminar, Quiz Programme, Brain Storming, Case Study, Assignment etc.)

7. Course Outcome (CO)

On completion of the course, students should be able to

CO1: Identify the concepts of C programming.

CO2: Classify the Strong knowledge about the Decision Making and Control Statements in C programming.

CO3: Convert Write, Compile and Execute the real time programs using C concepts.

CO4: Classify write the array, functions, pointers and structure programs in C language.

CO5: Discover the knowledge and write the file operations programs in C language.

8. Course Outcome Level (preferable one for each objective)

CO₁ - K₃

CO₂ - K₃

CO₃ - K₃

CO₄ - K₃

CO₅ - K₃

9. Mapping Course outcome with

(v) Programme Specific Objectives - **PSO** (put tick mark in the correlating box)

(vi) Programme Objectives - **PO** (put tick mark in the correlating box)

Outcomes	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	Sum of COs with PSOs & POs
CO1	3	2	3	3		3	3	3						20
CO2	2	3	3	3	1	2	2	2	3					21
CO3	3	2		2	3	3	2	2	3					20
CO4	2	3	2	3	3	2	3	2						20
CO5	3	2	2	3	2	3	2	2	3					22
Grand Total of COs with PSOs and POs														103
Mean Value of Cos with PSO and POs														2.51

*: S-Strong; M-Medium; L-Low

Mapping Scale	1	2	3
Relation	0.01 to 1.0	1.01 to 2.0	2.01 to 3.0
Quality	Low	Medium	Strong
Mean value of Cos with PSOs and POs			2.51
Observation	COs of Programming in C Lab-1 Strongly related with PSOs and POs		

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR
DEPARTMENT OF IT & M

Class : I IT & M
Semester : I
Subject Code : 22UITA11

Part : Allied - 1
Hours : 75
Credits : 04

DIGITAL PRINCIPLES

1. Title of the Paper : Digital Principles

2. Course Educational Objectives (CEO)

- ❖ Understand the basic concepts of Analog & Digital Computers, Evolution of Computer Systems.
- ❖ Impart the knowledge about the Digital Logic Circuits.
- ❖ Analyze and Design the Digital Circuits.
- ❖ Understand the Binary number system and its Conversions.
- ❖ Analyze the Arithmetic circuits and Flip-Flops, Instruction sets, Addressing Mode.

3. Five Units of the Syllabus

UNIT	Content	No. of Hours
I	Introduction on Digital Principles Digital and Analog Computers – Evolution of Digital Computers – Computer Generations – First, second, third, fourth and fifth – Major components of a Digital computer.	15
II	Logic Circuits Binary number system – Inverters – OR gates – AND gates – Boolean Algebra – NOR gates – NAND gate.	15
III	Circuit Analysis and Design Boolean Laws and theorem – Sum –of-products method- Truth Table to Karnaugh Map- Pairs, Quads, and Octets – Karnaugh simplifications product of sum method.	15
IV	Number System and Codes Binary to decimal conversion – Decimal to Binary Conversion – Octal numbers – Hexadecimal numbers – The ASCII code – The Excess -3 code –Gray code.	15
V	Arithmetic circuits Binary Addition – Binary subtraction – 2's complement representation – Arithmetic building blocks – Adder-Subtractor. Flip- Flops: RS Flip Flop – D FlipFlop – JK Flip Flop. Basic structure of Computers: Instruction set – Addressing modes.	15

4. Book for Study:

Donald P leach, Albert Paul Malvino, Goutam Saha, “Digital Principles and Applications”, McGraw-Hill Education, New Delhi, 1993.

5. Book for References:

I. Digital Logic and Computer Design, M.Morris Mano,Pearson Publication, New Delhi, 2017.

II. B.Ram, “Computer Fundamentals – Architecture and Organization”, New Age International Publishers, New Delhi, 2018.

6. Teaching Learning Methods:

(PPT, GD, Seminar, Quiz Programme, Brain Storming, Case Study, Assignment etc.)

7. Course Outcome (CO)

On completion of the course, students should be able to

CO 1: Describe the concepts of Analog & Digital Computers, Evolution of Computer Systems.

CO 2: Classify comprehend the Digital Logic Circuits.

CO 3: Describe and Analyze the Design of the Digital Circuits.

CO 4: Discover the knowledge of the Binary number systems and able to convert the binary numbers as per the requirement.

CO 5: Describe about the Arithmetic circuits and Flip-Flops, Instruction sets, Addressing Mode.

8. Course Outcome Level (preferable one for each objective)

CO₁ - K₃

CO₂ - K₃

CO₃ - K₃

CO₄ - K₃

CO₅ - K₃

9. Mapping Course outcome with

(i) Programme Specific Objectives - **PSO** (put tick mark in the correlating box)

(ii) Programme Objectives - **PO** (put tick mark in the correlating box)

Outcomes	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	Sum of COs with PSOs & POs
CO1	3	2	1	3		3	2	3	1					18
CO2	2	2	3	2	1	2	2	1	3					18
CO3	2	2	3	2		3	1	1	2	2				18
CO4	2	3	2	2	1	2	3	2	2	1				20
CO5	3	3	2	3		3	2	2	2	1				21
Grand Total of COs with PSOs and POs														95
Mean Value of Cos with PSO and POs														2.11

*: S-Strong; M-Medium; L-Low

Mapping Scale	1	2	3
Relation	0.01 to 1.0	1.01 to 2.0	2.01 to 3.0
Quality	Low	Medium	Strong
Mean value of Cos with PSOs and POs			2.11
Observation	COs of Digital Principles Strongly related with PSOs and POs		

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR
DEPARTMENT OF IT & M

Class : I IT & M

Part : Core - 3

Semester : II

Hours : 45

Subject Code : 22UITC32

Credits : 03

PROGRAMMING IN C++

1. Title of the Paper : Programming in C++

2. Course Educational Objectives (CEO)

1. Understand difference between Procedural-Oriented Programming (POP) and Object-Oriented Programming (OOP) concepts.
2. Able to apply the object oriented features.
3. Develop Generic programming skills using OOPS concepts.
4. Develop the efficient programs using Class and Inheritance.
5. Able to understand and apply the concept of Polymorphism in real time applications.

3. Five Units of the Syllabus

UNIT	Content	No. of Hours
I	Introduction on OOP Principles of Object Oriented Programming (OOP) – Software Evaluation – OOPParadigm – Basic Concepts of OOP – Benefits of OOP – Applications of OOP.	9
II	Introduction to C++ Tokens – Keywords – Variables – Operators – Manipulators - Expressions and Control Structures – pointers – Functions – Function prototyping - Parameters Passing in Functions – Values Return by Functions – Inline Functions - Friend and Virtual Functions.	9
III	Classes, Objects & Constructors and Destructors Classes and Objects – Constructors and Destructors – Operator overloading - Type Conversions – Type conversions – Type of Constructors – Function Overloading.	9
IV	Inheritance Inheritance – Single Inheritance – Multiple Inheritance – Multilevel Inheritance – Hybrid Inheritance – Hierarchical Inheritance.	9
V	Virtual Functions and Polymorphism Virtual Functions and Polymorphism – Constructors in inheritance – Mapping Console I/O operations.	9

4. Book for Study:

E. Balagurusamy, “Object Oriented Programming with C++”, Tata McGraw Hill, New Delhi, 2014.

5. Books for Reference:

- I. D. Ravichandran, "Programming with C++", Tata McGraw Hill, New Delhi, 2017.
 II. Herbert Schildt, "C++: The Complete Reference", Tata McGraw Hill, New Delhi, 2017.

6. Teaching Learning Methods:

(PPT, GD, Seminar, Quiz Programme, Brain Storming, Case Study, Assignment etc.)

7. Course Outcome (CO)

On completion of the course, students should be able to

- 1: Distinguish the POP and OOPs concepts.
- 2: Discover knowledge about the C++ Features.
- 3: Classify Write, Compile and Execute and programs using C++ OOPs concepts.
- 4: Defend write the reusability codes by using Inheritance.
- 5: Convert apply the OOPS concepts in real time applications.

8. Course Outcome Level (preferable one for each objective)

CO₁ - K₄

CO₂ - K₃

CO₃ - K₃

CO₄ - K₃

CO₅ - K₃

9. Mapping Course outcome with

- (i) Programme Specific Objectives - **PSO (put tick mark in the correlating box)**
- (ii) Programme Objectives - **PO (put tick mark in the correlating box)**

Outcomes	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	Sum of COs with PSOs & POs
CO1	3	2	1	3		3	2	3	1					18
CO2	2	2	3	2	1	2	3	1	2					18
CO3	1	2	2	3	2	3	1	2	3	2				21
CO4	2	3	2	2	1	3	3	2	3	1				22
CO5	3	2	3	3	3	2	1	2	2					21
Grand Total of COs with PSOs and POs														100
Mean Value of Cos with PSO and POs														2.17

*: S-Strong; M-Medium; L-Low

Mapping Scale	1	2	3
Relation	0.01 to 1.0	1.01 to 2.0	2.01 to 3.0
Quality	Low	Medium	Strong
Mean value of Cos with PSOs and POs			2.17
Observation	Cos of PROGRAMMING IN C++ Strongly related with PSOs and POs		

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR
DEPARTMENT OF IT & M

Class	: I IT&M	Part	: III Core Lab -2
Semester	: II	Hours	: 75
Sub code	: 22UITP22	Credits	: 03

PROGRAMMING IN C++ LAB

1. Title of the Paper : Programming in C++ LAB

2. Course Educational Objectives (CEO)

- ❖ Understand difference between Procedural-Oriented Programming (POP) and Object-Oriented Programming (OOP) concepts.
- ❖ Able to apply the object oriented features.
- ❖ Develop Generic programming skills using OOPS concepts.
- ❖ Develop the efficient programs using Class and Inheritance.
- ❖ Able to understand and apply the concept of Polymorphism in real time applications.

3. Five Units of the Syllabus

UNIT	Content	No. of Hours
I	Program Using OOPs Concept	15
II	Program Using Variables, Program Control Structures, using Pointers – Functions – Function & Operator Overloading	15
III	using Class & Objects, – Constructors and Destructors, Array of Objects	15
IV	Using Inheritance - Types	15
V	Virtual Functions – Polymorphism	15

4. Book for Study:

E. Balagurusamy, "Object Oriented Programming with C++", Tata McGraw Hill, New Delhi, 2014.

5. Books for Reference:

I. D. Ravichandran, "Programming with C++", Tata McGraw Hill, New Delhi, 2017.

II. Herbert Schildt, "C++: The Complete Reference", Tata McGraw Hill, New Delhi, 2017.

6. Teaching Learning Methods:

(PPT, GD, Seminar, Quiz Programme, Brain Storming, Case Study, Assignment etc.)

7. Course Outcome (CO)

On completion of the course, students should be able to

CO 1: Distinguish the POP and OOPs concepts.

CO 2: Discover knowledge about the C++ Features.

CO 3: Classify Write, Compile and Execute and programs using C++ OOPs concepts.

CO 4: Defend write the reusability codes by using Inheritance.

CO 5: Convert apply the OOPS concepts in real time applications.

8. Course Outcome Level (preferable one for each objective)

CO₁ - K₄

CO₂ - K₃

CO₃ - K₃

CO₄ - K₃

CO₅ - K₃

8. Mapping Course outcome with

i. Programme Specific Objectives - **PSO** (put tick mark in the correlating box)

ii. Programme Objectives - **PO** (put tick mark in the correlating box)

Outcomes	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	Sum of COs with PSOs & POs
CO1	3	3	2	3		3	2	3	2	1				22
CO2	2	3	3	2	2	2	3	2	3					22
CO3	3	2	2	3	2	3	2	2	3	2				24
CO4	2	3	3	2	3	3	3	3	2	2				26
CO5	3	2	3	3	3	2	2	3	3	2				26
Grand Total of COs with PSOs and POs														120
Mean Value of Cos with PSO and POs														2.5

*: S-Strong; M-Medium; L-Low

Mapping Scale	1	2	3
Relation	0.01 to 1.0	1.01 to 2.0	2.01 to 3.0
Quality	Low	Medium	Strong
Mean value of Cos with PSOs and POs			2.5
Observation	Cos of PROGRAMMING IN C++ Lab Strongly related with PSOs and POs		

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR
DEPARTMENT OF IT & M

Class : I IT & M
Semester : II
Subject Code : 22UITC42

Part : Core - 4
Hours : 60
Credits : 03

DATA STRUCTURES AND ALGORITHMS

1. Title of the Paper : Data Structures and Algorithms

2. Course Educational Objectives (CEO)

- ❖ Understand the basic concepts about Stack and Queue.
- ❖ Impart the knowledge of the Lists and its types.
- ❖ Know the important concepts of Trees.
- ❖ Able to develop an Algorithm for real time applications.
- ❖ Able to understand and apply the various types of Computer Algorithms in real time problems.

3. Five Units of the Syllabus

UNIT	Content	No. of Hours
I	Introduction on Data Structures & Algorithms Introduction– Algorithms – Specification – Performance Analysis. Arrays: Ordered Lists - Representation of arrays. Stacks and Queues fundamentals-evaluation of expressions-multiple stacks and queues.	12
II	Linked Lists Singly Linked Lists- Linked stacks and queues- The Storage Pool - Polynomial Addition- More on Linked Lists. Doubly Linked Lists: Node Insertion and Node Deletion.	12
III	Trees Basic terminology-Binary trees-Binary tree Representations -Binary tree traversal. Threaded Binary Trees- Binary Tree Representation of Trees.	12
IV	The Complete Development of an Algorithm Algorithms – Basic Steps. Algorithm Design Methods: Sub goals – Hill Climbing – Working Backward – Heuristics – Backtrack Programming – Recursion.	12
V	Computer Algorithms Sorting – Searching – Parallelism. Mathematical Algorithms Magic Squares.	12

4. Book for Study:

- I. Ellis Horowitz and Sartaj Sahni, "Fundamentals of Data structures", Galgotia Publications, New Delhi, 1985.
- II. S.E. Goodman and S.T. Hedetniemi, "Introduction to the Design and Analysis of Algorithms", McGraw Hill, International, New Delhi, 1988.

5. Book for References:

- I. Tanenbaum A.M. and Augustein M.J, "Data Structures with Pascal", Prentice Hall of India Limited, New Delhi, 1985.
- II. Yashavant Kanetkar, "Data Structures Through C", BPB Publications, New Delhi, 2010.

6. Teaching Learning Methods:

(PPT, GD, Seminar, Quiz Programme, Brain Storming, Case Study, Assignment etc.)

7. Course Outcome (CO)

On completion of the course, students should be able to

CO 1: Identify the Data Structure Fundamentals and Stack, Queues concepts.

CO 2: Generalized the functionalities of different Linked Lists.

CO 3: Convert and compare the Operations of Tree Structure.

CO 4: Classify data structures concepts to designing an algorithms.

CO 5: Locate and compare the various types computer algorithms.

