

B.Sc Computer Science COURSE STRUCTURE UNDER CBCS PATTERN
(For the Candidates admitted from 2015 – 2016 Academic year onwards)

SEM	PART	COURSE CODE	TITLE	HRS	CRE	CLA	EE	TOT
I	I	15T101a	LC-I- செய்யுள் (இக்கால இலக்கியம்), சிறுகதை, பயன்முறைத் தமிழ், தமிழ் இலக்கிய வரலாறு.	6	3	25	75	100
	II	15H101	ELC - I English for Communicative Competence	6	3	25	75	100
	III	15S101	CC - I Programming in C	4	4	25	75	100
		15S102L	CC - II a Software Lab - I (Data Analytic)	3	2	10	40	50
		15S103A	AC - I Basic Mathematics	5	4	25	75	100
		15S104A	AC - II Operations Research	4	4	25	75	100
	IV	15VEDa	VE - Value Education	2	1	-	100	100
II	I	15T202a	LC-II- செய்யுள் (பக்தி,இடைக்கால இலக்கியம்)தமிழ்ச் செம்மொழி வரலாறு, மொழிபெயர்ப்பியல், தமிழ் இலக்கிய வரலாறு	6	3	25	75	100
	II	15H202	ELC - II English for Proficiency	6	3	25	75	100
	III	15S205L	CC - II b Software Lab - II (C)	3	2	10	40	50
		15S206	CC - III Object Oriented Programming using C++	6	4	25	75	100
		15S207A	AC - III Numerical and Statistical Methods	5	4	25	75	100
	IV	15XS21	SKBC - I - Image Editing and Manipulation	2	2	-	100	100
		15EVS	EVS - Environmental Science	2	1	-	100	100
III	I	15T303	LC-III- செய்யுள் (காப்பியங்கள்),புதினம்,தமிழ் இலக்கிய வரலாறு	6	3	25	75	100
	II	15H303	ELC - III English for Employability	6	3	25	75	100
	III	15S308	CC - IV Data Structures and Algorithms	5	4	25	75	100
		15S309L	CC - V a Software Lab - III (C++ and Data Structure)	3	2	10	40	50
		15S310A	AC – IV - Applied Physics - I	5	4	25	75	100
		15S311L	AC - V Applied Physics Lab*	3	-			
	IV	15XS32L	SKBC – II - Image Editing Lab	2	2	0	100	100
		15GS	GS - Gender Studies (Self study)	0	1	0	100	100

SEM	PART	COURSE CODE	TITLE	HRS	CRE	CLA	EE	TOT
IV	I	15T404	LC-IV- செய்யுள் (பழந்தமிழ் இலக்கியம்), நாடகம், தமிழ் இலக்கிய வரலாறு, கட்டுரை வரைவியல்	6	3	25	75	100
	II	15H404	ELC-IV- English through Literary Texts	6	3	25	75	100
	III	15S311L	AC - V - Applied Physics Lab	3	4	25	75	100
		15S412	CC – VI - Database System	6	4	25	75	100
		15S413L	CC - V b - Software Lab - IV (RDBMS)	3	2	10	40	50
		15S414A	AC – VI - Applied Physics – II	6	4	25	75	100
IV	15SSC	SSC - Soft Skills Course	0	2	0	100	100	
V	III	15S515	CC – VII -Computer System Architecture	5	5	25	75	100
		15S516	CC - VIII -Principles of Operating System	5	5	25	75	100
		15S517	CC - IX - Programming in JAVA	5	5	25	75	100
		15S518L	CC – X - Software Lab - V(Java and Application Development)	6	5	25	75	100
		15S519a	EC - I - Principles of Computer Graphics	5	5	25	75	100
		15S519b	EC - I - Software Engineering					
	15S519c	EC - I - XML and Web Services						
	IV	15S5N a	NMEC- BPO and Health care	4	4		100	100
15S5N b	NMEC – Desk Top Publishing							
VI	III	15S620	CC – XI - Microprocessor and Microcontroller	6	5	25	75	100
		15S621	CC - XII - Computer Networks	6	5	25	75	100
		15S622	CC - XIII - Web Technology	6	5	25	75	100
		15S623L	CC - XIV - Software Lab - VI (Web Technology and Hardware)	6	5	25	75	100
		15S624a	EC - II - Multimedia and Animation Techniques	6	5	25	75	100
		15S624b	EC - II - Rapid Application Development Using Python					
		15S624c	EC - II - UML Programming					
		15SC	Comprehensive Course	0	4		100	100
	IV	15EA	EA - Extension Activities	0	1			
			Total	180	140			3800

அலகு – 1

மரபுக்கவிதைகள் பாரதியார் பாடல்கள் - பக்திப் பாடல்கள், தமிழ்த்தாய், கண்ணம்மா என் காதலி, பாரதிதாசன் பாடல்கள் - தமிழின் இனிமை, நீங்களே சொல்லுங்கள்?, சிறுத்தையே வெளியே வா, பொன்னடியான் - அறத்தால்..., மாணவனே!, சாமி.பழனியப்பன் - சமுதாயமும் நூலகங்களும் தமிழேந்தி - சுற்றுச் சூழல் கெடுவதுவோ?, சாதனை வேண்டும்.

அலகு – 2

புதுக்கவிதைகள் அப்துல் ரகுமான் - மறுபக்கம், இன்குலாப் - கொள்ளைக்காரர்கள் எப்படி இருக்கிறார்கள்?, தணிகைச்செல்வன் - தாய், மு.மேத்தா - தேசப்பிதாவிற்கு ஒரு தெருப்பாடகனின் அஞ்சலி, தமிழன்பன் - நல்லாள் நகும், வாலி - பாரதிதாசன், - வைரமுத்து - திருத்தி எழுதிய தீர்ப்புகள், தாமரை - தொலைந்து போனேன், யுகபாரதி - சொல்வதெனில், நா.முத்துக்குமார் - அக்காவின் கடிதம், நாட்டுப் புறப் பாடல்கள் - பக்திப் பாடல்கள், தாலாட்டுப் பாடல்கள், காதல் பாடல்கள், தொழிற்பாடல்கள் - ஒப்பாரிப் பாடல்கள், தெம்மாங்குப் பாடல்கள்.

அலகு – 3 சிறுகதை

), சிறுகதை மலர் - பிரமி பதிப்பகம், திருச்சி-21. (2017-2018 கல்வியாண்டுக்கு).

அலகு – 4 பயன்முறைத் தமிழ்

எழுத்தியல் - எழுத்துப் பிழைகளும், திருத்தங்களும் - இன எழுத்துக்கள் வேறுபாடுகள் - தமிழில் பிறமொழிச் சொற்கள் - வலிமிகுதல், வலி மிகாமை.

பாடநூல் - பயன்பாட்டுத் தமிழ் (இலக்கணக் கையேடு), தமிழ் நாதன் பதிப்பகம், சென்னை – 110.

அலகு – 5 தமிழ் இலக்கிய வரலாறு

தற்காலம் - மரபுக் கவிதை-புதுக்கவிதை - தோற்றமும் வளர்ச்சியும், ஹைகூ கவிதை, நாட்டுப்புறப் பாடல்கள், மறுமலர்ச்சி காலக் கவிஞர்கள் - சிறுகதை - தோற்றமும் வளர்ச்சியும், தமிழ்உரைநடை வளர்ச்சி.

Code:15H101	ELC-I - English For Communicative Competence	Sem:I
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Objectives:

To expose students to effective communication in the form of prose, biographies and short stories

To familiarize students with various forms and functions of the English language

UNIT I

- 1.The Gift of Language – *J.G.Bruton*
- 2.My Visions for India – *A.P.J.Abdul Kalam*
- 3.Unlock Your Own Creativity – *Roger Von Oech*

UNIT II

- 1.Mahathma Gandhi – *Francis G.Hutchins*
- 2.Mother Teresa – *John Frazer*
- 3.Indira Nooyi – *An Article*

UNIT III

- 1.Science and Religion – *S.Radhakrishnan*
- 2.Technology with a Human Face – *E.F.Schumacher*
- 3.And Now E-teachers – *Robin Abreu*

UNIT IV

- 1.Vanishing Animals – *Gerald Durrell*
- 2.Climate Change and Human Strategy – *E.K.Federov*
- 3.The Old Folks at Home – *Alphonse Daude*

UNIT V

- 1.The Tempest (Retold by Charles Lamb) – *William Shakespeare*
- 2.The Cop and the Anthem – *O.Henry*
- 3.Marriage is a Private Affair – *Chinua Achebe*

Code: 15S101	CC - I Programming in C	Sem:I
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Objectives:

To familiarize the basic concepts of Programming.

To present the syntax and semantics of 'C' Language.

To introduce problem solving techniques.

UNIT-I:

Introduction to Computers: Generation of computers - Types of computers - Components of computers - Types of software - programming languages - algorithms - flowchart - Algorithms and flowcharts for solving simple problems - **Overview of C:** History of C - Importance of C - Basic structure of C programs - Character set - C Tokens - Keywords and identifiers - Constants - Variables - Data types - Declaration of variables - Assigning values to variables - Defining symbolic constants - Declaring a variable as constant - Input and Output Functions.