8. Course Outcome Level (preferable one for each objective)

CO₁ - K₃

CO₂ - K₃

CO₃ - K₄

CO₄ - K₃

CO₅ - K₃

9. Mapping Course outcome with

- (i) Programme Specific Objectives - **PSO** (put tick mark in the correlating box)
- (ii) Programme Objectives - **PO** (put tick mark in the correlating box)

Outcomes	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	Sum of COs with PSOs & POs
CO1	3	3	1	2	1	2	3	2	1					18
CO2	2	2	2	3	1	3	1	2	2					18
CO3	1	3	2	3		2	1	2	1	3				18
CO4	2	3	2	3	1	3	2	2	1	1				20
CO5	3	3	3	2		3	2	2	1	1				20
Grand Total of COs with PSOs and POs														94
Mean Value of Cos with PSO and POs														2.04

*: S-Strong; M-Medium; L-Low

Mapping Scale	1	2	3
Relation	0.01 to 1.0	1.01 to 2.0	2.01 to 3.0
Quality	Low	Medium	Strong
Mean value of Cos with PSOs and POs			2.04
Observation	Cos of DATA STRUCTURES AND ALGORITHMS Strongly related with PSOs and POs		

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR
DEPARTMENT OF IT & M

Class : I IT & M

Part : III Allied -2

Semester : II

Hours : 75

Subject Code : 22UITA22

Credits : 04

ENVIRONMENT OF BUSINESS

1. Title of the Paper: Environment of Business

2. Course Educational Objectives (CEO)

- ❖ Understanding the basic concept of different business environment
- ❖ Knowing the role of culture and social changes in business
- ❖ Analyzing the different kinds of social responsibilities in business
- ❖ Comprehending the Business ethics and rights of consumers
- ❖ Studying the basic Economic system and LPG

3. Five Units of the Syllabus

UNIT	Content	No. of Hours
I	Business Environment Meaning – Factors affecting Environment of Business –Social – Economic - Political - Legal – Cultural – Technology.	15
II	Social and Culture Business and Culture – Meaning – Definition – Concept and Nature of Culture- Elements of culture – Types of Social Change – Impact of Social Change in Business Environment – Social Structure.	15
III	Corporate Social Responsibility Social Responsibilities of Business – Responsibilities to shareholders – Responsibilities to Employees – Responsibilities to Customers – Responsibilities to the community – Responsibilities to the Government.	15
IV	Business Ethics and Consumerism Business Ethics – Characteristics - Principles– Consumerism – Meaning – Rights of Consumers – Consumerism in India – Salient Features of Consumer Protection Act- Guidelines for Consumer Protection.	15

V	Indian Economy system and Globalization Mixed Economy – Meaning and features - Liberalization - Meaning – Merits and Demerits - Privatization – Meaning – Merits and Demerits – Globalization – Meaning – Merits and Demerits.	15
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4. Book for Study:

I. Cherunilam Francis, “Business Environment”, Himalaya Publishers , New Delhi, 2009.

5. Book for Reference:

I. Namita Gopal, “Business Environment”, Himalaya Publishing House, New Delhi, 2010.

6. Teaching Learning Methods:

(PPT, GD, Seminar, Quiz programme, Brain Storming, Case Study, Assignments etc.,)

7. Course Outcome (CO)

On completion of the course, students should be able to

CO1: Discover the various environments in business

CO 2: Identify the basic needs of culture and social changes in business

CO 3: Extend comprehend the social responsibilities of the business

CO 4: Identify the Business ethics and Principles of Consumerism

CO 5: Discover the Indian economy system and LPG concept.

8. Course Outcome Level (Preferable one for each objective)

CO1 - K₃

CO2 - K₃

CO3 - K₃

CO4 - K₄

CO5 - K₃

9. Mapping Course outcome with

- (i) Programme Specific Objectives - **PSO** (put tick mark in the correlating box)
(ii) Programme Objectives - **PO** (put tick mark in the correlating box)

Outcomes	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	Sum of COs with PSOs & POs
CO1	3	3	2	1		3	3	3	1					19
CO2	2	2	3	3	1	3	2	1	2					19
CO3	1	2	2	3		3	1	2	3	3				20
CO4	2	3	3	2	1	2	2	2	2	1				20
CO5	3	3	3	2	2	2	1	2	1	1				20
Grand Total of COs with PSOs and POs														98
Mean Value of Cos with PSO and POs														2.13

Strong-3, Medium-2 & Low-1

Mapping Scale	1	2	3
Relation	0.01 to 1.0	1.01 to 2.0	2.01 to 3.0
Quality	Low	Medium	Strong
Mean value of Cos with PSOs and POs			2.13
Observation	Cos of ENVIRONMENT OF BUSINESS Strongly related with PSOs and POs		

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR

DEPARTMENT OF IT&M

Class : II IT&M
Semester : III
Subject Code : 22UITC53

Part : Core- 5
Hours : 75
Credits : 4

OPERATING SYSTEMS

1. Title of the Paper: OPERATING SYSTEMS

2. Course Educational Objectives (CEO)

- i. Understand the structure and functions of Operating System.
- ii. Impart the knowledge of Processes and CPU Scheduling algorithms.
- iii. Know how the operating systems handle the Deadlocks.
- iv. Understand how operating systems manage the Memory and Page Replacement.
- v. Case Study of Linux Operating System.

3. Five Units of the Syllabus

UNIT	Content	No. of Hours
I	Introduction Operating System – Mainframe Systems – Desktop Systems – Multiprocessor Systems–Distributed Systems–Clustered Systems – Real Time Systems – Handheld Systems. Operating System Structures: - System Components – Operating System Services–System Structure:Simple Structure, Layered Approach.	15
II	Process Management Processes:-Process Concept–Process Scheduling–Operation on Processes–Cooperating Processes. CPU Scheduling:-Basic Concepts–Scheduling Criteria–Scheduling Algorithms.	15
III	Process Synchronization: -Background –The Critical Section Problem–Semaphores. Deadlocks: System Model–Deadlock Characterization–Methods for handling Deadlocks–Deadlock Prevention–Deadlock Avoidance–Deadlock Detection–Recovery from Deadlock.	15
IV	Memory Management Swapping–Paging–Segmentation.Virtual Memory:Demand Paging–Page Replacement Techniques–Thrashing.	15
V	Case Study:Linux Operating System History –Design Principles–Kernel-Process Management–File System–Network Structure–Security.	15

4. Book for Study:

Silberschatz, Galvin, Gagne, “Operating System Concepts”, 8th Edition John Wiley & Sons Inc, 8th Edition, New Delhi, 2009.

5. Books for References:

- I. Andrew S.Tanenbaum, Albert S Wood Hull, "Operating Systems–Design and Implementation", Prentice Hall, New Delhi, 1997.
- II. Milan Milenkovic, "Operating Systems Concepts and Design", Tata Mcgraw Hill, New Delhi, 1992.

6. Teaching Learning Methods:

(PPT, GD, Seminar, Quiz Programme, Brain Storming, Case Study, Assignment etc.)

7. Course Outcome (CO)

On completion of the course, students should be able to

CO1:Describe with basic concepts of Operating Systems.

CO2:Discover the knowledge about the Process Management & CPU Scheduling concepts.

CO3:Identify Deadlock problems and its Prevention mechanism.

CO4:Describe the Memory Management concepts.

CO5:Discover Knowledge about the Linux Operating System.

8. Course Outcome Level (preferable one for each objective)

CO₁ - K₃

CO₂ - K₃

CO₃ - K₃

CO₄ - K₄

CO₅ - K₃

9. Mapping Course outcome with

(i) Programme Specific Objectives –**PSO** (put tick mark in the correlating box)

(ii) Programme Objectives -**PO** (put tick mark in the correlating box)

Outcomes	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	Sum of COs with PSOs & POs
CO1	3	3	2	1		3	3	3	1					19
CO2	2	2	3	2	2	3	1	2	3					20
CO3	3	2	2	3		2	2	2	3	3				22
CO4	2	3	3	3	1	2	2	2	1	1				20
CO5	3	2	3	2	2	3	2	2	2	1				22
Grand Total of COs with PSOs and POs														103
Mean Value of COs with PSO and POs														2.24

*:S-Strong; M-Medium; L-Low

Mapping Scale	1	2	3
Relation	0.01 to 1.0	1.01 to 2.0	2.01 to 3.0
Quality	Low	Medium	Strong
Meanvalue of COs With PSOs and POs			2.24
Observation	COs of OPERATING SYSTEMS Strongly related with PSOs and POs		

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR
DEPARTMENT OF IT & M

Class : II IT& M
Semester : III
Subject Code : 22UITC63

Part : Core - 6
Hours : 60
Credits : 03

DBMS

1. Title of the Paper :DBMS

2. Course Educational Objectives (CEO)

1. Comprehend the basic concepts about DBMS.
2. Impart the knowledge of Entity Relationship Model.
3. Distinguish the important concepts Relational Model.
4. Understand the concept of SQL.
5. Able to understand the Other Relational Languages in DBMS.

3. Five Units of the Syllabus

UNIT	Content	No. of Hours
I	Introduction Purpose of Database Systems- view of Data – data models – Database Languages – Transaction Management - Storage Management – Database Administrator-Database users.	12
II	Entity Relationship Model Basic concepts – Design issues – Mapping Constraints – keys- Entity Relationship Diagram-Weak Entity sets- Extended E R Features-Design of an E R Database schema- Reduction of and ER Schema to tables.	12
III	Relational Model Structure of Relational Database-The Relational Algebra-the Tuple Relational Calculus-The Domain Relational calculus- Extended Relational Algebra Operations- Modification of Database-views.	12
IV	SQL Background-Basic Structure- Set Operations-Aggregate Functions- Null values-nested subqueries-derived Relations-views- Modifications of the Database-joined Relations-Data Definition Language Embedded SQL.	12
V	Other Relational Languages Queries on One Relation – Queries on Several Relation – Modification of the Database – Quel – Tuple Variables – Aggregate Functions – Insertion & Updates – Set Operations - Datalog – Semantics of Nonrecursive Datalog	12

4. Book for Study:

I. Abraham Silberschatz, Henry F. Korth and S. Sudarshan, "Database System Concepts", The McGraw-Hill Companies, Inc Publications, 6th Edition, 2010.

5. Book for References:

I. Ramez Elmasri and Shamkant B. Navathe, "Fundamentals of Database Systems" Pearson Education Inc., Publications, 5th Edition, 2008.

6. Teaching Learning Methods:

(PPT, GD, Seminar, Quiz Programme, Brain Storming, Case Study, Assignment etc.)

7. Course Outcome (CO)

1: Understand the Data Models and Database Language concepts.

2: Understand the Concepts of Entity Relationship Models.

3: Understand the Tuple and Domain Relational Calculus.

4: Analyze SQL Concepts to Modify the Database.

5: Understand the Other Relational Languages in DBMS.

8. Course Outcome Level (preferable one for each objective)

CO₁ - K₁ (Knowledge)

CO₂ - K₂ (Understanding)

CO₃ - K₃ (Application)

CO₄ - K₄ (Analysis)

CO₅ - K₅ (Synthesis & Evaluation)

9. Mapping Course Outcome with

i) Programme Specific Objectives –**PSO** (put tick mark in the correlating box)

ii) Programme Objectives -**PO** (put tick mark in the correlating box)

Outcomes	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	Sum of COs with PSOs & POs
CO1	3	3	2	1		3	3	3	1					19
CO2	2	2	3	2	1	3	1	2	3					19
CO3	1	3	2	3		2	1	2	3	3				20
CO4	3	3	3	3	1	2	2	2	1	1				21
CO5	3	2	3	2	2	2	2	2	2	1				21
Grand Total of COs with PSOs and POs														100
Mean Value of COs with PSO and POs														2.17

*:S-Strong; M-Medium; L-Low

Mapping Scale	1	2	3
Relation	0.01to1.0	1.01to2.0	2.01to3.0
Quality	Low	Medium	Strong
Meanvalue of COs With PSOs and POs			2.17
Observation	COs of DBMS Strongly related with PSOs and POs		

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR
DEPARTMENT OF IT & M

Class : B.Sc IT&M
Semester : III
Subject Code : 22UITC73

Part : III Core - 7
Hours : 60
Credits : 3

WEB TECHNOLOGY

1. Title of the Paper: WEB TECHNOLOGY

2. Course Educational Objectives (CEO)

- Understand the internet basics and its related technologies
- Understand the Tags in Hyper Text Markup language to design the static webpage
- Understand the importance of client side scripting language in web development
- Understand the fundamentals of server side scripting language to design a dynamic webpage
- Understand the techniques of data manipulation with JDBC Concepts

3. Five Units of the Syllabus

UNIT	Content	No. of Hours
I	Internet Principles: Introduction to Internet - Client Server Model- Protocol - Internet IP Address- Domain Name - Internet Services - Electronic Mail - World Wide Web - Internet Security - ECommerce - EDI.	12
II	Introduction to HTML: HTML Tags - HTML Documents - Headings - Hyperlinks using Anchor Tag-Formatting Characters - Font - Images and Pictures - Listing - Tables in HTML Tags – Frameset: Frame Definition- Nested framesets - HTML Forms – Form Elements	12
III	JavaScript : Data Types - Variables - Operators - Conditional statements using Javascript– Document Objects - Image Objects using Javascript - Forms and Elements - Event Handling - Browser Object -Submit Event and Data Validation -parseInt() Function – parse Float() Function - Recursive Function.	12
IV	Server Side Script with JSP: Client Responsibilities -Server Responsibilities - Introduction to JSP – JSP Architecture - JSP Servers - JSP Tags - Request Object - Response Object - JSP Page.	12
V	JSP with JDBC : Creating ODBC Data Source Name - Introduction to JDBC -Telephone Directory with JDBC -	12

	Servlet Environment and Role - Protocol Support - HTML Support - Servlet Life Cycle - HTML to Servlet Communication	
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4. Book for Study:

- i. C.Xavier, Web Technology and Design, First Edition, New Age International, 2011

5. Book for Reference

- i. H.M.Deitel, P.J.Deitel, Internet and World Wide Web - How to Program", Third Edition, Pearson Publication, 2006.

6. Teaching Learning Methods:

(PPT, GD, Seminar, Quiz programme, Brain Storming, Case Study, Assignments etc.,)

7. Course Outcome (CO)

On Successful completion of the course the students able to

1. Understand the working principles of Internet and its related technologies
2. Apply the HTML tags to develop the static web page
3. Apply the event handling methods in client-side scripting language
4. Understand the features of server-side scripting languages in web development
5. Create dynamic web sites using the knowledge of data manipulating skills.

8. Course Outcome Level (preferable one for each objective)

- CO₁ - K₁ (Knowledge)
CO₂ - K₂ (Understanding)
CO₃ - K₃ (Application)
CO₄ - K₄ (Analysis)
CO₅ - K₅ (Synthesis & Evaluation)

9. Mapping Course outcome with

(i) Programme Specific Objectives -PSO(put tick mark in the correlating box)

(ii) Programme Objectives -PO(put tick mark in the correlating box)

Outcomes	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	Sum of COs with PSOs & POs
CO1	3	2	1		3	3	3	2	1					18
CO2	2	2	3	3	1	2	1	2	2					18
CO3	3	3	2	2		2	1	2	3	3				18
CO4	2	3	2	2	2	2	3	1	2	1				19
CO5	3	3	3	2		3	3	2	1	1				19
Grand Total of COs with PSOs and POs														98
Mean Value of COs with PSO and POs														2.18

*:S-Strong; M-Medium; L-Low

Mapping Scale	1	2	3
Relation	0.01to1.0	1.01to2.0	2.01to3.0
Quality	Low	Medium	Strong
Mean value of COs With PSOs and POs			2.18
Observation	COs of WEB TECHNOLOGY Strongly related with PSOs and POs		

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR – 625 514.

DEPARTMENT OF IT&M

Class : B.Sc IT&M

Part : III Lab-3

Semester : III

Hours : 75

Subject Code : 22UITP33

Credits : 3

PROGRAMMING IN WEB TECHNOLOGY LAB

1. Title of the Paper: PROGRAMMING IN WEB TECHNOLOGY LAB

2. Course Educational Objectives (CEO)

1. Understand the internet basics and its related technologies
2. Understand the Tags in Hyper Text Markup language to design the static webpage
3. Understand the importance of client side scripting language in web development
4. Understand the fundamentals of server side scripting language to design a dynamic webpage
5. Understand the techniques of data manipulation with JDBC Concepts

3. Five Units of the Syllabus

UNIT	Content	No. of Hours
I	HTML Tags - Headings - Hyperlinks using Anchor Tag-Formatting Characters - Font - Images and Pictures - Listing - Tables in HTML Tags – Frameset: Frame - Nested framesets - HTML Forms – Form Elements	12
II	JavaScript - Conditional statements using Javascript–Document Objects - Image Objects using Javascript-Function using Javascript	12
III	Forms and Elements - Event Handling - Browser Object - Submit Event and Data Validation -parseInt() Function – parse Float() Function - Recursive Function.	12
IV	Server Side Script with JSP: Client Responsibilities -Server Responsibilities - - JSP Tags - Request Object - Response Object - JSP Page.	12
V	JSP with JDBC : Creating ODBC Data Source Name - Introduction to JDBC -Telephone Directory with JDBC - Servlet Environment and Role - Protocol Support - HTML Support - Servlet Life Cycle - HTML to Servlet Communication	12

4.Book for Study:

1. C.Xavier, Web Technology and Design, First Edition, New Age International, 2011.

5.Book for Reference

1. H.M.Deitel, P.J.Deitel, Internet and World Wide Web - How to Program", Third Edition, Pearson Publication, 2006.

6. Teaching Learning Methods:

(PPT, GD, Seminar, Quiz programme, Brain Storming, Case Study, Assignments etc.,)

7. Course Outcome (CO)

On Successful completion of the course the students able to

1. Understand the working principles of Internet and its related technologies
2. Apply the HTML tags to develop the static web page
3. Apply the event handling methods in client side scripting language
4. Understand the features of server side scripting languages in web development
5. Create dynamic web sites using the knowledge of data manipulating skills.

8. Course Outcome Level (preferable one for each objective)

- CO₁ - K₁ (Knowledge)
CO₂ - K₂ (Understanding)
CO₃ - K₃ (Application)
CO₄ - K₄ (Analysis)
CO₅ - K₅ (Synthesis & Evaluation)

9. Mapping Course outcome with

i) Programme Specific Objectives –PSO (put tick mark in the correlating box)

ii) Programme Objectives -PO (put tick mark in the correlating box)

Outcomes	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	Sum of COs with PSOs & POs
CO1	3	2	2		3	3	3	2	1					19
CO2	2	2	3	3	1	2	1	2	2					18
CO3	3	2	2	2		2	1	2	3	3				20
CO4	2	3	2	2	1	2	3	1	2	1				19
CO5	3	3	3	2		3	3	2	1	1				21
Grand Total of COs with PSOs and POs														97
Mean Value of COs with PSO and POs														2.16

*:S-Strong; M-Medium; L-Low

Mapping Scale	1	2	3
Relation	0.01to1.0	1.01to2.0	2.01to3.0
Quality	Low	Medium	Strong
Meanvalue of COs With PSOs and POs			2.16
Observation	COs of PROGRAMMING INWEB TECHNOLOGY LAB Strongly related with PSOs and POs		

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR – 625 514.

DEPARTMENT OF IT&M

Class : III T & M
Semester : III
Subject Code : 22UITA33

Part : Allied-3
Hours : 75
Credits : 4

BUSINESS ACCOUNTING

1. Title of the Paper : BUSINESS ACCOUNTING

2. Course Educational Objectives (CEO)

- 1: Knowing the basic concepts and Introduction of Accounts.
- 2: Understanding the importance, rules and Preparation of journal.
- 3: Learning the Ledger and concepts of single entry system.
- 4: Comprehending the concept of main subsidiary books.
- 5: To prepare the final accounts.

3. Five Units of the Syllabus

Unit	Content	No. of Hours
I	Introduction of Accounts Financial Accounting: Definition, objectives, functions, limitations– concepts and conventions –Double entry system of book keeping: Rules.	15
II	Journal Journal: Definition-Objectives–importance–advantages and limitations –rules of Journalizing-Preparation of journal.	15
III	Ledger and Single Entry System Ledger: Definition- Rules – Advantages- Preparation of Ledger- Single Entry System: Concepts - Features - Merits & Demerits- difference between single entry system and double entry system.	15
IV	Subsidiary book Main subsidiary books: purchase book, sales book, purchase return books sales return book, its advantages–Importance, Cash Book– definition – Kinds of cash book, single column, double column.	15
V	Final Accounts Final Accounts (without adjustments):Trading a/c–definition-need- preparation-profit & loss a/c and Balance Sheet.	15

4. Book for Study:

1. Dr.Peer Mohamed and Dr.Shazuli Ibrahim, Advanced Accountancy-I, Pass Publications, 2016.

5. Book for Reference:

1. Jain S.P.and Narang K.L, Financial Accounting, Kalyani Publishers, New Delhi, 2010.
2. Maheswari S.N. and Maheswari S.K., Fundamentals of Accounting, Vikas Publishing House, New Delhi, 2005.

6. Teaching Learning Methods:

(PPT, GD, Seminar, Brain Storming, Case Study, Assignments etc.,)

7. Course Outcome (CO)

On completion of the course, students should be able to

1. Describe the students to know the basic concepts of accounting.
2. Identify the skill stop repairing journal entries.
3. Discover the preparation of Ledger and concepts of single entry system.
4. Discover the knowledge in Preparing subsidiary books and cashbooks.
5. Identify the concepts of final accounts and prepare it.

8. Course Outcome Level (Preferable one for each objective)

CO1 - K₃

CO2 - K₃

CO3 - K₃

CO4 - K₃

CO5 - K₃

9. Mapping Course outcome with

(i) Programme Specific Objectives -PSO(put tick mark in the correlating box)

(ii) Programme Objectives -PO(put tick mark in the correlating box)

Outcomes	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	Sum of COs with PSOs & POs
CO1	3	2	1		3	3	3	2	1					18
CO2	2	2	3	3	1	2	1	2	2					18
CO3	1	2	2	2		2	1	2	3	3				18
CO4	2	3	2	2	1	2	3	1	2	1				19
CO5	3	1	3	2		3	3	2	1	1				19
Grand Total of COs with PSOs and POs														92
Mean Value of Cos with PSO and POs														2.04

*:S-Strong; M-Medium; L-Low

Mapping Scale	1	2	3
Relation	0.01to1.0	1.01to2.0	2.01to3.0
Quality	Low	Medium	Strong
Meanvalue of Cos With PSOs and POs			2.04
Observation	COs of BUSINESS ACCOUNTING Strongly related with PSOs and POs		

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR – 625 514

DEPARTMENT OF IT&M

Class : II IT &M
Semester : III
Subject Code : 22UITN13

Part : NME- 1
Hours : 45
Credits : 2

IMAGE EDITING TOOLS

1. Title of the Paper :IMAGE EDITING TOOLS

2. Course Educational Objectives (CEO)

- 1: Knowing the basic concepts and Introduction of Photoshop
- 2: Empathetic the importance, File Formats and Cropping
- 3: Education the features of Retouching photographs
- 4: Realizing the concept of main adding Clouds and spot lights
- 5:Case Study of applying transformation

3. Five Units of the Syllabus

UNIT	Content	No. of Hours
I	Introduction to Photoshop CS: Image Editing Theory–Photoshop desktop–File Handling– Units & Rulers– Memory and Image Cache–File Browser.	9
II	Image Management: How Images Work – Resolution of Screen Images– How to Open – Duplicate and Save Images. File Formats Roundup–Resampling and Cropping.	9
III	Painting and Retouching: Selecting and Editing Colors–Working in different Color Modes–Brush Size and Shape–Filling selection with Color or Pattern–Retouching photographs.	9
IV	Selections and Paths: Selection Fundamentals–Moving and duplicating Selection–draw and edit path – Filter basics – Noise factors – adding Clouds and spotlights.	9
V	Working with Layers: Layer basics – Moving, Linking, Aligning layers–Applying transformations–Modifying and saving effects–Correcting camera raw images–Organizing images for output.	9

4. Book for Study:

1. Deke McClell and, 2005, Photoshop8 CS Bible- Wiley Dream tech India Pvt Ltd.

5. Book for Reference:

1. Barbara Obermeier, 2010, Photoshop CS5 by Wiley Publishing Inc., Indiana polis, Indiana.

6. Teaching Learning Methods:

(PPT, GD, Seminar, Quiz programme, Brain Storming, Case Study, Assignments etc.,)

7. Course Outcome (CO)

On completion of the course, students should be able to

CO1: Distinguish with basic concepts of Photoshop

CO2: Extend knowledge about the How Images Works

CO3: Locate Retouching photographs

CO4: Describe the Filter basics concepts.

CO5: Discover the Knowledge about the Working with Layers in Flash

8. Course Outcome Level (Preferable one for each objective)

CO1 - K₃

CO2 - K₃

CO3 - K₃

CO4 - K₃

CO5 - K₃

9. Mapping Course outcome with

i. Programme Specific Objectives -PSO(put tick mark in the correlating box)

ii. Programme Objectives-PO(put tick mark in the correlating box)

Outcomes	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	Sum of COs with PSOs & POs
CO1	2	3		1	3	3	3	1	1					17
CO2	3	2	2	3	1		2	3	2					18
CO3	1	3	2	3		2	1	1	2	2				17
CO4	2	2	2	3	1	3	2	2	1					18
CO5	3	3	2	2		1	2	1	2	1				17
Grand Total of COs with PSOs and POs														87
Mean Value of COs with PSO and POs														2.02

*:S-Strong; M-Medium; L-Low

Mapping Scale	1	2	3
Relation	0.01to1.0	1.01to2.0	2.01to3.0
Quality	Low	Medium	Strong
Meanvalue of Cos With PSOs and POs			2.02
Observation	COs of IMAGE EDITING TOOLS Strongly related with PSOs and POs		

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR- 625 514

DEPARTMENT OF IT&M

Class : III T &M
Semester : III
Subject Code : 22UITS13

Part : SBE-1
Hours : 45
Credits : 2

BUSINESS LAW

1. Title of the Paper : BUSINESS LAW

2. Course Educational Objectives (CEO)

- 1: Understanding the basic concepts of Business Law
- 2: Comprehend the essentials of a Valid Acceptance and Need for consideration
- 3: Learning the Void Agreements and Law of Sale of Goods
- 4: Study the concept of Law of Partnerships
- 5: Knowing the kinds of Negotiable and Non Negotiable Instruments

3. Five Units of the Syllabus

UNIT	Content	No. of Hours
I	Introduction to Law of Contract Meaning–Definition–Nature of Contracts–Classification of Contracts–Essential Elements of a Contracts—Contingent Contract–Discharge of Contract —Contract of Indemnity–Contracts of Guarantee.	9
II	Offer and Acceptance and Consideration Offer and Acceptance – Rules governing Offers – Rules governing Acceptance- Essentials of a Valid offer-Essentials of a Valid Acceptance –When does an Offer or Acceptance come to an End- Consideration – Need for Consideration-Essential elements of a valid Consideration—Types of Consideration.	9
III	Void Agreements and Law of Sale of Goods Void Agreements-Expressly declared Void– Contract of Sale of Goods – Essentials of a contract of sale –Distinction between Sale and Agreement to sell–Duties of Buyer and Seller.	9
IV	Law of Partnerships Introduction- Meaning- Characteristics of Partnership kinds of partnership–Registration of Partnership firms –Partnership Deed-Duties and Liabilities of Partners–Dissolution of Partnership.	9

V	Law of Negotiable Instruments Introduction-Meaning-Kinds of Negotiable instruments - Features - Non-Negotiable Instruments –Bill of Exchange–Promissory Note–Cheque-Distinction between Promissory note and Bill of Exchange.	9
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4. Book for Study:

1. N.D.Kapoor, Elements of Mercantile Law–Sultan Chand & Sons, New Delhi-37th Revised Edition, 2015.

5. Book for Reference:

1. L.M.Porwal, Sanjeev Kumar, Business Laws, Vrinda Publication (P) Ltd., Delhi, First Edition, 2006.
2. R.S.N.Pillai and Bagavathi “Business Law, Sultan Chand & Company Ltd, New Delhi, Revised Edition, 2009.

6. Teaching Learning Methods:

(PPT, GD, Seminar, Quiz programme, Brain Storming, Case Study, Assignments etc.,)

7.Course Outcome (CO)

On completion of the course, students should be able to

1. Identify the Basic Concepts different Laws in Business
2. Distinguish the Valid offer and Valid Acceptance
3. Convert the Void Agreements and Sales Agreements
4. Discover the Registration of Partnership firms
5. Distinguish the Negotiable Instruments with Non-Negotiable Instruments

8. Course Outcome Level (Preferable one for each objective)

- CO1 -K₃
CO2 -K₃
CO3 -K₃
CO4 -K₄
CO5 -K₃

9. Mapping Course outcome with

- i. Programme Specific Objectives –**PSO** (put tick mark in the correlating box)
- ii. Programme Objectives –**PO** (put tick mark in the correlating box)

Outcomes	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	Sum of COs with PSOs & POs
CO1	3			2	3	3	3	2	1					17
CO2	2	2	3	2	1		3	2	3					18
CO3	1	2	2	3		3	1	2	1	3				18
CO4	2	3	3	2	1	3		2	2	1				19
CO5	3	3	2	3		2	3	3						19
Grand Total of COs with PSOs and POs														91
Mean Value of Cos with PSO and POs														2.28

*:S-Strong; M-Medium; L-Low

Mapping Scale	1	2	3
Relation	0.01to1.0	1.01to2.0	2.01to3.0
Quality	Low	Medium	Strong
Meanvalue of COs With PSOs and POs			2.28
Observation	COs of BUSINESSSS LAW Strongly related with PSOs and POs		

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR-625 514.

DEPARTMENT OF IT&M

Class : II IT &M
Semester : III
Subject Code : 22UITSL3

Part :Self Learning
Hours :-
Credits :3

SCRIPTING LANGUAGE

1. Title of the Paper: SCRIPTING LANGUAGE

2. Course Educational Objectives (CEO)

- 1: Knowing the basic concepts of HTML
- 2: Getting to Know the Forms & Frame concepts.
- 3: Able to learn DHTML & XML
- 4: Able to learn Basic Java Script.
- 5: Able to learn the Basic PHP concepts.

3. Five Units of the Syllabus

UNIT	Content	No. of Hours
I	Introduction to HTML: –Outline of HTML Document –Head Section: Link– Base–Meta–Script–Style. HTML Body Section: Headers–Paragraphs–Text Formatting–Linking.	-
II	HTML Other Tags: Embedding Images –HTML Lists–Tables–Frames–Forms other special Tags and Characteristics.	-
III	DHTML & XML: CSS – coding CSS–Property of Tags–Property values–Backgrounds – DHTML DOM and Collections. XML: Introduction–HTML vs XML–Syntax of XML Document–XML Attributes–Validations.	-
IV	Java Script: Need for a Scripting Language–Language Elements: Identifiers, Expressions, Java Script Keywords, Operators, Functions. Objects of Java Script: The Window Object, Document Object, Forms Object.	-
V	PHP: Introduction–PHP tags–Comments–Print and echo Statements–Variables–Data Types–Arrays –User defined Functions.	-

4. Book for Study:

1. N .P. Gopalan 2014, Web Technology – A Developer’s Perspective, PHI Learning Private Limited, Delhi–110092.

5. Book for Reference:

1. Thomas A Powell, 2006, “HTML: The Complete Reference”, Osborne/McGraw-Hill.

6. Teaching Learning Methods:

(PPT, GD, Seminar, Quiz programme, Brain Storming, Case Study, Assignments etc.,)

7.Course Outcome (CO)

On completion of the course, students should be able to

- 1:Distinguish Strong knowledge about the HTML Features.
- 2:Demonstrate the Forms &Frame concepts.
- 3:Illustrate the CSS using DHTML & XML.
- 4:Discover the Knowledge about the Working with Java Script.
- 5:Relate Work with PHP concepts.