UNIT-II:

Operators: Arithmetic - Relational - Logical - Assignment - Increment and Decrement - Conditional - Bitwise - Special operators - Expressions : Arithmetic expressions - Evaluation of expressions - Precedence of Arithmetic operators - Managing I/O Operations - Decision Making: Branching-Looping.

UNIT-III:

Arrays: One dimensional array - Declaration - Initialization- Two dimensional array - Declaration - Initialization - User defined Functions: Need for user-defined functions - Elements - Definition - Return values and their types - Function calls - Function declaration - Category of functions - Nesting of functions - Recursion.

UNIT-IV:

Structures: Defining a structure - Declaring structure variables - Accessing structure through members - Initialization - Copying and comparing structure variables - Arrays of structures - Unions - Preprocessor.

UNIT-V:

Pointers: Understanding pointers - Accessing address of a variable - Declaring pointer variables - Initialization of pointer variables - Accessing a variable through its pointers - Chain of pointers - Pointer expressions - Pointer increment and scalar factor - Pointers and arrays - File Management in C: Defining a file - Opening and closing a file - I/O operations on files - Error handling.

Books for Study:

1. S.Jaiswal, *"Information Technology Today"*, Galgotia Publications, Fourth Edition - 2009 ISBN 81-7515-574-4
2. E. Balagurusamy, *"Programming in ANSI C"* -- Tata McGraw Hill Publication - Sixth Edition. (For Unit II,III,IV,V) ISBN-13: 978-1259004612

Books for Reference:

1. Alexis Leon & Mathews Leon, *"Fundamentals of Information Technology"*, 2nd Edition, Vikas Publishing House Private Limited, ISBN : 978818209221
2. Byron S. Gottfried, *"Programming with C"*, Schaum's Outline Series - Tata McGraw- Hill Publication, Second Edition, ISBN-13: 978-0070240353
3. Yashavant P. Kanetkar, *"Let us C"*, 13 th Edition, BPB, ISBN-13: 978-8183331630

Code: 15S102L	CC – IIa Software Lab-I (Data Analytic)	Sem:I
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Objectives:

To provide in depth practical knowledge in Data Processing and Documentation

Cycle I:

WORD PROCESSOR:

- ❖ Text manipulation
- ❖ Tables and manipulations
- ❖ Picture insertion and alignment
- ❖ Creation of documents using templates
- ❖ Mail merge concepts
- ❖ Copying text and pictures from Spread Sheet

SPREAD SHEET:

Cycle II:

- ❖ Usage of Formulae and Built - in - Functions
- ❖ Describe the types of functions
- ❖ File manipulations
- ❖ Data sorting
- ❖ Preparing different types of Charts

Cycle III:

- ❖ Create Pivot Table chart for the sales of data and Report for the data
- ❖ Creating macros
- ❖ Link word document in excel worksheet to show the usage of linking and embedding
- ❖ Importing and Exporting Data

Code: 15S103A	AC –I – Basic Mathematics	Sem:I
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Objectives:

On successful completion of this course the students will gain knowledge about differentiation, integration, differential equations, Laplace transforms, Fourier series and Matrices.

Unit-I:

Types of Matrices – Characteristic Equation – Eigen Values – Eigen Vectors – Cayley Hamilton’s Theorem (without proof).

Unit-II:

Successive differentiation-Leibnitz’s theorem and its applications- Integration by parts – Definite integrals and its properties

Unit-III:

To solve the second order differential equations when the RHS is of the type $e^{kx}, \sin kx, \cos kx, x^k, e^{ax} X$

Unit-IV:

Definition of Laplace transform - Laplace transforms of $e^{at}, \cos at, \cosh at, t^n$, first shifting theorem – Laplace transforms of $f'(t), f''(t)$ -Inverse Transforms relating to the above standard forms – Applications to the solutions of ODE with constant coefficients involving the above transformations.

Unit-V:

Definition of Fourier series- Finding Fourier constants for periodic function with period 2π - odd and even functions-Half-Range series

Books for Study:

1. P.Kandasamy, K.Thilagavathy, *Allied Mathematics Paper I*, S.Chand & Company Ltd,2003 Unit 1: (P.No 72-76, 114-128) Unit 2: (P.No:229-245) ISBN: 81-219-2323-9.
2. P.Kandasamy,K.Thilagavathy, *Allied Mathematics Paper II*,

*S.Chand & Company Ltd, 2003 Unit 2: (P.No 46-50) Unit 4:
(P.No: 234-284) Unit 5: (P.No:140-159) ISBN: 81-219-2396-4*

3. *S.Narayanan ,T.K. Manicavachagom Pillai, Calculus, Volume III,
S.V.Publications 2010 Unit 3: Ch 8(§ 2.1-2.4)*

Books for Reference:

1. *M.K.Venkataraman, Engineering Mathematics, NPC,1998.*

2. *P.R.Vital, Allied Mathematics, Margham Publishers, 1997*

Code: 15S104A	AC –II – Operations Research	Sem:I
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Objectives:

This course gives emphasis to enhance student knowledge in Linear Programming Problem, Transportation Problem , Assignment Problem, Sequencing and Network scheduling.

Unit-I:

Linear Programming formulations – Canonical and Standard forms of LPP- Simplex method for $<$, $=$, $>$ constraints – Charne’s method of penalties – Two phase simplex Method

Unit-II:

Transportation problem – Algorithm – degeneracy algorithm – Degeneracy in TP – Unbalanced TP

Unit-II:

Assignment Algorithm – Unbalanced Assignment problem

Unit-IV:

Sequencing problem – Processing of n jobs through two machines – Processing of n jobs through three machines – Processing of two jobs through m machines

Unit-V:

Network – Fulkerson’s rule – Measure of activity – PERT computations –CPM computation

Book for Study:

1. Kanti Swarup, P.K.Gupta, Man Mohan, ” Operations Research”, Sultan Chand & Company Ltd, 11th Edition, 2003
Unit 1: Ch 2, 3, Unit 2: Ch 6, Unit 3: Ch 7(§7.1-7.3),
Unit 4: Ch 10(§10.1-10.5), Unit 5: Ch 21

Books for Reference:

1. A .Taha ,Operations Research, Keerthi Publishing House, 1997
2. J.K.Sharma, Operations Research for Management, NPH,1992.
- 3.Prem Kumar Gupta and D.S.Hira, Problems in Operations Research, S.Chand, 2010.

CODE: 15VEDa	VE-VALUE EDUCATION (வாழ்வியல் கல்வியும் மனித உரிமைகளும்)	SEM:I
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அலகு 1

வாழ்வியல் கல்வி – திறன் மேம்பாடும் உயர் பண்புகளும்

கல்வி, வாழ்வியல் கல்வியின் நோக்கம் - வாழ்வியல் கல்வியின் பரிணாம வளர்ச்சி - வாழ்வியல் கல்வியின் கூறுகள் - சுய முன்னேற்றம் - திறன் மேம்பாடு - உயர்பண்புகள் - தன்மதிப்பீடும் சுயபரிசோதனையும் - பாலினச் சமத்துவத்தை உளமாரப் பின்பற்றுதல் - மாற்றுத் திறனாளிகள், மனவளம் குன்றியோர், வயதில் பெரியவர்கள், அனுபவசாலிகள், சான்றோர்கள், குடும்ப உறுப்பினர்கள், அருகில் வசிப்பவர்கள், சுற்றத்தார், உடன் பணியாற்றுவோர் இவர்களுக்கு மதிப்பளித்தல் - நற்பண்புகளும் நடத்தை உருவாக்கமும் - உண்மை - ஆக்கத்திறன் - தியாகம் - நேர்மை - கட்டுப்பாடு - உதவி செய்யும் மனப்பான்மை - சகிப்புத்தன்மை - அறிவியல் கண்ணோட்டம்

அலகு 2

தேசிய, உலக முன்னேற்றத்திற்கான வாழ்வியல் கல்வி

தேசம், சர்வ தேசங்கள் குறித்த எண்ணங்கள் - நமது நாடு - அரசமைப்பு - மக்காளாட்சித் தத்துவம் - சமதர்மம் - மதச்சார்பின்மை - சமத்துவம் - சமூக நீதி, தனியுரிமை - சுதந்திரமும் சகோதரத்துவமும் சமூகப் பண்புகள் - இரக்கம் மற்றும் நேர்மை, சுயகட்டுப்பாடு, உலகளாவிய சகோதரத்துவம் - தொழில் சார் பண்புகள் - அறிவு வேட்கை - தொழிலில் நேர்மை - முறைமை - காலந்தவறாமையும் நம்பிக்கையும் - மதம் சார்ந்த பண்புகள் - சகிப்புத்தன்மை, மெய்யறிவு, நன்னடத்தை - அழகியல் பண்புகள் - இலக்கியம், நுண்கலைகள் ஆகியவற்றைப் பயில்தல், சுவைத்தல், மனதாரப் பாராட்டுதல் மதித்தல், பாதுகாத்தல், தேசிய ஒருமைப்பாடும் சர்வதேசப் புரிதலும்.