8. Course Outcome Level (Preferable one for each objective)

- CO1 -K₃
CO2 -K₃
CO3 -K₃
CO4 -K₃
CO5 -K₃

9. Mapping Course Outcome with

- i. Programme Specific Objectives -**PSO**(put tick mark in the correlating box)
- ii. Programme Objectives -**PO**(put tick mark in the correlating box)

Outcomes	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	Sum of COs with PSOs & POs
CO1	2	3	3		2	3	2	1	2					18
CO2	3	2	3	2	3	2	1	1	1					18
CO3	2	3	2	3		1	2	1	2	2				18
CO4	3	2	2	2	1	1	2	1	2	2				18
CO5	2	3	3	2		3	1	2	2	1				19
Grand Total of COs with PSOs and POs														91
Mean Value of COs with PSO and POs														2.02

Strong-3, Medium-2 & Low-1

Mapping Scale	1	2	3
Relation	0.01to1.0	1.01to2.0	2.01to3.0
Quality	Low	Medium	Strong
Meanvalue of COs with PSOs and POs			2.02
Observation	COs SCRIPTING LANGUAGE Strongly related with PSOs and POs		

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR – 625 514

DEPARTMENT OF IT&M

Class : II IT &M
Semester : IV
Subject Code : 22UITC84

Part : Core-8
Hours : 60
Credits : 4

ORGANIZATIONAL BEHAVIOUR

1. Title of the Paper: ORGANIZATIONAL BEHAVIOUR

2. Course Educational Objectives (CEO)

- 1: Understanding the basic concepts of Organizational Behaviour and Perception
- 2: Knowing the Principals of Learning and Functions of Attitude
- 3: Studying the types of Group and sources of Stress
- 4: Impart the Knowledge of theories of Motivation and Resolving Conflict
- 5: Comprehending the importance of organizational change and Pre-requisites for OD

3. Five Units of the Syllabus

UNIT	Content	No. of Hours
I	Introduction of Organizational Behaviour Organizational Behaviour–Definition-Nature and Scope–Need–Perception Process, determinants, factors affecting perception	12
II	Individual Behaviour Individual Behaviour–Personality–Concept Determinants–Types, Learning–Definition–Classical conditioning–Principles of learning–Attitudes–Formation of attitudes–Functions of attitudes.	12
III	Group Behaviour and Motivation Group behavior–Definition–Characteristics–Types–Reasoning for joining in group –Stages of group formation–Group norms–Group cohesion–Group decision making–Motivation–Definition and meaning–Maslow’s Theory Herzberg Theory.	12
IV	Organizational conflict and Stress Management Conflict–Definition–Sources, types, Resolving Conflicts. Stress–Meaning and definition–Causes of stress, Sources of stress–Overcoming the stress.	12
V	Organizational change and Development Organizational change–Need for organizational changes, types of changes–Resistance to change managing resistance to change–Organizational Development–objectives of OD – Characteristics of OD.	12

4. Book for Study:

1. K. Aswathappa "Organizational Behaviour", Himalaya publishing House Pvt. Ltd., Mumbai, Ninth Revised Edition, 2010.

5. Book for Reference:

1. L. M. Prasad "Organizational Behaviour", Sultan Chand & Sons, NewDelhi-4th Revised Edition, 2006.
2. S. S. Khanka, "Organizational Behaviour", Sultan Chand & Sons, NewDelhi-3rd Edition, 2005.

6. Teaching Learning Methods:

(PPT, GD, Seminar, Quiz programme, Brain Storming, Case Study, Assignments etc.,)

7. Course Outcome (CO)

On completion of the course, students should be able to

1. Describe the Basic Concepts of Organizational Behaviour
2. Discover learning skills and attitudes
3. Distinguish the different Groups and Norms
4. Compare the theories of Motivation and Resolving Conflict
5. Infer the Organizational Development and Organizational Resistance

8. Course Outcome Level (Preferable one for each objective)

CO1 - K₃

CO2 - K₄

CO3 - K₃

CO4 - K₃

CO5 - K₃

9. Mapping Course Outcome with

i. Programme Specific Objectives –PSO (put tick mark in the correlating box)

ii. Programme Objectives-PO (put tick mark in the correlating box)

Outcomes	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	Sum of COs with PSOs & POs
CO1	3	3		1	2	3	3	3	1					19
CO2	2	2	2	3	1	2	3		3	1				19
CO3	2	2	2	3		3	1	2	1	3				19
CO4	2	3	3	2	3		2	1	3	1				20
CO5	3	2	3	3		3		2	3	1				20
Grand Total of COs with PSOs and POs														97
Mean Value of COs with PSO and POs														2.26

*:S-Strong; M-Medium; L-Low

Mapping Scale	1	2	3
Relation	0.01to1.0	1.01to2.0	2.01to3.0
Quality	Low	Medium	Strong
Meanvalue of COs With PSOs and POs			2.26
Observation	COs of ORGANIZATIONAL BEHAVIOUR Strongly related with PSOs and POs		

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR-625 514

DEPARTMENT OF IT&M

Class : III IT &M
Semester : IV
Subject Code : 22UITC94

Part : III Core-9
Hours : 75
Credits : 04

COMPUTER NETWORKS

1. Title of the Paper: COMPUTER NETWORKS

2. Course Educational Objectives (CEO)

- 1: To be familiar with basic concepts of Communication and Networking.
- 2: Impart the knowledge Transmission Media and its types.
- 3: Know about the Error Correction and Detection.
- 4: To gain comprehensive knowledge about Connecting Devices.
- 5: To be aware of Security and Cryptography.

3. Five Units of the Syllabus

UNIT	Content	No. of Hours
I	Introduction Introduction to data communication and networking – Data Communication - Classification of Network - Protocols and Standards – Standards Organizations –Internet Standards -TCP/IP Protocol Suites –OSI Reference Model.	15
II	Layers in Networks Physical Layer – Data Link Layer – Transport Layer – UDP. Transmission Media: Guided Media – Unguided Media and its Applications.	15
III	Connecting Devices Passive Hubs - Repeaters –Active Hubs –Bridges –Routers – Distance Vector Routing Algorithm – Link State Routing –Gateway – Shortest Path Routing.	15
IV	Errors Introduction about Errors - Types of Errors, Detection - Parity Check –Vertical Redundancy Check –Longitudinal Redundancy Check –Cyclic Redundancy Check –Checksum –Error Correction.	15
V	Security Cryptography - Two Categories–SYMMETRIC-KEYCRYPTOGRAPHY: Traditional Ciphers - Simple Modem Ciphers -Modern Round Ciphers - Mode of Operation.	15

4. Book for Study:

1. Behrouz A Foruzan, "Data Communications and Networking" 4th Edition, Tata Mc Graw-Hill, 2009.

5. **Book for References:**

1. Andrew S.Tanenbaun, "Computers Networks", 4th Edition, Pearson Prentice Hall, 2009.

6. **Teaching Learning Methods:**

(PPT, GD, Seminar, Quiz Programme, Brain Storming, Case Study, Assignment etc.)

7. **Course Outcome (CO)**

On completion of the course, students should be able to

CO1: Describe the basic concepts of Communication and Networking.

CO2: Discover the knowledge about the Transmission Media.

CO3: Solve the Error Detection and Correction. CO4: Manipulate the Connecting Devices.

CO5: Discriminate about the Security.

8. **Course Outcome Level** (preferable one for each objective)

CO₁ - K₃

CO₂ - K₃

CO₃ - K₃

CO₄ - K₄

CO₅ - K₃

9. **Mapping Course Outcome with**

1. Programme Specific Objectives –PSO (put tick mark in the correlating box)

2. Programme Objectives –PO (put tick mark in the correlating box)

Mapping of COs with PSOs and POs

Outcomes	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	Sum of COs with PSOs & Pos
CO1	3	3	1	2		3	3	3	2					20
CO2	3	3	3	2	1	3	3	3	1					22
CO3	2	3	2	3	2	2	3	1	3	2				23
CO4	2	3	3	2		2	2	2	2	1				19
CO5	3	3	2	2	3	3	2	2	2	1				23
Grand Total of COs with PSOs and PO														107
Mean Value of COs with PSO and PO														2.33

Strong-3, Medium-2 & Low-1

Mapping Scale	1	2	3
Relation	0.01to1.0	1.01to2.0	2.01to3.0
Quality	Low	Medium	Strong
Meanvalue of COs with PSOs and POs			2.33
Observation	COs of COMPUTER NETWORKS Strongly related with PSOs and PO		

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR – 625 514

DEPARTMENT OF IT&M

Class : IIIIT &M
Semester : IV
Subject Code : 22UITD04

Part : Core– 10
Hours : 60
Credits : 2

DOT NET PROGRAMMING

1. Title of the Paper : DOT NET PROGRAMMING

2. Course Educational Objectives (CEO)

- i. Understand Visual C# Features, Environment and Controls.
- ii. Understand C# Essentials and Tokens.
- iii. Able to code in C# Environment
- iv. Able to learn working with C# and Database.
- v. Able to learn web forms.

3. Five Units of the Syllabus

Unit	Content	No. of Hours
I	C# Introduction and Controls Introduction: C# and other Languages – Installing Visual C# - IDE – Your First Application – Toolbox – property Editor -Visual C# forms – events –setting properties in code – A C# adding machine – Dealing with errors. Controls: Methods- Buttons, Labels, Text, picture boxes, Check & Radio Boxes - Group, List, Combo boxes - Timer, Open File Dialog and Tab Control- Splitter Control-Using Toolbar-Month Calendar Control.	12
II	C# Essentials Language Essentials: Parts of C# file – Data types-function and Parameters – variables & scope – IF...Else, do and while, for loops, switch – Arrays, Structs, Usingenum, Understanding reference types-working with parameters. Visual Studio Tools: Creating, Customizing a menu, Pop-up menu-outlining& Auto insertion- using Clip board ring – using Find – Debugger –breakpoints – Customizing Tool box – Using Add-in Manager – Setting Visual C# Options–Project Properties- creating Stand Alone applications.	12
III	C# Techniques Catching errors with exceptions – user validation-Use tool tips-Printing with Visual C# - Managing multiple forms- Introducing MDI – Starting C# application – How to read and write a file- Drawing Graphics – Creating a shared Event Handler–Interrupt With Do Events-Using a Setup Project.	12

IV	Creating Database Programs Introducing Databases- creating Databases with access- Designing a table-Data form Wizard – Improving Data Form- Disconnected data – Data base objects–Showing data in Grid- Styling a Data grid-Dealing with large database-Copying record to clipboard-creating and showing a report.	12
V	Running C# on the Internet Introducing Web Forms- Creating a Web Form – How web Forms Work - Web Forms Toolbox-The page Class and code-behind-The Load event and is Post Back –The Session object-ASP.Net and Database-Showing data in a Data Grid.	12

4. Book for Study:

Tim Anderson, “C# Programming in easy steps”, Dream Tech Press, New Delhi – 02.

Unit–I:**Chapters 1,2** pages 08 -20 & 28 –47,

Unit–II:**Chapters 4,5** pages 51-73 & 96 -115

Unit–III:**Chapters 6** Pages118–140,

Unit–IV:**Chapters 7** Pages146-169

Unit–IV:**Chapters 8**,Pages 172 –187

5. Book for References:

1. Christian Nagel, Bill Evjen, Jay Glynn, Karli Wats, Morgan Skinner, Allen Jones, 2005- PROFESSIONAL C# WITH .NET3.0-By –Copyright John Wiley.
2. Rudrakash Batra, Charual Shukla-ASP.NET2.0 Black Book-Dream Tech Press, New Delhi– 110002.

6. Teaching Learning Methods:

(PPT, GD, Seminar, Quiz Programme, Brain Storming, Case Study, Assignment etc.)

7. Course Outcome (CO)

On completion of the course, students should be able to

- 1: Utilize the knowledge about ASP C# Dot Net Environments.
- 2: Apply the basics of C# Essentials (Tokens, control structures).
- 3: Compute the knowledge about C# Techniques (Error Handling, Multiple Forms, Graphics)
- 4: Ability to create &Connect Data base using C#.
- 5: Design Web Forms and web Pages.

8. Course Outcome Level (preferable one for each objective)

CO1	-	K ₃
CO2	-	K ₃
CO3	-	K ₄
CO4	-	K ₃
CO5	-	K ₃

9. Mapping Course outcome with

- i. Programme Specific Objectives –**PSO** (put tick mark in the correlating box)
- ii. Programme Objectives –**PO** (put tick mark in the correlating box)

Mapping of COs with PSOs and POs

Outcomes	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	Sum of COs with PSOs & POs
CO1	3	2	3	2		3	2	2	1					18
CO2	2	2	2	2	1	2	2	2	2	2				19
CO3	2	3	2	3	3	2	2	1	2	2				22
CO4	3	2	3	3	1	3	3	2		1				21
CO5	3	3	2	2		3		3	3	2				21
Grand Total of COs with PSOs and PO														101
Mean Value of COs with PSO and PO														2.24

Strong-3, Medium-2 & Low-1

Mapping Scale	1	2	3
Relation	0.01to1.0	1.01to2.0	2.01to3.0
Quality	Low	Medium	Strong
Meanvalue of COs with PSOs and POs			2.24
Observation	COs of DOT NET PROGRAMMING Strongly related with PSOs and PO		

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR – 625 514

DEPARTMENT OF IT&M

Class : III IT&M
Semester : IV
Code : 22UITPA44

Part : III Lab-4
Hours : 75
Credit : 03

PROGRAMMING IN DOT NET LAB

1. Title of the Paper: PROGRAMMING IN DOT NET LAB-5

2. Course Educational Objectives (CEO)

- i. Understand Visual C# Features, Environment and Controls.
- ii. Understand C# Essentials and Tokens.
- iii. Able to code in C# Environment
- iv. Able to learn working with C# and Database.
- v. Able to learn web forms.

3. Five Units of the Syllabus

Unit	Content	No. of Hours
I	Your First Application–Visual C# forms–Using Tool Box controls:	12
II	Using Function and Parameters–IF...Else, do and while, for loops, switch –Arrays, Structs, Usingenum.	15
III	Design Stylish attractive Menus –AD Rotator– Rotation Animation– Using CSS, Attractive Background Design.	18
IV	Creating Databases with access- Designing a table- Using Grid View - Using Data List -Using Details View - Using Form View - Using List View –Using Repeater & Data Pager.	16
V	Creating a Web Form- Web Forms Tool box-Using Session objects	14

4. Book for Study:

Tim Anderson, “C# Programming in easy steps”, Dream Tech Press, New Delhi –02.

5. Book for References:

1. Christian Nagel, Bill Evjen, Jay Glynn, Karli Wats, Morgan Skinner, Allen Jones, 2005-
PROFESSIONAL C# WITH.NET3.0-By –Copyright John Wiley.
2. Rudrakash Batra, Charual Shukla-ASP.NET2.0 Black Book-Dream Tech Press, New
Delhi–110002.

6. Teaching Learning Methods:

(PPT, GD, Seminar, Quiz Programme, Brain Storming, Case Study, Assignment etc.)

7. Course Outcome (CO)

On completion of the course, students should be able to

- 1: Compose the knowledge about ASP C# Dot Net Environments.
- 2: Apply the basics of C# Essentials (Tokens, control structures).
- 3: Utilize knowledge about C# Techniques (Error Handling, Multiple Forms, Graphics)
- 4: Create & Connect Database using C#.
- 5: Construct Web Forms and web Pages.

8. Course Outcome Level (preferable one for each objective)

CO ₁	-	K ₃
CO ₂	-	K ₄
CO ₃	-	K ₃
CO ₄	-	K ₃
CO ₅	-	K ₃

9. Mapping Course Outcome with

i. Programme Specific Objectives-PSO (put tick mark in the correlating box)

ii. Programme Objectives-PO (put tick mark in the correlating box)

Mapping of COs with PSOs and POs

Outcomes	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	Sum of COs with PSOs & Pos
CO1	3	3	3	3		3	3	3	1					22
CO2	2	2	3	3	2	2	2	3	3	2				24
CO3	2	3	2	2	3	2	3	2	3	2				24
CO4	3	2	3	3	2	3	3	3	2	1				25
CO5	3	3	3	2	2	3	1	2	3	3				25
Grand Total of COs with PSOs and PO														120
Mean Value of COs with PSO and PO														2.5

Strong-3, Medium-2 & Low-1

Mapping Scale	1	2	3
Relation	0.01to1.0	1.01to2.0	2.01to3.0
Quality	Low	Medium	Strong
Meanvalue of COs with PSOs and POs			2.5
Observation	COs of PROGRAMMING IN DOT NET LAB -5 Strongly related with PSOs and PO		

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR-625 514

DEPARTMENT OF IT&M

Class : ITM

Part : Allied - 4

Semester : IV

Hours : 75

Subject Code : 22UITA44

Credits : 4

WEB MARKETING

1.Title of the Paper: WEB MARKETING

2. Course Educational Objectives (CEO)

- 1: Understand the Digital Marketing basics.
- 2: Able to ranking, searching your web data through SEO.
- 3: Understand the various social media platforms
- 4: Understand how to influence business through web marketing.
- 5: Understand the techniques of video advertising.