அலகு 3

அறப்பண்புகள் மற்றும் வாழ்வியலில் உலகளாவிய பெருவளர்ச்சிகள் ஏற்படுத்தும் தாக்கங்கள்

பண்பண்பாட்டு முரண்பாடுகளின் தாக்கங்கள் - எல்லை தாண்டிய கல்வி - தொழில் சார்ந்த அறை கூவல்களும் சமரச இணக்கமும் - பொருளியல் சிந்தனைகள் - மக்கள் தொடர்புச் சாதனங்கள் - இளமை உணர்ச்சி வேக நடத்தையின் நவீன அறைகூவல்கள் - இல்லறமும் நல்லுணர்வும் - ஒப்பீடும் போட்டி

இடுதலும் - நேர்மறை, எதிர்மறை எண்ணங்கள் - அகந்தை - சினம் - சுயநலம் - அறைகூவல்கள்

அலகு 4

உடல், உள்ள நலமும் நோய் தீர்க்கும் செயல்பாடுகளும்

உணவுப் பழக்கமும் உணவு முறைகளும் - பொருந்தும் உணவுகள் - பொருந்தா உணவுகள் - மனக் கட்டுப்பாடு - மனத்திண்மை - எளிய உடற்பயிற்சி - தியானம் - மனம், ஆன்மா சார்ந்த விளைவுகள் - யோகா - நோக்கங்கள் - வகைகள் - முறைகள் - ஆசனங்கள் - ஆசைகளை ஒழுங்குபடுத்துதல் - கவலை நீக்குதல் - சினம் தணிதல் - நெடுநீர், மறதி, சோம்பல் தவிர்த்தல் - தூக்கம் முறைப்படுத்துதல் - தூக்கம், இழப்புகளை எதிர்கொள்ளல் - புகை, மது முதலானவைகளின் தீங்கு உணர்தல்- வாழ்த்துகளின் பயன்கள்

குறிப்பு : இந்த அலகு உடற்பயிற்சி - தியானம் - யோகா செய்முறைப் பயற்சிகளுடன் கூடியது.

அலகு 5 மனித உரிமை, மனித உரிமை கருத்துக்கள்

தேசிய மற்றும் பன்னாட்டுக் கண்ணோட்டங்கள் - மனித உரிமையின் பரிணாமம் - மனித உரிமையின் பரந்த வகைப்பாடுகள் வாழ்தற்கான உரிமை, சுதந்திரம், கண்ணியத்துடன் வாழ்வதற்கான உரிமைகள் - கலாச்சாரம் மற்றும் கல்விக்கான உரிமைகள் - பொருளாதார உரிமைகள் - அரசியல் உரிமைகள் - சமூக உரிமைகள் - பெண்கள் மற்றும் குழந்தைகளின் மனித உரிமை - சமூகப் பழக்கங்களும் அரசியலமைப்புப் பாதுகாப்புகளும்.

Code:15T202a	LC-II- செய்யுள் (பக்தி,இடைக்கால இலக்கியம்)தமிழ்ச் செம்மொழி வரலாறு, மொழிபெயர்ப்பியல், தமிழ் இலக்கிய வரலாறு	Sem:II
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அலகு - 1

தேவாரம் - திருஞானசம்பந்தர் திருவையாறு திருமுறைப் பதிகம் -3 “புலனைந்தும் பொறிகலங்கி” எனத் தொடங்கும் பதிகம், **திருமந்திரம்** - 10 பாடல்கள் ஒன்றவன்... (பாடல் எண் - 1), தீயினும்... (பாடல் எண் - 8), பிறப்பிலி... (பாடல் எண் - 25), வானின்று... (பாடல் எண் - 30), அப்பனை... (பாடல் எண் - 36), கல்லா அரசனும்... (பாடல் எண் - 238), வேட நெறி... (பாடல் எண் - 240), வேந்தன் உலகை... (பாடல் எண் - 245), அமுதாறும்...(பாடல் எண் - 248), தன்னையறியாது...(பாடல் எண் - 255). **நாலாயிரத் திவ்வியப் பிரபந்தம்** - குலசேகர ஆழ்வார் பெருமாள் திருமொழி - “ஊனேறு செல்வத் துடற்பிறவி” எனத்தொடங்கும் பாடல் முதல் 11 பாடல்கள் (677-687), **திருவிளையாடல் புராணம்** - திருநாட்டுச் சிறப்பு 20 பாடல்கள், **திருஅருட்பா** - பிள்ளைச் சிறு விண்ணப்பம் 3394 முதல் 3409 வரை 16 பாடல்கள்.

அலகு - 2

கலிங்கத்துப் பரணி - காடு பாடியது, **தமிழ் விடு தூது** - 179 ஆவது கண்ணி முதல் 198 ஆவது கண்ணி முடிய 20 கண்ணிகள், **குற்றாலக் குறவஞ்சி** - எங்கள் மலையே 5 பாடல்கள், **முக்கூடற்பள்ளு** 07 பாடல்கள் - **நாட்டுவளம்** -கோட்டு வளங்...(பாடல் எண் - 16), மேடையேறித்தன்... (பாடல் எண் - 17), கறைபட்டுள்ளது... (பாடல் எண் - 21), மீதுயர்ந் திடுங்.... (பாடல் எண் - 25), **நகர்வளம்** - கொண்டல் கோபுரம்... (பாடல் எண் - 19) கோதி மாமணி...(பாடல் எண் - 23) கார் பூத்த வண்ணனார்... (பாடல் எண் - 28)

அலகு - 3 தமிழ்ச் செம்மொழி வரலாறு

செம்மொழி விளக்கம் - செம்மொழி வரலாறு - உலகச் செம்மொழிகள் - இந்தியச் செம்மொழிகள் - செம்மொழிக்கான தகுதிகள் அல்லது செம்மொழிப் பண்புகள் - தமிழ்ச் செம்மொழி நூல்கள்.

பாடநூல் - தமிழ்ச் சொம்மொழி வரலாறு - முனைவர் மு.சாதிக்காட்சா, இராஜா பப்ளிகேசன், திருச்சி-23.

அலகு - 4 மொழிபெயர்ப்பியல்

ஒரு மடல்(கடிதம்) அல்லது ஒரு பத்தி ஆங்கிலத்திலிருந்து

தமிழில் மொழிபெயர்த்தல்.

பாடநூல் - மொழிபெயர்ப்பியலும் மொழிபெயர்ப்புகளும் -
மகிழினி பதிப்பகம், சென்னை- 106.

அலகு - 5 தமிழ் இலக்கிய வரலாறு

சமயமும் தமிழும், சிற்றிலக்கியங்கள், பக்தி இலக்கியங்கள்,
முத்தொள்ளாயிரம், சித்தர்கள், உரையாசிரியர்கள், இலக்கண நூல்கள்,
நிகண்டுகள்.

Objectives

To expose students to the wisdom and experience written in the form of prose, biographies and short stories

To familiarize students with various forms and functions of the English language

UNIT I

- 1.The Beauty Industry – *Aldous Huxley*
- 2.A Talk on Advertisement – *Herman Wouk*
- 3.On Seeing Films – *Anonymous*

UNIT II

- 1.Charlie Chaplin– *From his Biography*
- 2.Subash Chandra Bose – *M.L Ahuja*
- 3.Isaac Newton – *Colin Swatridge*

UNIT III

- 1.The Need for Excellence – *N.R.Narayana Murthy*
- 2.Travel by Train – *J.B.Priestly*
- 3.Tight Corners – *E.V.Lucas*

UNIT IV

- 1.Letter to Bapu from Generation Next – *Chetan Bhagat*
- 2.Human Rights and Legal Responsibilities – *Nani A.Palkhivala*
- 3.Cellphone Epidemic – *Claudia I.Haas*

UNIT V

- 1.Three Days to see – *Helen Keller*

- 2.The Four Brothers – *Walter De La Mare*
- 3.A Different Kind of Learning – *Jade Snow Wong*

Code:15S205L	Software Lab-II (C)	Sem:II
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Objectives

To provide in depth practical knowledge in solving problems using C Language.

List of Exercises:

Preliminaries (2 Labs)

1. Simple C Program
2. Programs using conditional operators
3. Programs using while do ... while
4. Programs using IF statement and FOR statement

Cycle I: Programs Using

1. Functions
2. Storage Classes
3. Arrays

Cycle II: Programs Using

1. Structure and Union

Cycle III: Programs Using

1. Pointers
2. File

Code:15S206	CC-III-Object Oriented Programming using C++	Sem:II
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Objectives

Understanding the syntax and semantics of the C++ language.

To study the object oriented model and its implementations in C++ language.

To demonstrate problem solving using C++ standard libraries.

Unit-I:

Principles of Object Oriented Programming: Software Evolution - Procedure Oriented Programming - OOP Paradigm - Concepts, Benefits, Object Oriented Languages and Applications - **Structure of C++ program:** - Tokens, Keywords, Identifiers, Data Types, Variables, Manipulators - Expressions - Dynamic Initialization of variables- Reference Variables - Operators - Control Structures.

Unit-II:

Functions: Main Function - Function Prototyping - Call by Reference - Return by Reference - Constant arguments - Inline Functions - Default Arguments - Function Overloading and ambiguity - Classes and Objects - Array of Objects - Static Data Members and Static Member Function.

Unit-III:

Constructors and Destructors - Friend Functions - Overloading Unary and Binary Operators - Type Conversions.

Unit-IV:

Inheritance: Single Inheritance - Multiple Inheritance - Hierarchical, Hybrid Inheritance - Polymorphism - Constructors in

Derived Classes - Virtual Base Class - Pointers - Virtual Functions - Polymorphism.