3. Five Units of the Syllabus

UNIT	Content	No. of Hours
I	Introduction to Digital Marketing Principles of Digital Marketing- Digital Marketing Channels- Tools to Create Buyer Persona- Competitor Research Tool- Website Analysis Tools	15
II	Search engine optimization Search Engine Optimization fundamentals -Keywords and SEO- Content Plan SEO and Business Objectives -Writing SEO Content -On-site and Off-site SEO Optimize -Organic Search Ranking	15
III	Social Media Marketing Major Social Media Platforms for Marketing- Developing Data-driven Audience & Campaign Insights- social media for Business- Creation & Optimization of Social Media Campaigns	15
IV	Influencer Marketing Content Marketing Concepts & Strategies- Planning, Creating, Distributing and Promoting Content- Optimize Website UX and Landing Pages- Measure Impact- Metrics & Performance Using Content Research for Opportunities	15
V	Video Advertising Creating Video Campaigns-Measurement and Optimization- Creating and Managing a YouTube Channel- Targeting Video Campaigns- Digital Marketing Budget and Plan;- Resource Planning- Cost Estimating- Cost Budgeting-Cost Control	15

4.Book for Study:

- i. <https://leverageedu.com/blog/digital-marketing-course-syllabus/>

5.Book for Reference

- i. <https://collegedunia.com/courses/digital-marketing/syllabus#a>

6.TeachingLearningMethods:

(PPT, GD, Seminar, Quiz programme, Brain Storming, Case Study, Assignments etc.,)

7.Course Outcome (CO)

On Successful completion of the course the students able to

- Translate some of the key marketing and business models that will help to shape your Web marketing strategy.
- Outline an approach to developing a Web marketing plan
- Explain the key web marketing activities needed for competitive success
- Discuss the opportunities and risks of integrated web marketing
- Knowledge about Video advertising.

7. Course Outcome Level (preferable one for each objective)

CO ₁	-	K ₃
CO ₂	-	K ₄
CO ₃	-	K ₃
CO ₄	-	K ₃
CO ₅	-	K ₃

8. Mapping Course Outcome with

- Programme Specific Objectives-PSO (put tick mark in the correlating box)
- Programme Objectives-PO (put tick mark in the correlating box)

Mapping of COs with PSOs and POs

Outcomes	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	Sum of COs with PSOs & POs
CO1	3	3	3	3		3	3	3	1					22
CO2	2	2	3	3	2	2	2	3	3	2				24
CO3	2	3	2	2	3	2	3	2	3	2				24
CO4	3	2	3	3	2	3	3	3	2	1				25
CO5	3	3	3	2	2	3	1	2	3	3				25
Grand Total of COs with PSOs and PO														120
Mean Value of COs with PSO and PO														2.5

Strong-3, Medium-2 & Low-1

Mapping Scale	1	2	3
Relation	0.01to1.0	1.01to2.0	2.01to3.0
Quality	Low	Medium	Strong
Meanvalue of COs with PSOs and POs			2.5
Observation	COs of Web Marketing Strongly related with PSOs and PO		

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR – 625 514
DEPARTMENT OF IT&M

Class : II
Semester : IV
Subject Code : 22UITN24

Part : IV NME-2
Hours : 45
Credits : 2

ETHICAL HACKING

1. Title of the Paper: ETHICAL HACKING

2. Course Educational Objectives (CEO)

- 1: Understanding the basic Ethical Hacking types.
- 2: Discriminate Foot printing process.
- 3: Understanding the Social Engineering and Phishing Types.
- 4: Able to learn various Hacking Methods.
- 5: Able to learn various protection systems.

3. Five Units of the Syllabus

UNIT	Content	No. of Hours
I	Introduction to Ethical Hacking: Ethical Hacking Overview, Types of Hacking, Advantages of Hacking, Disadvantages of Hacking, Hacker types.	9
II	Reconnaissance & Foot Printing: Reconnaissance overview Active, Passive Reconnaissance. Foot Printing Overview Domain Name Information - Finding IP Address - Finding Hosting Company - IP Address Ranges - History of the Website.	9
III	Social Engineering, Phishing & DoS: Social Engineering Overview - Social Engineering Types. Phishing introduction – Phishing types. Denial Of Service Overview – DoS Attack Symptoms – Counter measures against DoS.	9
IV	Ethical Hacking & Hijacking System Hacking, Hacking Web Application, Hacking Web Servers, Session Hijacking, Hacking Wireless Networks, Hacking Mobile Platforms.	9
V	Network Protection Systems Understanding Routers – Firewalls – Intrusion detection and Prevention systems – Web Filtering – Security Incident response team – Honey Pots.	9

4. Book for Study:

1. “Hands-On Ethical Hacking and Network Defense” Michael T. Simpson, Kent Backman, and James E. Corley, ISBN-13: 978-1-133-93561-2, Course Technology, a part of Cengage Learning, 20 Channel, Center Street Boston, MA 02210 USA.

5. Link for Web Reference:

1. https://www.tutorialspoint.com/ethical_hacking/ethical_hacking_wireless.htm
2. <https://www.w3schools.in/ethical-hacking>

6. Teaching Learning Methods:

(PPT, GD, Seminar, Quiz programme, Brain Storming, Case Study, Assignments etc.,)

8. Course Outcome (CO)

1. Understand the Ethical Hacking types.
2. Applying the knowledge of foot printing to display IP address, Web Location and etc.
3. Knowledge about various phishing and Social Engineering types.
4. Knowledge on the various Hacking methods.
5. knowledge on the protection Systems

9. Course Outcome Level (Preferable one for each objective)

CO1 - K₃
 CO2 - K₃
 CO3 - K₃
 CO3 - K₃
 CO3 - K

10. Mapping Course Outcome with

- i. Programme Specific Objectives –PSO (put tick mark in the correlating box)
- ii. Programme Objectives –PO (put tick mark in the correlating box)

Outcomes	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	Sum of COs with PSOs & POs
CO1	3	3	1	2		3	3	3	2					20
CO2	3	3	3	2	1	3	3	3	1					22
CO3	2	3	2	2	2	2	3	1	3	2				22
CO4	2	2	2	1		2	2	2	2	1				16
CO5	3	3	2	2	3	3	2	2	2	1				23
Grand Total of COs with PSOs and PO														103
Mean Value of COs with PSO and PO														2.24

Strong-3, Medium-2 & Low-1

Mapping Scale	1	2	3
Relation	0.01to1.0	1.01to2.0	2.01to3.0
Quality	Low	Medium	Strong
Meanvalue of COs with PSOs and POs			2.24
Observation	COs of Ethical Hacking Strongly related with PSOs and PO		

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR – 625 514

DEPARTMENT OF IT&M

Class : IIIT &M
Semester : IV
Subject Code : 22UITS24

Part : SBE-2
Hours : 45
Credits : 2

BUSINESS STATISTICS

1. Title of the Paper: BUSINESS STATISTICS

2. Course Educational Objectives (CEO)

1. Understanding the basic concepts and Introduction of Statistics.
2. Knowing the importance of collection of data.
3. To understand and to calculate various Measures of central tendency.
4. To study the concepts of set theory.
- 5: To learn the methods of Time Series Analysis.

3. Five Units of the Syllabus

UNIT	Content	No. of Hours
I	Introduction to Statistics: Introduction; Statistics and Statistical Methods; Definition-characteristics- Functions of Statistics-Scope-Limitations of Statistics-Statistics in Business and Management-Distrust of statistics.	9
II	Collection of Data: Primary and secondary data; methods of collecting primary data, Questionnaire – Concepts, Specimen of questionnaire, Principles-qualities of good questionnaire, sources of secondary data.	9
III	Measure of Central Tendency: Introduction; Measures of Central Tendency. Definition, objectives, types of average, Mean, Median and Mode, simple arithmetic mean: Individual observation, discrete series, and continuous series, Median: Individual observation, discrete series, continuous series, Mode-individual observation.	9
IV	Set Theory: Introduction; Concepts of Set theory; Representation of sets, types of sets, set operations, union of sets, intersection of sets, difference of two sets, complement of set.	9
V	Time Series Analysis: Introduction-Concepts and definition of Time Series; Importance, Uses – Components-Measurement of secular trend; Graphic method, semi average method, moving average method (not even periods).	9

4. Book for Study:

1. K Alagar, Business Statistics, Mc Graw Hill Education (india) Private Limited, New Delhi.
2. S.A. N. Shazuli Ibrahim, Business Statistics, Pass Publication, Madurai.

5. Book for Reference:

- i. Pillai R.S.N. and Bagavathi, Statistics-Theory and Practice, S.Chand and Company Pvt. Ltd New Delhi.
- ii. V.Sunderesan, Business Mathematics, S.Chand and Company Pvt. Ltd, New Delhi.

6. Teaching Learning Methods:

(PPT, GD, Seminar, Brain Storming, Case Study, Assignments etc.,)

7. Course Outcome(CO)

On completion of the course, students should be able to

1. Illustrate the students to know the basic concepts of Statistics.
2. Describe the concept about data classification and Data Collection Methods.
3. Discover to Knowing the techniques of measures of central tendency.
4. Identify the knowledge in set theory.
5. Discover concepts of Variations in Time Series.

8. Course Outcome Level (Preferable one for each objective)

CO1	-	K ₃
CO2	-	K ₃
CO3	-	K ₃
CO4	-	K ₃
CO5	-	K ₃

9. Mapping Course Outcome with

- i. Programme Specific Objectives –**PSO** (put tick mark in the correlating box)
- ii. Programme Objectives -**PO** (put tick mark in the correlating box)

Outcomes	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	Sum of COs with PSOs & POs
CO1	3	2	1		2	2	3	2	1	2				18
CO2	3	3	3	3	2	2	1	2		1				20
CO3	2	3	3	3		3	1	3	2					20
CO4	3	2	2	2	3	3	2	2	1	1				21
CO5	3	3	3	3		1	3	2	2	1				21
Grand Total of COs with PSOs and POs														100
Mean Value of COs with PSO and POs														2.22

*:S-Strong; M-Medium; L-Low

Mapping Scale	1	2	3
Relation	0.01to1.0	1.01to2.0	2.01to3.0
Quality	Low	Medium	Strong
Meanvalue of COs With PSOs and POs			2.22
Observation	COs of BUSINESS STATISTICS Strongly related with PSOs and POs		

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR – 625 514.

DEPARTMENT OF IT&M

Class : U.G.(SFC)

Semester : IV

Subject Code : 22UITSL6

Part : Self Learning

Hours :--

Credits : 03

STRESS MANAGEMENT

1. Title of the Paper: STRESS MANAGEMENT

2. Course Educational Objectives (CEO)

1. Understanding the basic concepts and Introduction of Stress.
2. Knowing the importance of stress influence.
3. To understand the stress effects.
4. To study the various stress influence concepts.
5. To learn the methods of Employer.

3. Five Units of the Syllabus

UNIT	Content	No. of Hours
I	Introduction-causes of Stress–Symptoms-Potential Sources of Stress –Stress Level – Stress Types.	-
II	Stress and its influences on Employee Behavior– Key time Working-Flexibility –Multi Skilling– Sources of work Stress.	-
III	Stress and its effects on employee changes – Effects on Management–Stress Management Strategies–Managing Stress & Reducing the Stress.	-
IV	Influence of stress on occupation – Physiological influences – Coping with Stress–Coping Mode-Burn Out–Causes–Symptoms-Reducing Burn Out.	-
V	Violence at work - Employer Welfare–Stress Interview–Administering the Interview	-

4. Book for Study:

- 1) Dr.Andrew Goliszek, “Stress Management”, Magna Publishing Company Limited, Chennai.

5. Book for Reference:

- 1) Barry L.Reece & Rhonda Brandt, “Effective Human relations in Organisations”, 1997, VI Edition, All India Publishers & Distributors, Chennai.
- 2) Prasad L.M, “Organisation Behaviour”, Sultan Chand & Sons, New Delhi.

6. Teaching Learning Methods:

(PPT, GD, Seminar, Brain Storming, Case Study, Assignments etc.,)

7. Course Outcome (CO)

On completion of the course, students should be able to

1. Illustrate the causes of stress.
2. Describe the concept about Employee Behaviour.
3. Discover to reduce the stress Management.
4. Discover the techniques to rectify the stress.
5. Identify the knowledge of employer welfare.

8. Course Outcome Level (Preferable one for each objective)

CO1	-	K ₃
CO2	-	K ₃
CO3	-	K ₃
CO4	-	K ₃
CO5	-	K ₃

9. Mapping Course Outcome with

- i. Programme Specific Objectives -PSO(put tick mark in the correlating box)
- ii. Programme Objectives -PO (put tick mark in the correlating box)

Outcomes	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	Sum of COs with PSOs & POs
CO1	3	2	1		2	2	3	2	1	2				18
CO2	3	3	3	3	2	2	1	2		1				20
CO3	2	3	3	3		3	1	3	2					20
CO4	3	2	2	2	3	3	2	2	1	1				21
CO5	3	3	3	3		1	3	2	2	1				21
Grand Total of COs with PSOs and POs														100
Mean Value of COs with PSO and POs														2.22

*:S-Strong; M-Medium; L-Low

Mapping Scale	1	2	3
Relation	0.01to1.0	1.01to2.0	2.01to3.0
Quality	Low	Medium	Strong
Meanvalue of COs With PSOs and POs			2.22
Observation	COs of Stress Management Strongly related with PSOs and POs		

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR
DEPARTMENT OF IT & M
OBE SYLLABUS (From 2019-2020 onwards)

V SEMESTER				
III	19UITD05	Core - 10 Data Communication & Computer Networks	5	5
	19UITD15	Core – 11 Research Methodology	5	4
	19UITD25	Core – 12 Marketing Management	5	4
	19UITD35	Core – 13 Dot Net Programming	5	4
	19UITP55	Programming in Dot Net Lab - 5	5	4
	19UITE15	Core Elective - 1 Human Resource Management	4	3
IV	19USSI16	Soft Skills	1	
		Total	30	24
VI SEMESTER				
III	19UITD46	Core – 14 Mobile Application Development	6	5
	19UITP66	Android Programming Lab - 6	6	5
	19UITD56	Core – 15 Advertising and Salesmanship	6	5
	19UITD66	Core – 16 Entrepreneurship Development	6	5
	19UITE26	Core Elective – 2 Cloud Computing	4	3
IV	19UITD76	Project / Internship	1	1
	19USSI16	Soft Skills	1	2
		Total	30	26

Semester	I	II	III	IV	V	VI	TOTAL
Credits	24	24	22	24	24	26	144*

Non-Major Electives

For Non-Science Students : Image Editing Tools

For Science Students : Animation

Self-Learning Course

Semester	Subject Code	Title of the Paper	Credits
Semester-III	19UITSL3	Scripting Languages	3
Semester-IV	19UITSL4	Stress Management	3
Semester-V	19UITSL5	Cyber Security	3
Semester-VI	19UITSL6	Export and Import Management	3

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR – 625 514

(Reaccredited by NAAC with "A" Grade with a CGPA of 3.66)

DEPARTMENT OF IT & M

Programme Specific Outcome (PSO)

1. An ability to learn current techniques and modern tools necessary to develop the software applications, business.
2. An ability to identify, analyze, formulate and solve technical problems by applying principles of Information Technology and Management to the problem.
3. An ability to take up multidisciplinary projects and to carry out it as per industry standards.
4. An ability to understand and apply the technical solutions in a global and social context.
5. An ability to understand and practice professional, ethical, legal, and social responsibilities as a matured citizen.

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR
DEPARTMENT OF IT & M

Class : III IT & M

Part : III Core-10

Semester : V

Hours : 75

Subject Code : 19UITD05

Credits : 05

DATA COMMUNICATION & COMPUTER NETWORKS

1. Title of the Paper: DATA COMMUNICATION & COMPUTER NETWORKS

2. Course Educational Objectives (CEO)

- 1: To be familiar with basic concepts of Communication and Networking.
- 2: Impart the knowledge Transmission Media and its types.
- 3: Know about the Error Correction and Detection.
- 4: To gain comprehensive knowledge about Connecting Devices.
- 5: To be aware of Security and Cryptography.