Unit-V:

Managing Console I/O Operations - **Files:** Classes for file Stream operations - Opening, Closing and Processing Files - End of File Detection - File Pointers - Sequential Input and Output Operations - Error Handling during File Operations - Command line Arguments.

Book for Study:

1. E. Balagurusamy, "*Object Oriented Programming with C++*", Tata McGraw Hill Publishing Ltd., New Delhi., Sixth Edition, ISBN-10: 125902993X.

Books for Reference:

1. Robert Lafore, "*Object Oriented Programming in C++*", Sams Publishing, Fourth Edition, ISBN-13: 978-0672323089.
2. Herbert Schildt, "*The Complete Reference*", McGraw-Hill Osborne Media, Ninth Edition (March 11, 2014), ISBN-13: 978-0071808552.

Code:15S207A	ACIII- Numerical& Statistical Methods	Sem:II
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Objective:

The purpose of this course is to develop knowledge of the various aspects tools of Numerical and Statistical Methods

Unit-I:

Algebraic & Transcendental equations – Bisection method – Newton Raphson method – Iteration Method – Solutions to linear systems – Gauss Elimination method – Jacobi and Gauss- Seidel methods .

Unit-II:

Finite differences – Forward, Backward differences – Interpolation formulae – Lagrange’s interpolation- Numerical Differentiation.

Unit-III:

Numerical Integration – Trapezoidal rule – Simpson’s 1/3rdrule – Numerical Solution of ODE – Taylor series methods - Solution by Euler’s method – Runge Kutta 2nd and 4th order methods.

Unit-IV:

Mean, Median, Mode, Standard Deviation – Correlation & Regression – Properties – Standard error of estimate

Unit-V:

Discrete & Continuous Distributions : Binomial, Poisson, Normal distributions – Mean, Variance, Recurrence relation, Additive property, Moment generating function of these distributions – Properties of normal distribution.

Book for Study:

1. P.Kandasamy, K.Thilagavathy, K.Gunavathi, **Numerical Methods**, S.Chand & Company Ltd, Revised Edition, 2005 - Unit1 : Ch 3 (§ 3.1,3.2.3.4) , Ch 4 (§4.2,4.8, 4.9) - Unit 2: Ch 5 (§5.1-5.3), Ch 6(6.1-6.3), Ch 7 (§7.5), Ch 8(8.7) - Unit 3: Ch 9 (§ 9.2-9.4, 9.9, 9.13), Ch 11 (§ 11.5,11.9,11.12,11.13)

2. S.C.Gupta, **Fundamentals of Statistics**, ,Himalaya Publishing House,2009 (Units 4,5) Unit 4: Ch 5 (§5.4,5.5,5.6,5.7) Ch 6 (§ 6.9) (Problems only) Unit 5: Ch 8 (§ 8.1-8.4), Ch 9 (§ 9.3-9.7), Ch 14 (Problems only)

Books for Reference:

1. S.C. Gupta and V.K. Kapoor ,**Fundamentals of Statistics** Himalayan Publishing House, 2000, ISBN: 81-7014-791-3

2. S.S. Sastry , **Introductory Methods of Numerical Analysis**, Prentice Hall Publications ,2012 , ISBN: 8120345924

Code:15XS21	SKBC - I - Image Editing and Manipulation	Sem:II
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Objectives:

To impart skills in editing and manipulating mages.

To understand the different color gamut ,image file types.

To use various tools available to edit an image.

Unit-I :

Working with interface - Windows and Menus - Docks and Dialogs - Images and Can- vases - Digital images - Raster graphics Vs Vector Graphics - Resolution and Image size - Color Depth - Color Spaces and Color Modes - Compressions.

Unit-II:

Working with files - Opening files - Working in the image window - Copying and Pasting - Saving files **TOOLS:-** View Menu- Selection Tools - Image Tools - Paint Tools - Color Tools - Creating Path- Managing Path - Using Paths.

Unit - III:

Working with Layers and Masks: Managing Layers - Manipulating Layers - Blending Modes- Using Layer Masks - Understanding Channels - Using Channels - Transforming Images - Sizing - Cropping - Flipping - Liquid Rescale - Transformation tools.

Unit - IV:

Adjusting Colors: Using Color Menu - Using Automated Adjustments - Remapping colors - Analyzing your colors- Working with Text - Adding and Editing Texts.

Unit - V:

Filters: Blur- Enhance - Distortion - Light and Shadow - Noise - Render fillers.

Book for Study:

Material provided by the Department

Books for reference:

1. Jason Van Gumster, Robert Shimonski, "GIMP Bible", Willey Publishing. Inc., ISBN-13 978-0470523971, ISBN-10: 0470523972.
2. Karin Kylander & Olof S . Kylander," GIMP User's Manual", ISBN-1: 57610-520-2 .

Code:15EVS	EVS -Environmental Science	Sem:II
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Objectives

To create awareness among the students about our environment, its values, and the need for protecting it for the well being of mankind in the months and years to come.

UNIT - I

Multidisciplinary nature of Environmental Science – Definition – Scope and importance. Natural resources: Land resources: Lands as resources and their uses – land degradation, soil erosion. Forest resources: Importance of forest resources - Major and minor forest produces – Need for afforestation – Water resources: Availability of surface and ground water – Importance of water conservation – Food resources: World food problems and possible solutions. Effect of modern agriculture.

UNIT - II

Mineral resources: Their availability and uses – environmental effects of extracting. Energy resources: Growing energy needs – renewable and non-renewable energy sources – Use of alternate energy sources – Case studies – Equitable use of resources for sustainable life styles.

UNIT-III:

Ecosystem: Concept – Structure and function of Grass land, Pond and Forest ecosystem – Food chains, food webs and Ecological pyramids. Biodiversity: Definition – Genetic, Species and Ecosystem diversity – Biogeographical classification of India – Values of Biodiversity – Biodiversity at global, national and local levels – India as

a mega-diversity nation – Hotspots of Diversity – Threats to Biodiversity – Endangered and Endemic species of India – *In situ* and *Ex situ* conservation of biodiversity.

UNIT-IV:

Environmental pollution: Definition, Causes, effects and control measures of Air, Water, Soil, Marine, Noise, Thermal and Nuclear pollution – Solid Waste Management: Causes, effects and management of urban and industrial wastes

UNIT-V:

Social issues and environment: Effects of deforestation, Construction of Dams, Mineral mining on environment – Natural disasters and their management: Floods, Earthquake, Cyclone and Landslides – Conflicts over water – Advantages of rainwater harvesting and watershed management – Climate change, global warming, acid rain, ozone depletion. Environmental ethics – Case studies – Population explosion – Effects of population explosion on environment – Various acts and legislations, environment and human health, human rights, HIV/AIDS, women and child welfare. Role of individual in preservation of environment.

List of Reference Books

- ✓ Anon. 2000. *Environmental Studies (U.G.C Syllabus)*, Periyar E.V.R College, Tiruchirapalli.
- ✓ Asthana, D.K., Meera, A. 2006. *A Text Book of Environmental Studies for under graduate students*. S.Chand & Company Ltd., New Delhi.
- ✓ Benny Joseph. 2005. *Environmental Studies*. Tata McGraw-Hill Publishing Company Ltd., New Delhi.
- ✓ Kumaraswamy, K., Alagappa Moses, A. and Vasanthi, M. 2004. *Environmental Studies (A Text Book for all under graduate students)*. Bharathidasan University, Tiruchirapalli.

Code:15T303	LC-III- செய்யுள் (காப்பியங்கள்),புதினம்,தமிழ் இலக்கிய வரலாறு	Sem:III
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அலகு - 1

1. சிலப்பதிகாரம் - கனாத்திறன் உரைத்த காதை (80 வரிகள்)
2. மணிமேகலை - ஆபுத்திரன் திறன் அறிவித்த காதை (115 வரிகள்)

அலகு - 2

1. கம்பராமாயணம் - இரணியன் வதைப் படலம் (56 பாடல்கள்)
2. பெரியபுராணம் - இளையான் குடி மாறனார் புராணம் (27 பாடல்கள்)
3. சீறாப் புராணம் - பாந்தள் வசனித்தப் படலம் - (18 பாடல்கள்)

அலகு - 3

1. இராவண காவியம் - தமிழகக் காண்டம் - (தலைமக்கள் படலம்-28 பாடல்கள்)
2. இயேசு காவியம் - (உவமை வழிச் செய்தி முழுவதும்)

அலகு - 4 புதினம்

பாடநூல்

சக்கை, கலைச் செல்வி, என்.சி.பி.எச். வெளியீடு, சென்னை - 600 098.

அலகு - 5 தமிழ் இலக்கிய வரலாறு

காப்பியங்கள் - ஐம்பெருங்காப்பியங்கள், ஐஞ்சிறு
காப்பியங்கள், பிறகாப்பியங்கள் நாவல் - தோற்றம், வளர்ச்சி,-அயல்
நாடுகளில் தமிழ்.

Code:15H303	ELC-III–English for Employability	Sem:III
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OBJECTIVES:

To expose students to the language items tested in the competitive examinations in order to strengthen their employability traits

To familiarize students with different forms of multiple choice and descriptive type questions

UNIT I

Spellings

Vocabulary – Synonyms and Antonyms

UNIT II

Spotting Errors

Errors and How to Avoid Them

UNIT III

Reading Comprehension

Jumbled Sentences

UNIT IV

Words often confused

Idioms and Phrases & Phrasal Verbs

Dialogue Writing

UNIT V

Public Speaking

Interview skills and Group Discussion

Letter Writing & CV Writing

Report Writing

Paragraph and Essay Writing

Code: 15S308	CC - IV Data Structures and Algorithms	Sem:III
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Objectives

To learn the use of Abstract Data Type (ADT) Array, Stack, Queue, Binary Trees and Graph.