3. Five Units of the Syllabus

UNIT	Content	No. of Hours
I	Introduction Introduction to data communication and networking: Data Communication, Classification of Network, Protocols and Standards, Standards Organizations, Internet Standards, TCP/IP Protocol Suites, ISO-OSI Reference Model, Transmission modes, Applications of data communication.	15
II	Transmission Media Guided Media (Twisted-Pair, Coaxial, Fiber-Optic Cable), Unguided Media and its Applications (Radio Waves, Microwaves, Infrared), Define Switching, Taxonomy of Switched Networks.	15
III	Error Detection and Correction Introduction about Errors, Types of Errors, Detection, Parity Check, Vertical Redundancy Check, Longitudinal Redundancy Check, Cyclic Redundancy Check, Checksum, Error Correction.	15
IV	CONNECTING DEVICES Passive Hubs, Repeaters, Active Hubs, Bridges, Routers, Distance Vector Routing Algorithm, Link State Routing, Gateway.	15
V	Security Cryptography: Cryptography, Two Categories, SYMMETRIC-KEY CRYPTOGRAPHY: Traditional Ciphers, Simple Modem Ciphers, Modern Round Ciphers, Mode of Operation. FIREWALLS: Packet-Filter Firewall, Proxy Firewall.	15

4. Book for Study:

1. Behrouz A Foruzan, "Data Communications and Networking" 4th Edition, Tata McGraw-Hill, 2009.

5. Book for References:

1. Andrew S. Tanenbaun, "Computers Networks", 4th Edition, Pearson Prentice Hall, 2009.

6. Teaching Learning Methods:

(PPT, GD, Seminar, Quiz Programme, Brain Storming, Case Study, Assignment etc.)

7. Course Outcome (CO)

On completion of the course, students should be able to

CO1: Describe the basic concepts of Communication and Networking.

CO2: Discover the knowledge about the Transmission Media.

CO3: Solve the Error Detection and Correction.

CO4: Manipulate the Connecting Devices.

CO5: Discriminate about the Security.

8. Course Outcome Level (preferable one for each objective)

CO₁ - K₃

CO₂ - K₃

CO₃ - K₃

CO₄ - K₄

CO₅ - K₃

9. Mapping Course outcome with

1. Programme Specific Objectives - **PSO** (put tick mark in the correlating box)
2. Programme Objectives - **PO** (put tick mark in the correlating box)

Mapping of COs with PSOs and POs

Outcomes	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	Sum of COs with PSOs & Pos
CO1	2	3	2	1		3	2	2	1	2				18
CO2	3	2	3	2	2	2	2	2	1					19
CO3	1	2	2	2	2	2	1	3	2	2				19
CO4	3	3	3	3	1	3	2	2	1					21
CO5	3	3	3	3		3	2	2	2					21
Grand Total of COs with PSOs and PO														98
Mean Value of COs with PSO and PO														2.18

Strong-3, Medium-2 & Low-1

Mapping Scale	1	2	3
Relation	0.01 to 1.0	1.01 to 2.0	2.01 to 3.0
Quality	Low	Medium	Strong
Mean value of Cos with PSOs and Pos			2.18
Observation	COs of DATA COMMUNICATION & COMPUTER NETWORKS Strongly related with PSOs and PO		

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR
DEPARTMENT OF IT & M

Class : III IT & M
Semester : V
Subject Code : 19UITD15

Part : III Core- 11
Hours : 75
Credits : 4

RESEARCH METHODOLOGY

1. Title of the Paper : RESEARCH METHODOLOGY

2. Course Educational Objectives (CEO)

- 1: Knowing the basic concepts of research methodology.
- 2: Understanding the concept of sampling and data collection.
- 3: Learning the concepts of Scaling and Tools of Analysis.
- 4: Knowing the Data Classification and Report Writing.
- 5: Develop the knowledge in Technology of Research.

3. Five Units of the Syllabus

UNIT	Content	No. of Hours
I	Introduction to Research Methodology Objectives –Characteristics - Types – Significance - Research Process - Criteria of Good Research – Scope of Business Research.	15
II	Sampling Definition – Need for sampling – Characteristics – Advantages and disadvantages - Steps - Types – Probability and Non Probability sampling Methods- Factors consider in sampling design.	15
III	Data Collection Primary Data – Secondary Data - Advantages and Disadvantages - Methods of Data Collection- Experiment Method – Survey Method - Questionnaire – Merits & Demerits – requisites of good Questionnaire – Kinds of Questions – Steps to Construct Questionnaire.	15
IV	Scaling and Analysis of Data Scale Classification – Important Scaling techniques – Rating – Ranking – Likert Scale – Semantic Differential Scale – Data Processing – Hypothesis -Characteristics – Procedure of Testing – Analysis of Data – Tools for Analysis	15
V	Report Writing Purpose- Essentials of Good Report – Types – Layout Contents of research report – Problems encountered by researchers in India – Uses of Library – Role of internet in Research	15

4. Book for Study:

1. C.R. Kothari, 2014 - II Edition, "Research Methodology", Sultan Chand and Sons, New Delhi.

5. Book for Reference:

1. Saravanavel, 1987 - I Edition, "Research Methodology", Prentice Hall Publications.
2. Sharma Ram Nath, VI Edition, "Research Methods in Social Sciences", Media Promoters and Publishers Pvt Ltd.

6. Teaching Learning Methods:

(PPT, GD, Seminar, Brain Storming, Case Study, Assignments etc.)

7. Course Outcome (CO)

On completion of the course, students should be able to

1. Recognize the students to know the basic concepts of Research Methodology.
2. Compose the knowledge about methods of data collection and sampling.
3. Manipulate the skills to Scaling and Measurement Techniques.
4. Practice the students to know the research report writing.
5. Outline the concepts of Use of Library and internet in Research.

8. Course Outcome Level (Preferable one for each objective)

- CO1 - K₃
 CO2 - K₃
 CO3 - K₃
 CO4 - K₃
 CO5 - K₃

9. Mapping Course outcome with

1. Programme Specific Objectives - **PSO** (put tick mark in the correlating box)
2. Programme Objectives - **PO** (put tick mark in the correlating box)

Mapping of COs with PSOs and POs

Outcomes	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	Sum of COs with PSOs & Pos
CO1	2	3	3	3		2	3	1		1				18
CO2	2	3	2	2	3	3	1	2	2	1				21
CO3	3	3	2	3		3	1	3	3					21
CO4	3	2	3	2	1	2	3	2	2	1				21
CO5	2	2	3	3		3	3	3	2	2				23
Grand Total of COs with PSOs and PO														104
Mean Value of COs with PSO and PO														2.31

Strong-3, Medium-2 & Low-1

Mapping Scale	1	2	3
Relation	0.01 to 1.0	1.01 to 2.0	2.01 to 3.0
Quality	Low	Medium	Strong
Mean value of Cos with PSOs and Pos			2.31
Observation	COs of RESEARCH METHODOLOGY Strongly related with PSOs and PO		

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR
DEPARTMENT OF IT & M

Class : III IT & M
Semester : V
Subject Code : 19UITD25

Part : III Core- 12
Hours : 75
Credits : 4

MARKETING MANAGEMENT

1. Title of the Paper : MARKETING MANAGEMENT

2. Course Educational Objectives (CEO)

- 1: Knowing the basic concepts of Marketing Management.
- 2: Understanding the concept of product and its classification.
- 3: Learning the pricing concepts and its types.
- 4: Comprehending the concept of channel of distribution.
- 5: Develop the knowledge about advertising and Medias.

3. Five Units of the Syllabus

UNIT	Content	No. of Hours
I	Introduction on Marketing Marketing-nature and scope - Classification of Markets - Evolution of marketing concept - Functions of marketing - Consumer Behavior - Buying motives – Consumer Decision making.	15
II	Product Concept of Product – Features - Product Classification - New product development -Product life cycle – Branding and packaging- Features – Types - Functions of packaging.	15
III	Pricing Objectives -Factors affecting Pricing – Pricing Policies - Cost oriented pricing, Demand oriented pricing, Cost-demand based, competitive pricing - Price Discrimination - Kinds of pricing.	15
IV	Channel of Distribution Functions - importance of channel – types of channel of distribution- Factors to be considered in channel selection- Middlemen- Functions- Kinds of Agent Middlemen.	15
V	Advertising & Online Marketing Objectives– Types of Advertising- online Marketing – Web based Marketing – E- Business, E- Commerce, E- Banking and E- Trading – Emerging New trends – Challenges to Marketers – Differ Traditional and Online Marketing.	15

4. Book for Study:

1. Marketing Management by R.S.N.Pillai and Bagavathi, 2005 – Sultan Chand and Sons, New Delhi.

5. Book for Reference:

1. Marketing Management by Philip Kotler, 2007 – Prentice Hall.
2. Marketing Management by V.S.Ramasamy and Nama Kumari, 2006 – Macmillan Publications.

6. Teaching Learning Methods:

(PPT, GD, Seminar, Brain Storming, Case Study, Assignments etc.,)

7. Course Outcome (CO)

On completion of the course, students should be able to

1. Label the basic concepts of marketing and its functions.
2. Develop the skills to new product development.
3. Match the objectives of pricing and kinds.
4. Illustrate the knowledge about distribution channels and types.
5. Utilize the concepts of advertising and Medias.

8. Course Outcome Level (Preferable one for each objective)

CO1	-	K ₃
CO2	-	K ₃
CO3	-	K ₄
CO4	-	K ₃
CO5	-	K ₃

9. Mapping Course outcome with

- i. Programme Specific Objectives - **PSO** (put tick mark in the correlating box)
- ii. Programme Objectives - **PO** (put tick mark in the correlating box)

Mapping of COs with PSOs and POs

Outcomes	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	Sum of COs with PSOs & Pos
CO1	1	3	3		2	3	2	1	2					17
CO2	3	2	3	3	3	2	2	2	1					21
CO3	2	3	2	3		1	3	2	3	2				21
CO4	3	2	3	3	1	3	2	1	2	2				22
CO5	2	3	3	2		3	3	3	2	1				22
Grand Total of COs with PSOs and PO														103
Mean Value of COs with PSO and PO														2.29

Strong-3, Medium-2 & Low-1

Mapping Scale	1	2	3
Relation	0.01 to 1.0	1.01 to 2.0	2.01 to 3.0
Quality	Low	Medium	Strong
Mean value of Cos with PSOs and Pos			2.29
Observation	COs MARKETING MANAGEMENT Strongly related with PSOs and PO		

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR
DEPARTMENT OF IT & M

Class : III IT & M

Semester : V

Subject Code : 19UITD35

Part : Core – 13

Hours : 75

Credits : 4

DOT NET PROGRAMMING

1. Title of the Paper : DOT NET PROGRAMMING

2. Course Educational Objectives (CEO)

- i. Understand Visual C# Features, Environment and Controls.
- ii. Understand C# Essentials and Tokens.
- iii. Able to code in C# Environment
- iv. Able to learn working with C# and Database.
- v. Able to learn web forms.

3. Five Units of the Syllabus

Unit	Content	No. of Hours
I	C# Introduction and Controls Introduction: C# and other Languages – Installing Visual C# - IDE – Your First Application – Toolbox – property Editor - Visual C# forms – events – setting properties in code – A C# adding machine – Dealing with errors. Controls: Methods- Buttons, Labels, Text, picture boxes, Check & Radio Boxes - Group, List, Combo boxes - Timer, Open File Dialog and Tab Control- Splitter Control -Using Toolbar-Month Calendar Control.	15
II	C# Essentials Language Essentials: Start the beginning – Parts of C# file – Data types-function and Parameters – variables & scope – IF...Else, do and while, for loops, switch – Arrays, Structs, Using enum, Understanding reference types-working with parameters. Visual Studio Tools: Creating, Customizing a menu, Pop-up menu-outlining & Auto insertion- using Clip board ring – using Find – Debugger –break points – Customizing Tool box – Using Add-in Manager – Setting Visual C# Options – Project Properties- creating Stand Alone applications.	15
III	C# Techniques Catching errors with exceptions – user validation-Use tool tips-Printing with Visual C# - Managing multiple forms- Introducing MDI – Starting C# application – How to read and write a file- Drawing Graphics – Creating a shared Event Handler – Interrupt With DoEvents-Using a Setup Project.	15

IV	Creating Database Programs Introducing Databases- creating Databases with access- Designing a table- Data form Wizard – Improving Data Form- Disconnected data – Database objects – Showing data in Grid- Styling a Data grid- Dealing with large database- Copying record to clipboard- creating and showing a report.	15
V	Running C# on the Internet What kind of web?- Introducing Web Forms- Creating a Web Form - How web Forms Work - Web Forms Toolbox-The page Class and code-behind- The Load event and isPostBack -The Session object - ASP.Net and Database-Showing data in a Data Grid.	15

4. Book for Study:

Tim Anderson, "C# Programming in easy steps", Dream Tech Press, New Delhi – 02.
 Unit – I: **Chapters 1, 2** pages 08 - 20 & 28 – 47,
 Unit – II: **Chapters 4, 5** pages 51 - 73 & 96 - 115
 Unit – III: **Chapters 6** Pages 118 – 140,
 Unit – IV: **Chapters 7** Pages 146 - 169
 Unit – IV: **Chapters 8**, Pages 172 – 187

5. Book for References:

1. Christian Nagel, Bill Evjen, Jay Glynn, KarliWats, Morgan Skinner, Allen Jones, 2005 - PROFESSIONAL C# WITH .NET 3.0 - By – Copyright John Wiley.
2. RudrakashBatra, Charual Shukla - ASP.NET 2.0 Black Book - Dream Tech Press, New Delhi – 110002.

6. Teaching Learning Methods:

(PPT, GD, Seminar, Quiz Programme, Brain Storming, Case Study, Assignment etc.)

7. Course Outcome (CO)

On completion of the course, students should be able to

- 1: Utilize the knowledge about ASP C# Dot Net Environments.
- 2: Apply the basics of C# Essentials (Tokens, control structures).
- 3: Compute the knowledge about C# Techniques (Error Handling, Multiple Forms, Graphics)
- 4: Ability to create & Connect Database using C#.
- 5: Design Web Forms and web Pages.

8. Course Outcome Level (preferable one for each objective)

CO1	-	K ₃
CO2	-	K ₃
CO3	-	K ₄
CO4	-	K ₃
CO5	-	K ₃

9. Mapping Course outcome with

- i. Programme Specific Objectives - **PSO** (put tick mark in the correlating box)
- ii. Programme Objectives - **PO** (put tick mark in the correlating box)

Mapping of COs with PSOs and POs

Outcomes	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	Sum of COs with PSOs & Pos
CO1	3	2	3	2		3	2	2	1					18
CO2	2	2	2	2	1	2	2	2	2	2				19
CO3	2	3	2	3	3	2	2	1	2	2				22
CO4	3	2	3	3	1	3	3	2		1				21
CO5	3	3	2	2		3		3	3	2				21
Grand Total of COs with PSOs and PO														101
Mean Value of COs with PSO and PO														2.24

Strong-3, Medium-2 & Low-1

Mapping Scale	1	2	3
Relation	0.01 to 1.0	1.01 to 2.0	2.01 to 3.0
Quality	Low	Medium	Strong
Mean value of Cos with PSOs and Pos			2.24
Observation	COs of DOT NET PROGRAMMING Strongly related with PSOs and PO		

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR
DEPARTMENT OF IT & M

Class : III IT & M
Semester : V
Code : 19UITP55

Part : III Lab -5
Hours : 75
Credit : 04

PROGRAMMING IN DOT NET LAB - 5

1. Title of the Paper : PROGRAMMING IN DOT NET LAB - 5

2. Course Educational Objectives (CEO)

- i. Understand Visual C# Features, Environment and Controls.
- ii. Understand C# Essentials and Tokens.
- iii. Able to code in C# Environment
- iv. Able to learn working with C# and Database.
- v. Able to learn web forms.

3. Five Units of the Syllabus

Unit	Content	No. of Hours
I	Your First Application –Visual C# forms –Using Tool Box controls:	12
II	Using Function and Parameters –If...Else, do and while, for loops, switch – Arrays, Structs, Using enum.	15
III	Design Stylish attractive Menus - AD Rotator – Rotation Animation – Using CSS, Attractive Background Design.	18
IV	Creating Databases with access- Designing a table- Using Grid View - Using Data List -Using Details View - Using Form View - Using List View - Using Repeater & Data Pager.	16
V	Creating a Web Form - Web Forms Toolbox-Using Session objects	14

4. Book for Study:

Tim Anderson, “C# Programming in easy steps”, Dream Tech Press, New Delhi – 02.

5. Book for References:

1. Christian Nagel, Bill Evjen, Jay Glynn, KarliWats, Morgan Skinner, Allen Jones, 2005 - PROFESSIONAL C# WITH .NET 3.0 - By – Copyright John Wiley.
2. RudrakashBatra, Charual Shukla - ASP.NET 2.0 Black Book - Dream Tech Press, New Delhi – 110002.