To learn the use of time/space complexity, Sorting, Greedy and 8 - Queen problem.

Unit I:

Introduction: Overview - Arrays: Ordered List - Representation of Arrays: Stack and Queues: Fundamentals - Evaluation of Expressions - Multiple Stacks and Queues – Linked List: Singly Linked Lists - Linked Stacks and Queues - The Storage Pool - Polynomial Addition.

Unit II:

Basic Terminology: - Binary Trees - Binary Tree Representations - Binary Tree Traversal - Threaded Binary Trees - Binary Tree Representations of Trees.

Unit III:

Graphs: Terminology and Representations - Traversal, Connected Components and Spanning Trees- Activity Networks, Topological Sort.

Unit IV:

Algorithm: - Performance analysis - Space and Time Complexities - Divide and Conquer - General Method - Binary Search - Finding Maximum and Minimum - Merge Sort - Quick Sort.

Unit V:

Greedy method - The general Method - Knapsack problem - Backtracking - The general method - The 8-Queens Problem - Sum of subsets.

Books for Study:

1. Ellis Horowitz, Sartaj Sahani, "**Fundamentals of Data Structures**"
Golgota Publishers, Hardcover - June 1,1983, ISBN-10: 0716780429;
ISBN-13: 978-0716780427.
2. Ellis Horowitz, Sartaj Sahani, and Sanguthevar Rajasekaran,
"**Fundamentals of Computer Algorithms**" Golgotia Publishers,
Second Edition (2008), ISBN-10: 8173716129.

Books for Refernce:

1. Alfred V.Aho, John E.HopCroft and Jeffrey D.Ullman, "**Data structures and Algorithms**". Addison Wesley Longman private limited, New Delhi, Fourth Indian Re- print 2001,
ISBN: 81-7808-102-4.
2. Niklaus Wirth, "**Algorithms + Data structures = Programs**",
Prentice Hall of India Limited, New Delhi, 1999, ISBN: 81-203-0569-8.

Code: 15S309L	CC - V a Software Lab - III (C++ and Data Structure)	Sem:III
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Objectives

To provide in depth practical knowledge in C++ and Data Structure.

Cycle-I:

1. Simple Programs (Convert C to C++)
2. Control structures
3. Call by reference & call by value
4. Function Overloading and ambiguity
5. Program using Class and object
6. Array of Object
7. Object as a argument
8. Constructor and Destructors
9. Static, abstract classes
10. Friend Function
11. Operator overloading

Cycle-II:

1. Programs using Inheritance
2. Object pointer
3. Virtual Function
4. Virtual base class

5. Files (Simple Programs)

Cycle-III:

1. Stack operations
2. Queue
3. Binary Search Tree

Code: 15S310A	AC –IV – Applied Physics -I	Sem:III
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Objectives

To make the platform for hardware by understanding of electrostatics, magnetostatics, electromagnetic induction and alternating current .

Unit-I: ELECTROSTATIC

Introduction - Coulomb's law - Electric field - electric dipole - electric flux - Gauss's law and its proof- Applications of Gauss's law: uniformly charged sphere-charged cylinder-Electric potential - relation between electric field and electric potential. Capacitance of a conductor - principles of capacitor - parallel plate capacitor-effect of dielectric- - capacitors in series and parallel - Energy stored in a charged capacitor.

Unit-II:CURRENT ELECTRICITY

Introduction-Current and current density - Ohm's law - Kirchoff's current law- Kirchoff's voltage law- applications of Kirchoff's laws Wheatstone's network – Carey foster bridge - Potentiometer - calibration of ammeter and voltmeter.

Unit-III: MAGNETO STATICS

Introduction - Magnetic field - Biot's Savart law and its applications: magnetic induction due to a current carrying straight conductor, circular coil, solenoid - Force on a current carrying conductor

in a magnetic field - force between two parallel current carrying conductor.

Unit-IV: ELECTROMAGNETIC INDUCTION AND ELECTROMAGNETIC WAVES

Introduction - Faraday's law- self induction - self inductance of a long solenoid - determination of self inductance by Raleigh's method - Mutual induction - Mutual inductance between two coaxial solenoids - Experimental determination of mutual inductance - coefficient of coupling - eddy current and its uses.

Unit-V: ALTERNATING CURRENT

A.C: Peak value, mean value, form factor, effective value of an ac, r.m.s - LCR series and parallel resonant circuits - power in ac circuit containing R, L & C - Wattless current -choke coil - construction - Energy losses in a transformer - uses of transformer.

Books for study:

- *Electricity and Magnetism* by R. Murugesan, S. Chand and Co. New Delhi, 1995.

Books for Reference:

- ✓ *Brijlal, Subramaniam, Electricity and Magnetism*, Ratan Prakashan Mandir Education and University Publishers, Agra, (2000)
- ✓ *K.K.Tewari, Electricity and Magnetism*, S. Chand and Co., New Delhi, (2005)

Code: 15XS32L	SKBC - II -Image Editing Lab	Sem:III
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Objectives

To learn practically the various techniques involved in animation and image editing.

GIMP:

- i. Two Images Layer Masking
- ii. Compose old Images to New Images
- iii. Convert New Images into old Images
- iv. Wind Effect on an Image
- v. Create own Background Using Various Tools
- vi. Color Management
- vii. Pattern Filling
- viii. Image Slicing with path Tool and Marquee Tool
- ix. Creating a Blazing Flame Text
- x. A simple Animation

15GS	GS-Gender Studies (Self study)	SEM: III
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Objectives:

To make boys and girls aware of each others strengths and weakness.

To develop sensitivity towards both genders in order to lead an ethically enriched life.

To promote attitudinal change towards a gender balanced ambience and women empowerment.

Unit - I : Concepts of Gender

Sex – Gender- Biological Determination – Patriarchy -Feminism- Gender Discrimination- Gender Division of Labour – Gender Stereotyping- Gender Sensitivity – Gender Equity – Gender Equality- Gender Mainstreaming – Empowerment.

Unit – II: Women’s Studies vs Gender Studies

UGC’s Guidelines –VII to XI Plans – Gender Studies: Beijing Conference and Convention on the Elimination of All forms of Discrimination against Women (CEDAW) - Exclusiveness and Inclusiveness

Unit – III: Areas of Gender Discrimination:

Family – Sex ratio – Literacy - Health – Governance- Religion- Work Vs Employment –Market-Media –Politics –Law – Domestic Violence-Sexual Harassment – State Policies and Planning.

Unit – IV: Women Development and Gender Development

Initiatives- International Women's Decade – International Women's Year –National Policy for Empowerment Year 2001 – Mainstreaming Global Policies.

Unit – V: Women's Movement and Safeguarding Mechanism in India

National Commission for Women (NCW) – All Women Police Station- Family Court- Domestic Violence Act – Prevention of Sexual Harassment at Work Place- Supreme Court Guidelines – Maternity Benefit Act –Pre-natal Diagnostic Act - Hindu Succession Act 2005- Eve Teasing Prevention Act – Self Help Group -73rd and74 th Amendment Act for PRIS.

Book for Study

1. *N.Manimekalai and S.Suba –Gender Studies- Bharathidasan University- Trichirappalli-620024.*

Reference Book(s)

1. *V.S. Gurusamy- Empowerment of Women in India – New Century Publications-New Delhi-First Edition-2008.*

CODE: 15T404	LC-IV- செய்யுள் (பழந்தமிழ் இலக்கியம்), நாடகம், தமிழ் இலக்கிய வரலாறு, கட்டுரை வரைவியல்	SEM:IV
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அலகு - 1

குறுந்தொகை - 05 பாடல்கள்

1. “நள்ளென் றன்றே” (பாடல் எண்- 6)
2. “கழனி மாஅத்து விளைந்துகு” (பாடல் எண் -8)
3. “கான மஞ்சை ...” (பாடல் எண் - 38)
4. “யாயும் யாயும்” (பாடல் எண் - 40)
5. “கடும்புனல் தொடுத்த ...” (பாடல் எண் - 103)

ஐங்குறுநூறு - மருதம் - வேழப் பத்து -10 பாடல்கள்

அகநானூறு - 05 பாடல்கள்

1. “அன்னாய வாழிவேண் டன்னை” (பாடல் எண் - 68)
2. “சிலம்பிற் போகிய ...” (பாடல் எண் - 302)
3. “பெரும் பெயர் மகிழ்ந பேணா ...” (பாடல் எண் - 306)
4. “நீலத் தன்ன நீர்பொதி ...” (பாடல் எண் - 314)
5. “சாரல் யாஅத்து உயர்சினை ...” (பாடல் எண் - 337)

புறநானூறு - 05 பாடல்கள்

1. “நளியிரு முந்நீர் ஏணியாக ...” (பாடல் எண் 35)
2. “பாணன் சூடிய...” (பாடல் எண் 141)
3. “உற்றுழி உதவியும்....” (பாடல் எண் 183)
4. “கேட்டன் மாத்திரை யல்லதி யாவதும்....” (பாடல் எண் 216)
5. “யாதும் ஊரே...” (பாடல் எண் 192)