6. Teaching Learning Methods:

(PPT, GD, Seminar, Quiz Programme, Brain Storming, Case Study, Assignment etc.)

7. Course Outcome (CO)

On completion of the course, students should be able to

- 1: Compose the knowledge about ASP C# Dot Net Environments.
- 2: Apply the basics of C# Essentials (Tokens, control structures).
- 3: Utilize knowledge about C# Techniques (Error Handling, Multiple Forms, Graphics)

4: Create & Connect Database using C#.

5: Construct Web Forms and web Pages.

8. Course Outcome Level (preferable one for each objective)

CO₁ - K₃

CO₂ - K₄

CO₃ - K₃

CO₄ - K₃

CO₅ - K₃

9. Mapping Course outcome with

i. Programme Specific Objectives - **PSO** (put tick mark in the correlating box)

ii. Programme Objectives - **PO** (put tick mark in the correlating box)

Mapping of COs with PSOs and POs

Outcomes	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	Sum of COs with PSOs & Pos
CO1	3	3	3	3		3	3	3	1					22
CO2	2	2	3	3	2	2	2	3	3	2				24
CO3	2	3	2	2	3	2	3	2	3	2				24
CO4	3	2	3	3	2	3	3	3	2	1				25
CO5	3	3	3	2	2	3	1	2	3	3				25
Grand Total of COs with PSOs and PO														120
Mean Value of COs with PSO and PO														2.5

Strong-3, Medium-2 & Low-1

Mapping Scale	1	2	3
Relation	0.01 to 1.0	1.01 to 2.0	2.01 to 3.0
Quality	Low	Medium	Strong
Mean value of Cos with PSOs and Pos			2.5
Observation	COs of PROGRAMMING IN DOT NET LAB - 5 Strongly related with PSOs and PO		

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR
DEPARTMENT OF IT & M

Class : II IT & M
Semester : V
Subject Code : 19UITE15

Part : Core Elective 1
Hours : 60
Credits : 03

HUMAN RESOURCE MANAGEMENT

1. Title of the Paper: HUMAN RESOURCE MANAGEMENT

2. Course Educational Objectives (CEO)

1. Understanding the basic knowledge of Human Resource Management
2. Comprehend the Manpower planning and Job Analysis
3. Learning the different wage systems and Training Methods
4. Studying the Industrial Relation and Trade Union
5. Knowing the Performance Appraisal System and Collective Bargaining

3. Five Units of the Syllabus

UNIT	Content	No. of Hours
I	Introduction to Human Resource Management Human Resource Management – Definition – Concepts –Objectives–Functions–Personnel Management vs HRM.	12
II	Manpower Planning Manpower Planning – Job Analysis – Job description - Job Specification – Job evaluation - Sources of Recruitment – Steps in Selection process.	12
III	Wages and Salary Administration Wages and Salary Administration: Objectives – Methods of payment of wages – Training and Development : Methods of Training – Essential of a Good Training Programme.	12
IV	Industrial Relations Trade Union - Industrial Relations significance – Causes for poor relations – Remedies – Industrial Disciplinary system – Grievance Handling system – Machinery and procedure.	12
V	Performance Appraisal Performance Appraisal- Methods- Collective Bargaining- Workers participation in Management	12

4. Book for Study:

1. C.B Gupta, Human Resource Management, Sultan Chand & Sons Publication, New Delhi, Tenth Edition-2009

5. Book for Reference:

1. Gary Dessler, "Human Resource Management" Prentice-Hall of India P.Ltd., Pearson, Seventh Edition
2. Dr.S.S.Khanka, "Human Resource Management" S.Chand & Company Ltd., New Delhi-2003.
3. Dr. R.Venkatapathy & Assissi Menacheri, . Industrial Relations & Labour Welfare, Adithya Publications, CBE, 2001.

6. Teaching Learning Methods:

(PPT, GD, Seminar, Quiz programme, Brain Storming, Case Study, Assignments etc.,)

7. Course Outcome (CO)

On completion of the course, students should be able to

1. Label the Basic functions of Human Resource Management
2. Interview the Recruitment and selection process
3. Adapt the different types of wages system and Training methods
4. Summarize the Industrial Relations and Grievance Handling system
5. Relate the best method of Performance appraisal system

8. Course Outcome Level (Preferable one for each objective)

CO1	-	K ₃
CO ₂	-	K ₄
CO ₃	-	K ₃
CO ₄	-	K ₃
CO ₅	-	K ₃

9. Mapping Course outcome with

- i. Programme Specific Objectives –**PSO**(put tick mark in the correlating box)
- ii. Programme Objectives - **PO**(put tick mark in the correlating box)

Mapping of COs with PSOs and POs

Outcomes	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	Sum of COs with PSOs & Pos
CO1	3	3	3			2	3	2	1					17
CO2	3	2	2	2	3		1	2	2					17
CO3	3	2	3	2		2	1	2		3				18
CO4	2	3	2	2	3	3	2	2	1					20
CO5	2	2	3	3		1	3	3	1	2				20
Grand Total of COs with PSOs and PO														92
Mean Value of Cos with PSO and PO														2.24

Strong-3, Medium-2 & Low-1

Mapping Scale	1	2	3
Relation	0.01 to 1.0	1.01 to 2.0	2.01 to 3.0
Quality	Low	Medium	Strong
Mean value of Cos with PSOs and Pos			2.24
Observation	COs of HUMAN RESOURCE MANAGEMENT Strongly related with PSOs and PO		

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR
DEPARTMENT OF IT & M

Class : III IT & M

Semester : V

Subject Code : 19UITSL5

Part : Self Learning

Hours :

Credits : 03

Cyber Security

1. Title of the Paper : Cyber Security

2. Course Educational Objectives (CEO)

- 1: Discuss the basic concepts Cyber Security and Threats.
- 2: Imagine the importance of Cyber Security Vulnerabilities and Safe Guards.
- 3: Compute the process of Security in SOAP Services and Identity Management.
- 4: Discriminate the knowledge of Network based Intrusion detection Systems, Network based Intrusion Prevention Systems.
- 5: Practice the Concept of Cryptography and Network Security.

3. Five Units of the Syllabus

UNIT	Content	No. of Hours
I	Introduction to Cyber Security Overview of Cyber Security, Internet Governance – Challenges and Constraints, Cyber Threats:- Cyber Warfare- Cyber Crime-Cyber terrorism.	-
II	Cyber Security Vulnerabilities and Cyber Security Safeguards Cyber Security Vulnerabilities-Overview, vulnerabilities in software, System administration, Complex Network Architectures, Open Access to Organizational Data, Weak Authentication, Unprotected Broadband communications, Security policy, Threat Management.	-
III	Securing Web Application, Services and Servers Introduction, Basic security for HTTP Applications and Services, Basic Security for SOAP Services, Identity Management and Web Services, Authorization Patterns, Security Considerations, Challenges.	-
IV	Intrusion Detection and Prevention Intrusion, Physical Theft, Abuse of Privileges, Unauthorized Access by Outsider, Malware infection, Intrusion detection and Prevention Techniques, Anti-Malware software, Network based Intrusion detection Systems, Network based Intrusion Prevention Systems, Host based Intrusion prevention Systems, Security Information Management, Network Session Analysis, System Integrity Validation.	-

V	Cryptography and Network Security Introduction to Cryptography, Symmetric key Cryptography, Asymmetric key Cryptography, Message Authentication, Digital Signatures, Applications of Cryptography. Overview of Firewalls- Types of Firewalls, User Management, VPN Security Security Protocols: - security at the Application Layer- PGP and S/MIME, Security at Transport Layer- SSL and TLS, Security at Network Layer-IPsec.	-
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4. Book for Study:

1. Nihad Hassan, Rami Hijazi, 2017 - "Digital Privacy and Security Using Windows: A Practical Guide A Press.

5. Book for Reference:

1. Lester Evans, 2018-"Cyber Security" An Essential Guide to Computer and Cyber Security for Beginners.

6. Teaching Learning Methods:

(PPT, GD, Seminar, Quiz programme, Brain Storming, Case Study, Assignments etc.,)

7. Course Outcome (CO)

1. Understood the Concept of Cyber Security.
2. Applying the knowledge of Cyber Security Vulnerabilities and Cyber Security Safeguards
3. Developing their managerial skills SOAP Services and Identity Management
4. Knowing the basic techniques Network based Intrusion detection Systems, Network based Intrusion Prevention Systems
5. Understanding the Techniques of Cryptography and Network Security.

8. Course Outcome Level (Preferable one for each objective)

CO1	-	K ₃
CO2	-	K ₃
CO3	-	K ₃
CO4	-	K ₃
CO5	-	K ₃

9.Mapping Course outcome with

- i. Programme Specific Objectives - **PSO** (put tick mark in the correlating box)
- ii. Programme Objectives - **PO** (put tick mark in the correlating box)

Outcomes	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	Sum of COs with PSOs & Pos
CO1	3	3	1	3		2	2	2	1					17
CO2	2	2	2	2	1	2	2	2	2					17
CO3	3	3	2	2		2	1		2	2				17
CO4	3	2	3	2	1	2	2	2	2	1				20
CO5	2	3	3	2		2	2	2	3	1				20
Grand Total of COs with PSOs and PO														91
Mean Value of COs with PSO and PO														2.07

Strong-3, Medium-2 & Low-1

Mapping Scale	1	2	3
Relation	0.01 to 1.0	1.01 to 2.0	2.01 to 3.0
Quality	Low	Medium	Strong
Mean value of Cos with PSOs and Pos			2.07
Observation	COs of CYBER SECURITY Strongly related with PSOs and PO		

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR
DEPARTMENT OF IT & M

Class : III IT & M
Semester : VI
Subject Code : 19UITD46

Part : III Core - 14
Hours : 90
Credits : 05

Mobile Application Development

1. Title of the Paper : Mobile Application Development

2. Course Educational Objectives (CEO)

- 1: Understand the concepts of Mobile Applications development and its Framework.
- 2: Impart the knowledge of Mobile Application Development Tools.
- 3: Develop the knowledge of Creating Mobile Applications and Activities.
- 4: Develop the efficient User Interface of Mobile Applications.
- 5: Able to understand the Resources of Mobile Application Development Tools.

3. Five Units of the Syllabus

UNIT	Content	No. of Hours
I	A Little Background Mobile Applications The Future An open platform for mobile development and Native android applications - Android SDK features - Introducing the Development Framework - Developing for Android - Developing for Mobile Devices.	18
II	Mobile development tools Hardware - Imposed Design Considerations - Environment, Developing for Android and To-Do List Example - The Android Emulator ,Dalvik Debug Monitor Service (DDMS) - The Android Debug Bridge (ADB)	18
III	Creating applications and activities The Android Application Life Cycle - Understanding Application Priority and Process States - Extending and Using the Application Class - Creating an Activity - Creating an Activity - Android Activity Classes.	18
IV	Creating user interfaces Fundamental android UI design - Introducing Views - Creating Activity User Interfaces with Views - The Android Widget Toolbox - Introducing layouts - Using Layouts, Optimizing Layouts – Creating new views - Modifying Existing Views - Creating Compound Controls - Creating Custom Views.	18
V	Resources Drawable resources - Shapes, Colors, and Gradients, Color Drawable, Shape Drawable, Gradient Drawable, Composite Drawable - Creating and using menus - Introducing the Android Menu System - Defining an Activity Menu - Menu Item Options - Menu Item Options.	18

4. **Book for Study:**

“Reto Meier “ Professional Android 2 Application Development John Wiley & Sons, 01-Mar-2010

5. **Book for References:**

Mark Murphy “Android “A press 2009.

6. **Teaching Learning Methods:**

(PPT, GD, Seminar, Quiz Programme, Brain Storming, Case Study, Assignment etc.)

7. **Course Outcome (CO)**

On completion of the course, students should be able to

CO1: Summarize the concepts of Mobile Applications Development.

CO2: Experiment the knowledge about Mobile Application Development Tools.

CO3: Create New Innovative Android Applications and Activities.

CO4: invent Android User Interfaces and Views.

CO5: Formulate how to use the various resources to creating the Mobile Applications.

8. **Course Outcome Level** (preferable one for each objective)

CO1 - K₃

CO₂ - K₄

CO₃ - K₃

CO₄ - K₃

CO₅ - K₃

9. **Mapping Course outcome with**

i. Programme Specific Objectives - **PSO** (put tick mark in the correlating box)

ii. Programme Objectives - **PO** (put tick mark in the correlating box)

Outcomes	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	Sum of COs with PSOs & Pos
CO1	2	3	3	3		2	2	2	1					18
CO2	3	2	3	2	2	3		2	1					18
CO3	1	3	2	2	1	3		1	2	3				18
CO4	2	2	2	3	1	2	2	3		1				18
CO5	3	2	3	2		2	2	1		3				18
Grand Total of COs with PSOs and PO														90
Mean Value of COs with PSO and POs														2.14

Strong-3, Medium-2 & Low-1

Mapping Scale	1	2	3
Relation	0.01 to 1.0	1.01 to 2.0	2.01 to 3.0
Quality	Low	Medium	Strong
Mean value of Cos with PSOs and Pos			2.14
Observation	COs of Mobile Application Development Strongly related with PSOs and PO		

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR
DEPARTMENT OF IT & M

Class : III IT & M

Part : Lab – 6

Semester : VI

Hours : 90

Subject Code : 19UITP66

Credits : 05

1. Title of the Paper : Android Programming Lab - 6

2. Course Educational Objectives (CEO)

- 1: Understand the concepts of Mobile Applications development and its Framework.
- 2: Impart the knowledge of Mobile Application Development Tools.
- 3: Develop the knowledge of Creating Mobile Applications and Activities.
- 4: Develop the efficient User Interface of Mobile Applications.
- 5: Able to understand the Resources of Mobile Application Development Tools.

3. Five Units of the Syllabus

UNIT	Content	No. of Hours
I	Simple Android Application using Basic SDK - Frameworks and - Services	18
II	Designing Android Applications – Creating Android Applications using Emulators	18
III	Creating Android Applications Using Priority and Process States – Creating Activities in Android Applications	18
IV	Creating Android Applications Using Layouts – Custom Views – Compound Controls.	18
V	Creating Android Applications with Drawable Resources – Shapes – Colors. Creating Menus in Android Applications.	18

4. Book for Study:

“Reto Meier “ Professional Android 2 Application Development John Wiley & Sons, 01-Mar-2010

5. Book for References:

Mark Murphy “Android “A press 2009.

6. Teaching Learning Methods:

(PPT, GD, Seminar, Quiz Programme, Brain Storming, Case Study, Assignment etc.)

7. Course Outcome (CO)

On completion of the course, students should be able to

CO1: Infer the concepts of Mobile Applications Development.

CO2: Criticize knowledge about the Mobile Application Development Tools.

CO3: Examine New Innovative Android Applications and Activities.

CO4: Create Android User Interfaces and Views.

CO5: Test the various resources to creating the Mobile Applications.