அலகு - 2

திருக்குறள் 2 அதிகாரங்கள் -- ஊக்கமுடைமை , அவையடக்கம்

இனியவை நாற்பது - 10 பாடல்கள்

1. கற்றல் சான்றோரைச் சார்தல் - (பாடல் எண் 1)
2. அன்பும் நிலவும - (பாடல் எண் -9)
3. குழந்தை அவையஞ்சாமை-(பாடல் எண்-12)
4. கற்றது உரைத்தல் பழகுதல் (பாடல் எண் -16)
5. துறவிகளின் இயல்பு - (பாடல் எண்-18)
6. புறங்கூறாமை (பாடல் எண் - 19)
7. வழங்கல் நல்லோராய் வாழ்தல் (பாடல் எண் -22)
8. செய்ந்நன்றி அடைக்கலம் வெளவாமை (பாடல் எண் -30)
9. இரவுப்பயணம், நற்பேச்சு வேண்டா நட்பு (பாடல் எண் -34)
10. கல்விக்கு நிகரான இனியது இல்லை (பாடல் எண் - 40)

நல்வழி - 10 பாடல்கள் (பாடல்

1. காலம் அறிந்து செய்க (பாடல் எண் -4)
2. பேராசை கூடாது – (பாடல் எண் - 6)
3. குடிபிறந்தார் வறுமையிலும் உதவுவார் (பாடல் எண் -9)
4. சிவாய நமவென்று - (பாடல் எண் - 15)
5. உயர் நோக்கம் இன்மை – (பாடல் எண் -19)
6. வஞ்சனை யில்லார்க்கு வாழ்வு சிறக்கும் - (பாடல் எண்- 21)
7. மன அமைதி வேண்டும் - (பாடல் எண் -28)
8. பொருள் இருக்கும் போதே அறம் செய்க (பாடல் எண்-32)
9. வன்சொல்லும் இன்சொல்லும் - (பாடல் எண்-33)
- 10.உண்மை நிலை – (பாடல் எண் 38)

திரிகடுகம்– 10 பாடல்கள்

1. “கல்லார்க்கு இன்னாய...”(பாடல் எண் - 3)
2. “தொல்லவையுள் தோன்றுங் ...”(பாடல் எண் - 8)
3. “பெருமை யுடையா...” (பாடல் எண் - 9)
4. “கணக்காயர் இல்லாத...”(பாடல் எண் – 10)
5. “விளியாதான் கூத்தாட்டுக்...”(பாடல் எண் – 11)
6. “ஆசை பிறன்கட்...”(பாடல் எண் – 20)
7. “சிலசொற் பெருந்தோள்....”(பாடல் எண் - 47)
8. “காவோ டற்குளந்...”(பாடல் எண் – 70)
9. “கயவரைக் கையிகந்து ...” (பாடல் எண் - 77)
- 10.“பத்திமை சான்ற...”(பாடல் எண் - 100)

அலகு – 3 நாடகம்

பாடநூல் - பிசிராந்தையார் - பாரதிதாசன், தமிழ் நாதன் பதிப்பகம், சென்னை – 110

அலகு – 4 தமிழ் இலக்கிய வரலாறு

சங்க காலம் - சங்க இலக்கியங்கள், சங்க காலம் பொற்காலம்,சங்க மருவிய காலம் - கீழ்க்கணக்கு நூல்கள் தொல்காப்பியம்,அகத்தியம், பிற்காலப் புலவர்கள், நாடகம் தோற்றம் வளர்ச்சி.

அலகு – 5 கட்டுரை வரைவியல் - பொதுக்கட்டுரை

பாடநூல் - பொதுக்கட்டுரைகள், மகிழினி பதிப்பகம், சென்னை-106.

பாடநூல்கள்

செய்யுள் திரட்டு (நான்கு பருவங்கள்), தமிழ்த்துறை வெளியீடு. தமிழ் இலக்கிய வரலாறு, மு.அருணாசலம், இராஜா வரதராஜா, அருண் பதிப்பகம், திருச்சி-1. (2017-2018 கல்வியாண்டுக்கு).

Code:15H404	ELC-IV- English Through Literary Texts	Sem:IV
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Objectives:

To expose students to the creative use of the English language and make them appreciate it

To familiarize students with various forms and styles of writing in English

UNIT I --- British Poetry

1. **Incident of the French Camp** – *Robert Browning*

2. **Ozymandias** – *P.B.Shelley*

3. **Lotus Eaters** – *Alfred Tennyson*

UNIT II --- Indian Poetry in English

1. **Where the Mind is Without Fear** – *Rabindranath Tagore*

2. **Very Indian Poem in Indian English** – *Nissim Ezekiel*

3. **On Killing a Tree** – *Gieve Patel*

UNIT III --- American Poetry

1. **Brahma** – *Ralph Waldo Emerson*

2. **Stopping by Woods on a Snowy Evening** – *Robert Frost*

3. **Strange Meeting** – *Wilfred Owen*

UNIT IV --- Poetry from the Third World and Indian Fiction

Australia – *A.D.Hope*

Telephone Conversation – *Wole Soyinka*

Five Point Someone – *Chetan Bhagat*

UNIT V --- One Act Plays

The Rising of the Moon by *Lady Gregory* (*One-act play*)

Little Man by *John Galsworthy* (*One-act play*)

Seven Slaves – *A.Ball* (*One-act play*)

Code: 15S412	CC - VI - Database System	Sem:IV
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Objectives:

To provide students with basic concepts in information system and the benefits with these systems in modern society.

To differentiate between data, information, and knowledge.

To understand systems definition, systems requirements, and information needed for decision maker.

UNIT-I:

An Overview of Database Management : Introduction - Definition Of Database System - Data Independence - Relational Systems. Database System Architecture : The Three Levels of the Architecture- Database Administrator-Client Server Architecture- Distributed Processing.

UNIT-II:

Basic File System: Introduction - Factors affecting physical organization of data - Secondary storage devices - Basic Terminology - Disk organization - File organization - Heap, Sequential Indexed sequential - Hashed file organization - key - address - Transformations.

UNIT-III:

Relational Data Model: Basic Definition and terminology - Relational Algebra - SEQUEL or SQL - QUEL - QBE. The Relational Calculus: The tuple Calculus.

UNIT-IV:

Relational Database Design: Functional Dependencies - Introduction - Basic Definitions - Normalization - First, Second, Third Normal Forms-BOYCE / CODD Normal Form.

UNIT-V:

Network and Hierarchical Data Base System: Network Data Model - Introduction - CODASYL model - Commands for data manipulation - Hierarchical Data base system _ IMS Physical Database - TMS External model - The PCB mask - Security - Access control cryptosystem.

Book for Study:

1. C.J.Date ,*"An Introduction to Database Systems"*, Pearson Education, Seventh Edition 2000. (Unit I - Chapters 1,2. Unit IV - Chapters 10,11). ISBN 81-7808- 231-4
2. Arun K.Majumdar & Pritmoy Bhattacharyya, *"Data Base Management System"*, Tata McGraw Hill, New Delhi, 1999. (Unit II, Unit III, Unit V) ISBN 0-07-462239- 0

Code: 15S413L	CC - Vb -Software Lab - IV (RDBMS)	Sem:IV
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Objectives:

To provide practical in depth programming knowledge in RDBMS.

Cycle I:

1. DDL Commands
2. DML Commands
3. DCL Commands
4. TCL Commands

Cycle I:

1. Queries using operators
Logical operators
SET operators
2. Nested queries using SQL
Sub query
Join Operations
3. Built in functions of SQL
4. Creating views and querying in views
5. Sequence
6. SQL Reports

Cycle III

1. Cursors
Implicit
Explicit
2. Triggers
3. Functions
4. Procedure

Code: 15S311L	AC – V -Applied Physics Lab	Sem:III & IV
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1. Potentiometer - Measurement of Resistance and Specific resistance of a wire
2. Carey Foster's Bridge -- Measurement of Resistance and Specific resistance of a wire
3. Determination of Co-efficient of self inductance of a coil in series resonance circuit method
4. Verification of Kirchhoff's laws in electronic circuits
5. Determination of Co-efficient of self inductance of a coil in parallel resonance circuit method
6. V-I characteristics of Semiconductor and Zener Diodes
7. Transistor Characteristics - CE configuration
8. FET characteristics - CS configuration
9. Construction and study of Inverting and Non-Inverting amplifier using operational amplifier
10. Construction of adder and subtractor circuits using Op-Amp
11. Construction and verification of Zener regulated power supply
12. Study of logic gates using ICs
13. Verification of DeMorgan's theorem and Boolean algebra
14. Universality of NAND and NOR gates using IC
15. Construction and verification of Half and Full adder circuits
16. Construction and verification of Half and Full subtractor circuits
17. Study of Flip-flops (RS, JK and D)
18. Design of counter using IC 7490
19. Study of decoder and encoder using ICs
20. Study of multiplexer and demultiplexer circuits using ICs
21. D/A converter using operational amplifier (Binary weighted method)

Code: 15S414A	AC – VI - Applied Physics - II	Sem:IV
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Objectives :

To explore hardware and computer architecture knowledge by understanding of semiconductor physics and digital fundamentals.

Unit - I : SEMICONDUCTOR DIODE, SPECIAL DIODES

Introduction-Semiconductor -Intrinsic semiconductor - Extrinsic semiconductor - V-I characteristics of PN junction diode - Half wave rectifier - Efficiency of Full wave bridge rectifier- Zener diode -V-I characteristics of Zener diode- Zener diode as voltage stabilizer -Light Emitting Diode - Photo diode.

Unit -II: TRANSISTORS AND AMPLIFIER

Introduction- Transistor - Transistor action - Transistor connections -relation between ' α ' and ' β '-Transistor Characteristics - Common emitter configuration. Transistor amplifier-stability-voltage divider method-single stage R-C coupled amplifier- JFET- Characteristics and Parameters.

Unit -III: OPERATIONAL AMPLIFIER

Introduction-Operational amplifier-IC 741 configuration- DC Characteristics - Applications of OP-amps - Inverting amplifier -Non inverting amplifier - Summing amplifier - Subtractor -Integrator - Differentiator.

Unit -IV: BINARY SYSTEMS, BOOLEAN ALGEBRA

Introduction-Binary numbers - Number base conversions - binary to decimal, hex- decimal and vice versa - Hexa decimal to decimal - decimal to hexadecimal - 1's Complements subtraction - Binary codes - 8421code - gray code. Boolean algebra - Basic definitions - Basic theorems and properties of Boolean algebra - Boolean functions- Demorgan's thorem-basic logic gates - Universal gates.

Unit - V: COMBINATIONAL AND SEQUENTIAL LOGIC

Introduction-K-Map- Formation and simplification of two and three variables - Don't care conditions. Half and Full adder - Half Subtractor - Decoders - Demultiplexers - Encoders - Multiplexers. Flip

flops - Basic flip flop circuit - Clocked RS flip flop - D flip flop - JK flip flop - Registers - Shift registers - Counters -Ring counter.

Books for Study:

1. K.Mehta, Rohit Mehta, *Principles of Electronics, S.Chand & Company, New Delhi, Eleventh Edition, 2008 (Unit I &II)*
2. L D.Roy Choudhury, Shail Jain, *Linear Integrated Circuits, New Age Interna - tional Pvt., Ltd., New Delhi, 1999 (Unit-III).*
3. V.Vijayendran *Digital Fundamentals, Vijay Nicole imprint Pvt., Ltd., Chennai, 2004(Unit IV & V).*

Books for Reference:

1. *Leach and Malvino, Digital Principles and Applications, Tata McGraw Hill Publishing Company Limited, New Delhi, Second reprint, 2002.*
2. *S.Salivahanan, N. Suresh Kumar, A.Vallavaraj, Electronic Devices and Circuits, Tata McGraw-Hill Publishing Company Limited, New Delhi, 2006.*

Code: 15SSC	SSC-Soft skills course	Sem-IV
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Objectives

“Soft skills” or behavioral skills are those that are crucial to an employee’s ability to work “smarter”. A survey of employers has revealed a list of specific “soft skills” that they believe as essential for employees. The skills most frequently mentioned for fresh entrant engineers are English communication, knowing how to learn; competence in reading, writing, effective listening and oral communication skills; grammar and vocabulary; and initiative; interpersonal skills; the ability to work in teams, Knowledge of industry.

Unit I

Importance of Spoken English: Indian and Global Context; Native and NonNative Accents of English and Issue of Intelligibility

- Aspects of English Pronunciation: Individual sounds: Vowels and Consonants

Unit II

- Features of Connected Speech: Word Stress, Rhythm and Intonation
- Fluency in Spoken English: Rate of Speaking, Volume of Voice, Pitch, Articulation, Clarity of Expression, Lack of Hesitation, Confidence
- Speaking Politely in English: Use of Can, Could, May, Might, Will, Would, Expressing Requests, Gratitude, Compliments, Agreement, Disagreement

Unit III

Definition and Functions of Communication, Types of Communication:

Interpersonal (Dyadic), Group Communication, Mass Communication

- Maxims of Good Conversation

Unit IV

- Characteristics of Competent Speaker
- Styles of Speaking
- Interview and Group Discussion

Unit V

- Speaking with Confidence: Speech Anxiety, Ways to Overcome Speech Anxiety, Building Credibility as a Speaker: Competence, Character, Charisma Situational Conversations: Meeting People, Greetings, Introducing Yourself, Introducing People, Saying Thanks

Code: 15S515	CC - VII - Computer System Architecture	Sem-V
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Objectives:

To introduce the basic concepts of Computer Organization, Design, programming concepts and basic computer arithmetic.

The course also deals with input - output and memory organization concepts.

Unit-I:

Basic Computer Organization and Design: Instruction Codes - Computer registers - Computer Instructions - Timing and Control - Instruction Cycle - Memory reference - Instructions - Input - Output and Interrupt.

Unit-II:

Central Processing Unit: Introduction - General Register Organization - Stack Organization - Instruction Formats - Addressing Modes - Data Transfers and Manipulation- Program control.

Unit-III:

Computer Arithmetic: Introduction - Addition and Subtraction Algorithms - Multiplication Algorithms -Division Algorithms - Decimal Arithmetic Unit - Decimal Arithmetic Operators.

Unit-IV:

Input - Output Organization: Peripheral Devices - I - O Interface - Asynchronous Data Transfer - Modes of Transfer - Priority Interrupt - DMA

Unit-V:

Memory Organization: Memory Hierarchy - Main Memory - Auxiliary Memory - Associative memory - Cache memory - Virtual memory.

Book for Study:

1. M. Morris Mano, "**Computer System Architecture**", Prentice Hall of India Private Ltd, New Delhi. Third Edition, ISBN 81-203-0855-7.

Book for Reference:

1. Thomas c Bartee, "**Computer Architecture and Logic Design**", McGraw - Hill, 1991, ISBN 0070039097, 9780070039094.

Code: 15S516	CC - VIII - Principles of Operating System	Sem-V
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Objectives:

To understand the knowledge on the basic functions of various OS management.

Unit-I:

Evolution of Operating systems: Types of Operating Systems - Different views of OS - Design and Implementation of Operating Systems - I/O Programming Concepts - Interrupt Structure & Processing.

Unit-II:

Memory Management: Single Contiguous Allocation-Partitioned Allocation - Relocatable Partitioned Allocation-Paged Memory Management- Demand Paged Memory Management - Segmented Memory Management-Segmented and Demand Paged Memory Management-Swapping and overlay techniques.

Unit-III:

Processor Management: Job scheduling-Process scheduling-Functions and policies- Evaluation of Round Robin Multiprogramming Performance-Process Synchronization- Race condition - Synchronization mechanism - Deadly embrace - Prevention and Detect and Recover methods.

Unit-IV:

Device Management: Techniques for Device Management-Device Characteristics - I/O Traffic Controller, I/O Scheduler, I/O Device Handlers-Virtual Devices - Spooling.

Unit-V:

Information Management: Simple File System, General model of a File system, Physical and Logical File systems.

Book for Study:

- *Stuart E.Madnick and John J.Donavan, "Operating Systems",Tata McGraw Hill Book Company Ltd, Third Edition, ISBN 0-07-039455-5.*

Book for Reference:

- ✓ *Milan Milenkovic, "Operating Systems (Concepts and Design)", Tata McGraw Hill Publishing Company Limited, New Delhi 1999, ISBN 0-07-463272-82.*

Code: 15S517	CC – IX - Programming in JAVA	Sem-V
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Objectives:

- To learn Object-Oriented programming concepts and techniques*
- To provide an exposure in basic concepts of JAVA*
- To understand the syntax & methodology of programming in JAVA*
- To study the method of application development using Database connectivity*

UNIT-I:

Fundamentals of JAVA: Basic concepts of OOP - Benefits and Applications of OOP - Java Evolution - Overview of Java language - classes and Objects - Arrays , Strings and Vectors- Constructors - Garbage collection - The finalize method - Method overloading - this, static and final usage - Nested and Inner classes - Inheritance - Method overriding - abstract methods and abstract classes - final methods and final classes.

UNIT-II:

Concepts of Java: Interfaces - Packages - Exception Handling: Types of Exception - try and catch - Nested try - throw and throws - Multithreading: Thread Life Cycle - Thread Exceptions - Thread Priority - Synchronization.

UNIT-III:

I/O Streams: Stream Classes - Byte Stream - Character Stream - I/O Exceptions- Sequential Files.

UNIT-IV:

AWT Package: Window Fundamentals _Working with Frame window -Event handling - Introducing graphics - AWT controls: Labels - TextField - TextArea -Button - CheckBox - Choice - List - ScrollBars - Layout Managers.

UNIT-V:

Applet Programming: Applet Life Cycle - HTML applet tag - Passing parameters to Applets - Java Database Connectivity: Establishing Connection - Creation of data tables - Entering data into the tables - Table Updating - Use of Prepared Statements - Result

Sets - Stored Procedures.