8. Course Outcome Level (preferable one for each objective)

CO1 - K₃

CO₂ - K₄

CO₃ - K₃
 CO₄ - K₃
 CO₅ - K₃

9. Mapping Course outcome with

- Programme Specific Objectives - **PSO** (put tick mark in the correlating box)
- Programme Objectives - **PO** (put tick mark in the correlating box)

Outcomes	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	Sum of COs with PSOs & Pos
CO1	2	3	3	3		3	3	2	2					21
CO2	3	2	3	2	2	3	2	3	3	1				24
CO3	2	3	2	2	2	3	2	3	3	3				25
CO4	3	2	3	3	2	2	2	3	3	2				25
CO5	3	2	3	2	3	2	3	2	2	3				25
Grand Total of COs with PSOs and PO														120
Mean Value of COs with PSO and PO														2.5

Strong-3, Medium-2 & Low-1

Mapping Scale	1	2	3
Relation	0.01 to 1.0	1.01 to 2.0	2.01 to 3.0
Quality	Low	Medium	Strong
Mean value of Cos with PSOs and Pos			2.5
Observation	COs of Android Programming Lab - 6 Strongly related with PSOs and PO		

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR
DEPARTMENT OF IT & M

Class : III IT & M
Semester : VI
Subject Code : 19UITD56

Part : Core 15
Hours : 90
Credits : 5

1. Title of the Paper: ADVERTISING AND SALESMANSHIP

2. Course Educational Objectives (CEO)

1. Understanding the basic knowledge of Advertising
2. Comprehend the social and Ethical aspects of Advertising
3. Learning the Advertising Agency and Advertising Media
4. Studying the concept of Salesmanship
5. Knowing the kinds of Negotiable and Non Negotiable Instruments

3. Five Units of the Syllabus

UNIT	Content	No. of Hours
I	Introduction to Advertising Meaning-Definition-Characteristic-Objectives-Nature Scope –Types-Importance-Functions of Advertising	18
II	Social and Ethical Aspects of Advertising Social issues in Advertising-The responsibility of the advertiser-Positive social effects of Advertisements-Advertising and cultural value-Ethical issues in Advertising-improving advertising Ethics	18
III	Advertising Agencies and Advertising Media Meaning-Role -Importance and Types of Advertising Agency-functions of Advertising Agencies-Classification of Advertising Media-Media Planning-types of Indoor Media and Out door Media-	18
IV	Salesmanship Definition-features-Objectives-Nature-Types-Advantages of Salesmanship—Functions of Salesman- -Quality of a Sales Manager-Advertising vs Salesmanship	18
V	Sales Organization Need for a Sales Organization –Functions of Sales Organization-Techniques of Sales Forecasting-Training of Salesman-Remuneration of salesmen- Advantages of Control of Salesmen	18

4. Book for Study:

1. P.Saravanavel and S. Sumathi, Advertising and Salesmanship– Margham Publications, Chennai- Second Edition- 2009.

5. Book for Reference:

1. M.N. Mishra and P.N.Harikumar, Advertising and Sales Promotion , Himalaya Publishing House, Mumbai First Edition,2015
2. Frank Jefkins and Daniel Yadin “ Advertising”, Pearson Education, New Delhi, Revised Edition, 2000

6. Teaching Learning Methods:

(PPT, GD, Seminar, Quiz programme, Brain Storming, Case Study, Assignments etc.,)

7. Course Outcome (CO)

On completion of the course, students should be able to

1. Infer the Basic knowledge about Advertising and it's functions
2. Identify the knowledge about the social and ethical aspect of Advertising
3. Choose the right Advertising Agencies and best Advertising Media
4. Propose the basic functions of Salesmanship
5. Plan the sales Techniques, Remuneration and Control of salesmen

8.Course Outcome Level (Preferable one for each objective)

CO1	-	K ₃
CO ₂	-	K ₃
CO ₃	-	K ₃
CO ₄	-	K ₄
CO ₅	-	K ₃

9.Mapping Course outcome with

1. Programme Specific Objectives –**PSO**(put tick mark in the correlating box)
2. Programme Objectives - **PO**(put tick mark in the correlating box)

Outcomes	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	Sum of COs with PSOs & Pos
CO1	3	3	1		3	2	2	2	1		2			19
CO2	2	2	2	2	1	2	2	2	2	2				19
CO3	1	3	3	3	3	2	2	2	2	2	1			24
CO4	3	2	2	2	1	2	2	3	3	2	2			24
CO5	3	3	2	3		3	3	2	3		2			24
Grand Total of COs with PSOs and PO														110
Mean Value of COs with PSO and PO														2.2

Strong-3, Medium-2 & Low-1

Mapping Scale	1	2	3
Relation	0.01 to 1.0	1.01 to 2.0	2.01 to 3.0
Quality	Low	Medium	Strong
Mean value of Cos with PSOs and Pos			2.2
Observation	COs of ADVERTISING AND SALESMANSHIP Strongly related with PSOs and PO		

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR
DEPARTMENT OF IT & M

Class : III IT & M
Semester : VI
Subject Code : 19UITD66

Part : III Core- 16
Hours : 90
Credits : 5

1. Title of the Paper : ENTREPRENEURSHIP DEVELOPMENT

2. Course Educational Objectives (CEO)

- 1: Knowing the basic concepts of Entrepreneur.
- 2: Understanding the concept of Women Entrepreneurship and NGO's.
- 3: Learning the concepts of ownership structure.
- 4: Knowing the concept of project report formulation.
- 5: Develop the knowledge in Small Scale Industries.

3. Five Units of the Syllabus

Unit	Content	No. of Hours
I	Introduction to Entrepreneur Concept – Characteristics of entrepreneur - Functions - Types - Entrepreneurship: Concept - Role of Entrepreneurship in Economic Development - Distinction between Entrepreneur and manager – Intrapreneur- concept.	18
II	Women Entrepreneurship Concept - Functions - Growth – Recent trends - Problems of women Entrepreneurs - Entrepreneurial competencies - Rural Entrepreneurship: Need – Problems - Role of NGO's in development of Rural Entrepreneurship.	15
III	Form of Business Enterprises and EDP Ownership Structure - Proprietorship - Partnership - Company - Co-operatives- Advantages and Disadvantages- Selection on appropriate Ownership Structure - Entrepreneurship Development Programme – Objectives- Course Contents – phases - Evaluation.	15
IV	Project Formulation Project Report - Significance - Contents - Formulation of a project report - Planning commission Guidelines –Specimen of a project report- Project appraisal – Concept - Methods of project appraisal.	15
V	Institutional support to Entrepreneurs and SSI Need for institutional support - NSIC, SIDO, SISI and DIC - SSI : Definition – Steps for stating Small Scale Industries - Sickness in Small Business: Signals - Symptoms - Consequences and Remedial measures.	15

4. Book for Study:

1. S.S.Khanka, 2010 - II Edition, "Entrepreneurial Development", S. Chand & Co., New Delhi, India,

5. Book for Reference:

1. CB. Gupta, 2009 - VII Edition, "Entrepreneurial Development", Sultan Chand & Sons
2. Vasanth Desai, 1980 "Entrepreneurial Development", Himalaya Publishing House, Second revised.

6. Teaching Learning Methods:

(PPT, GD, Seminar, Brain Storming, Case Study, Assignments etc.,)

7. Course Outcome (CO)

On completion of the course, students should be able to

1. Prepare the students to know the basic concepts of Entrepreneurship.
2. Survey the knowledge about women Entrepreneurs and Rural Entrepreneurship.
3. Test for the skills to Form of Business Enterprises.
4. Plan the students to Formulation of a project report.
5. Recommend the students to know the Steps for starting Small Scale Industries.

8. Course Outcome Level (Preferable one for each objective)

- CO1 - K₃
 CO2 - K₃
 CO3 - K₃
 CO4 - K₄
 CO5 - K₃

9. Mapping Course outcome with

i. Programme Specific Objectives - **PSO** (put tick mark in the correlating box)

ii. Programme Objectives - **PO** (put tick mark in the correlating box)

Outcomes	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	Sum of COs with PSOs & Pos
CO1	2	2	1	3		3	3	2	1		2			19
CO2	3	2	2	2	1	3	2	2	2	3				22
CO3	2	3	2	3	1	2	1	2	2	2	2			22
CO4	3	2	3	2	3	2	3	1	3	2				24
CO5	3	2	2	3	3	2	3	2	2	2				24
Grand Total of COs with PSOs and PO														111
Mean Value of COs with PSO and PO														2.22

Strong-3, Medium-2 & Low-1

Mapping Scale	1	2	3
Relation	0.01 to 1.0	1.01 to 2.0	2.01 to 3.0
Quality	Low	Medium	Strong
Mean value of Cos with PSOs and Pos			2.22
Observation	COs of ENTREPRENEURSHIP DEVELOPMENT Strongly related with PSOs and PO		

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR – 625 514

DEPARTMENT OF IT & M

Class : III IT&M
Semester : VI
Subject Code : 19UITD76

Part : III Core-17
Hours : 15
Credits : 01

PROJECT

Objective:

- Project work aims at exposing the students to various developments taking place in the field of information technology and management.
- Students will select individually Commercial or Technical Project based on Application Development Technologies.
- Students will get exposed to various management practices and their implications in the companies where they are undergoing the project.
- With the known technologies they can develop the software.

Description:

- ❖ In the last semester students avail 30 days for project.
- ❖ The Project involves practical work for understanding and solving problems in the field of information technology and management.
- ❖ The report has to be submitted within one month, after consulting the faculty guide.
- ❖ Students submit the attendance certificate from the company in which they have undergone the project work at the time of submission of the report.

Depending upon the interest of students they are sent for exposure to:

1. For developing open source software's and development of software package for the organizations.
2. Software package development for organizations.
3. Carrying out project work in various functional areas of management.
4. Field study to prepare a report on scope of Entrepreneurship in particular area.

The students who are taking the project work in the field of Management have to submit the report as follows:

- Title of the study
- Identification of research problem
- Collection of review of literature
- Selection of the title of the research
- Identification of the statement of the problem
- List out the objectives of research
- Preparation of tools of research
- Data collection
- Data processing
- Preparation of report
- Submission of report

Project evaluation:

Particulars	Mark Criteria
Report Evaluation	50
VIVA – VOCE Examination	50
Total	100

Note *

The viva – voce will be conducted by the Head of the Department, the Faculty Guide and External Expert together.

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR
DEPARTMENT OF IT & M

Class : III IT & M
Semester : VI
Subject Code : 19UITE26

Part : Core – Elective 2
Hours : 60
Credits : 3

CLOUD COMPUTING

1. Title of the Paper : CLOUD COMPUTING

2. Course Educational Objectives (CEO)

- i. Understand the basics of Cloud Computing.
- ii. Understand Cloud Architecture.
- iii. Gain Knowledge about Cloud Platforms.
- iv. Ability to understand Cloud applications.
- v. Learn about cloud storage.

3. Five Units of the Syllabus

Unit	Content	No. of Hours
I	UNDERSTANDING CLOUD COMPUTING Cloud computing – cloud types – the cloud cube model – deployment models – service models – characteristics of cloud computing – benefits of cloud computing – disadvantages of cloud computing.	12
II	CLOUD ARCHITECTURE AND VIRTUALIZATION The cloud computing stack – virtual appliances – communication protocols – Google Chromium OS – load balancing and virtualization	12
III	DEVELOPING CLOUD SERVICES Infrastructure as a Service (IaaS) – IaaS workloads – Platform as a Service (PaaS) – Software as a Service (SaaS) – Identity as a Service (IDaaS) – Compliance as a Service (CaaS).	12
IV	CLOUD APPLICATIONS The cloud providers – Cloud Analytics. Healthcare: ECG analysis in the cloud - Geoscience: satellite image processing.	12
V	CLOUD STORAGE Cloud storage – unmanaged cloud storage – managed cloud storage – creating cloud storage systems. Public clouds - Private clouds - Community clouds - Hybrid cloud s - Advantages of Cloud computing.	12

4. Book for Study:

Barrie Sosinsky, (2012). *Cloud Computing Bible*, New Delhi: Wiley India Pvt. Ltd. Print.

UNIT I: Chapter 1: pages 3-19.

UNIT II: Chapter 3: pages 45-48, 51-60, 61-63, Chapter 5: pages 93-9

UNIT III: Chapter 4: pages 65-89.

UNIT IV: Chapter 5: pages 97-100, Chapter 8: pages 162-163, Chapter 10: pages 205-216.

UNIT V: Chapter 15: pages 316-321, Chapter 9: pages 185-199

5. Book for References:

Michael Miller, "Cloud Computing", 1st Edition, Pearson Education Inc., New Delhi, 2008

6. Teaching Learning Methods:

(PPT, GD, Seminar, Quiz Programme, Brain Storming, Case Study, Assignment etc.)

7. Course Outcome (CO)

On completion of the course, students should be able to

- 1: Describe knowledge about cloud concepts.
- 2: Create the cloud architecture.
- 3: Prepare knowledge about IT infrastructure cost cutting techniques.
- 4: Solution to various cloud applications (Google).
- 5: Maximize knowledge about cloud storage (Amazon).

8. Course Outcome Level (preferable one for each objective)

CO1 - K₃

CO2 - K₃

CO3 - K₃

CO4 - K₄

CO5 - K₃

9. Mapping Course outcome with

- i. Programme Specific Objectives - **PSO (put tick mark in the correlating box)**
- ii. Programme Objectives - **PO (put tick mark in the correlating box)**

Outcomes	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	Sum of COs with PSOs & Pos
CO1	3	2	1		3	2	2	3	1					17
CO2	2	2	2	2	1	2	2	2	2	2				19
CO3	1	3	2	3	3	3	1	2	3	3				24
CO4	3	3	3	3		3	3	2	3	1				24
CO5	3	2	2	2	3	3	2	2	3	2				24
Grand Total of COs with PSOs and PO														108
Mean Value of COs with PSO and PO														2.3

Strong-3, Medium-2 & Low-1

Mapping Scale	1	2	3
Relation	0.01 to 1.0	1.01 to 2.0	2.01 to 3.0
Quality	Low	Medium	Strong
Mean value of Cos with PSOs and Pos			2.3
Observation	COs of CLOUD COMPUTING Strongly related with PSOs and POs		

ARUL ANANDAR COLLEGE (AUTONOMOUS), KARUMATHUR
DEPARTMENT OF IT & M

Class : III IT & M
Semester : VI
Subject Code : 19UITSL6

Part : Self Learning
Hours :
Credits : 3

EXPORT AND IMPORT MANAGEMENT

1. Title of the Paper EXPORT AND IMPORT MANAGEMENT

2. Course Educational Objectives (CEO)

1. Understanding the basic knowledge about Import and Export Policy
2. Comprehend the Role of Foreign Exchange
3. Learning the Foreign Exchange Market and procedures
4. Studying the Export documentation and procedure
5. Knowing the Recent trends in India's Foreign Trade

3. Five Units of the Syllabus

UNIT	Content
I	Import Export Policy Introduction – Objectives – India's recent Trade Policy – New Foreign Trade Policy – Important features of policy changes.
II	Foreign Exchange Definition – Rate of exchange - Fluctuations in the rate of exchange – Stable vs. Fluctuating rate of exchange.
III	Foreign Exchange Market Meaning – Advantages and limitations of foreign exchange facilities – Payment procedure followed in Foreign exchange.
IV	Export documentation and procedure Meaning and Definition – Letter of Credit – Bill of Lading – Certificate of Origin – Export Procedure
V	Recent trends in India's Foreign Trade Future of export and import in India – Planning for exports – Role and functions of World Bank.

4. Book for Study:

1. Balagopal, "Export Management", Himalaya Publishing House, Mumbai, IX Edition-2007

5. Book for Reference:

1. Chunnawala Patel, , "Export and Import Management", Anmol Publications Pvt Ltd, Chennai. II Edition – 2003.
2. Nand Kishore Sharma, "Import and Export Management", RBSA Publishers, Jaipur, II Edition-2008.

6. Teaching Learning Methods:

(PPT, GD, Seminar, Quiz programme, Brain Storming, Case Study, Assignments etc.,)

7. Course Outcome (CO)

On completion of the course, students should be able to

1. Analyze the Basic knowledge about India's recent Trade Policy
2. Compare the knowledge about Rate of Exchange and stable vs Fluctuating rate of exchange
3. Discuss the payment procedure system followed in foreign exchange market
4. Predict the basic documentation and procedures in Export
5. Judge the future export in India and role and functions of World Bank

8. Course Outcome Level (Preferable one for each objective)

CO1 - K₃

CO2 - K₃

CO3 - K₃

CO4 - K₃

CO5 - K₃

9. Mapping Course outcome with

1. Programme Specific Objectives –**PSO**(put tick mark in the correlating box)

2. Programme Objectives - **PO**(put tick mark in the correlating box)

Outcomes	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	Sum of COs with PSOs & Pos
CO1	3	2	1	3		3	3	2	1	2				20
CO2	1	3	3	1	3	2	3	1	3	1	1			22
CO3	2	2	2	2	2	2	2	2	2	2	2			22
CO4	2	2	2	2	1	2	2	2	2	1				18
CO5	2	2	2	2		2	2	2	2	3				19
Grand Total of COs with PSOs and POs														101
Mean Value of COs with PSO and POs														2.02

Strong-3, Medium-2 & Low-1

Mapping Scale	1	2	3
Relation	0.01 to 1.0	1.01 to 2.0	2.01 to 3.0
Quality	Low	Medium	Strong
Mean value of Cos with PSOs and Pos			2.02
Observation	Cos of EXPORT AND IMPORT MANAGEMENT Strongly related with PSOs and POs		