Books for Study:

1. *Patrick Naughton and Herbert Schildt, " JAVA - The Complete Reference", Ninth Edition, Tata-McGraw-Hill, New Delhi, 2002. (Unit I- IV) ISBN: 9780071808569.*
2. *C. Muthu, "Programming with Java", Vijay Nicole Imprints Pvt. Ltd., Chennai, 2004. (Unit V). ISBN 981-254-265-5.*

Book for Reference:

1. *P. Radha Krishna, "Object Oriented Programming through JAVA", Universities Press, 2007.*
2. *E. Balagurusamy, "Programming with Java A Primer 3e", Tata McGraw Hill Publishing Company Ltd., ISBN 0-07-061713-9.*

Code: 15S518L	CC - X Software Lab - V(Java and Application Development)	Sem-V
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Objectives:

To have a practical experience in java programming and develop simple applications using C /C++.

Preliminaries (2 Labs)

1. Basic Syntax
2. Control structures
3. Arrays
4. String Manipulation

Cycle - I

1. Classes and objects
2. Constructors
3. Method Overloading
4. Abstract class
5. Inheritance
6. Method overriding
7. 'static', 'This', 'Final' and 'super' keyword

Cycle -II

1. Packages
2. Interfaces
3. Exception handling
4. Thread
5. Streams

Cycle -III

1. AWT
2. Applet
3. Database connectivity(queries)

Evaluation:

CIA : 15 Marks

External Examinations: 50 Marks

Application Development

A separate guidelines shall be issued for developing applications by providing procedure for developing simple application

CIA :10 Marks

External Viva: 15 Marks

Record:10 Marks

Code: 15S519a	EC - I - Principles of Computer Graphics	Sem-V
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Objectives:

The main objective of this module is to introduce the concepts of computer graphics.

It starts with an overview of interactive computer graphics, two dimensional system and mapping.

It presents the most important drawing algorithm, It provides clipping, filling and an introduction to 3-D graphics.

Unit-I:

Introduction: Applications of Computer Graphics, Raster Scan System, Random Scan System, Raster Scan Display Processors. **Output**

Primitives: Points and Lines - Line Drawing Algorithms, Mid-Point Circle and Ellipse Algorithms. Attributes of Output Primitives.

Unit-II:

Two Dimensional Geometric Transformations- Matrix Representations and Homogeneous Coordinates, Composite Transformations, Transformations between Coordinate Systems - Two Dimensional Clipping and Viewing: The viewing pipeline, Viewing coordinate reference Frame, Window to View-port Coordinate transformation, viewing functions, Cohen-Sutherland and Cyrus-beck line Clipping algorithms, Sutherland Hodgeman Polygon clipping algorithm.

Unit-III:

Graphics Structures - Hierarchical modeling - Graphical User Interfaces and Interactive Input Methods.

Unit-IV:

3-D Object Representation: Polygon surfaces, Quadric surfaces, Spline representation, Hermite Curve, Bezier Curve and B-Spline Curve, Bezier and B-Spline surfaces - Three Dimensional Geometric Transformations: Three Dimensional Viewing pipeline, Clipping, Projections(Parallel and Perspective).

Unit-V:

Visible Surface Detection Methods: Classification, back-face Detection, Depth- buffer, scan-line, depth sorting, BSP-tree methods, area sub-division and octree methods - Computer animation.

Book for Study:

1. Donald Hearn and M.Pauline Baker, "**Computer Graphics C Version**", Pearson Education 2003, Second Edition, ISBN 0-13-530924-7.

Book for Reference:

1. Foley, Vandam, Feiner, Huges, "**Computer Graphics: Principles & Practice**", Pearson Education, Second Edition 2003, ISBN: 0201121107,9780201121100.

Code: 15S519b	EC - I - Software Engineering	Sem-V
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Objectives:

To understand the basic concepts of Software Engineering

To learn the phases of Software Development Life Cycle

Unit-I:

Introduction to Software Engineering: Definitions-Size Factors-Quality and Productivity Factors-Managerial Issues-Planning a Software Product: Defining the Problem-Developing the Solution Strategy-planning the development process-Planning the Organization Structure.

Unit-II:

Software Analysis: Software cost factors-Software Cost Estimation Techniques- Staffing level Estimation-Estimating Software Maintenance Costs-The Software Requirements Specification-Formal Specification Techniques .

Unit-III:

Software Design: Fundamental Design Concepts-Modules and Modularization Criteria - Design Notations-Design Techniques - Design Guide lines.

Unit-IV:

Implementation: Structured coding techniques-Coding Style-Standards and Guidelines-Documentation Guidelines

Unit-V:

Testing: Quality Assurance - Walkthroughs and Inspections-Static Analysis-Symbolic Execution- Unit testing and debugging - System Testing - Formal Verification Maintenance: Enhancing Maintainability during development - Managerial aspects of Software Maintenance-Source Code Metrics

Book for Study:

➤ *"Richard Fairley", "Software Engineering Concepts", Tata McGraw-Hill Edition. ISBN 0-07-463121-7.*

Books for Reference:

- ✓ *Roger S. Pressman, "Software Engineering - A Practitioner's Approach", 6th Ed., McGraw Hill International, 2005.*
- ✓ *Ian Sommerville, "Software Engineering", Addison Wesley, Singapore, 2002*
- ✓ *K.K. Agarwal & Yogesh Singh, "Software Engineering", New Age International Publishers, Revised Second Edition, 2005.*

Code: 15S519c	EC - I - XML and Web Services	Sem-V
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Objectives:

To understand the basic concepts of XML ramming.

Unit-I:

The XML Galaxy: Introduction-No-Predefined Tags-Document Structure-Markup Language History. Application of XML: Document Application-Data Application- Companion Standard: XML Namespaces-Style sheet-DOM and SAX- XLink and XPointer. XML Software: XML Browser-XML Editor-XML Parsers-XSL Processor.

Unit-II:

The XML Syntax: A first Look at the XML Syntax-Advanced Topics-Four Common Errors-Xml Editors- Three Applications of XML

Unit-III:

XML Schemas:The DTD Syntax-Well-Formed and Valid Documents-Relationship between the DTD and the Document-Entities and Notation-Notations-Designing DTD's- Designing DTD's from an object Model.

Unit-IV:

Namespaces: The problem Namespaces Solves-URIS-Namespaces and DTD- Application of Namespaces-XSL Transformation-Basic XSLT-Supporting a different Medium-Advanced XSLT.

Unit-V:

XSL Formatting Object and Cascading Style sheet: The Basics of CSS-Flow Objects and Boxes-CSS Property Values-The Parsers and DOM-The Parser and the Application- Document Object Model-DOM in Application-SAX.

Book for Study:

1. Benoit Marchal, "**XML BY EXAMPLE**" , Prentice Hall of India Pvt Ltd, New Delhi. ISBN 978-8120316645.

Books for Reference:

1. David Hunter, Jeff Rafter, Joe Fawcett, "**Beginning XML**" Fourth Edition, Wrox Publications, ISBN: 978-047011487

Code: 15S5N a	NMEC- BPO and Health care	Sem-V
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Objectives:

To introduce the Business Process Outsourcing and its applications

UNIT-I:

Introduction to BPO: What is BPO - Features of Outsourcing - Effects of BPO in the global trends of outsourcing opportunities - Types of BPO - Voice & Non-Voice Process - Different BPO Domain - Work habits of USA & UK - Indian's Strength towards positive outsourcing from US & UK.

UNIT-II:

USHC Industry: Introduction to Health Care - Health Care Insurance - Health Care Insurance - Terminologies - Types of Health Insurance - HIPPA - Claim Types - Standard and Non Standard Forms - HCFA - UB - Attachments -Non - Standard claim Process - Dental - Terminology

UNIT-III:

Output Format: Introduction to ANSI and NSF - Objectives - Version & Overview of ANSI - Formats of ANSI - Components & Structure of ANSI - ANSI Loop Structure - Sample ANSI Layout - Field Mapping - Validation Process - ANSI Checker - Error Types -

Unit-IV:

Quality: Quality concepts - Quality View Point - Statistical Process Control & QC Techniques - Problem Solving Techniques - Quality Management systems- QMA - Introduction to SIX SIGMA.

Unit-V:

Introduction to Scripting Languages - Perl Scripting - example.

Books for Study:

- 1. Material provided by the Department*

Code: 15S5N b	NMEC - Desk Top Publishing	Sem-V
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Objectives:

To present a publishing software

To understand the tools , functions of the software

To learn to design books, banners, pamlets, greeting cards

Unit-I:

Publishing Software — An overview , menu, tools.

Unit-II:

Drawing lines shapes—inserting pictures, objects - tables and templates.

Unit-III:

Adding special effects - Exporting drawings - outlining and filling objects - inserting symbols and clip arts.

Unit-IV:

Working in Corel Draw presentations - adjusting the position , resizing , positioning , merging , color shades and shadows , working with advanced effects - special interactive effects.

Unit-V:

Creating Business cards , Pamlets, Banners, news papers , books , shortcut keys.

Books for Study:

- 1. Reading material will be provided by the department*

Code: 15S620	CC-XI-Microprocessor and Microcontroller	Sem-VI
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Objectives:

To introduce the basic concepts of microprocessor

To introduce hardware architecture, instruction set and programming of 8085 microprocessor.

To introduce the hardware architecture, instruction set, programming and interfacing of 8051 microcontroller.

Unit I: Architecture of 8085 Microprocessor

Introduction to Microprocessor- Microprocessor system with bus organization - Microprocessor Architecture and operations- Microprocessor architecture- Address, Data and control Buses- Pin Functions- De multiplexing of Buses- Generation of Control signals - Instruction cycle- Machine cycles-T-States.

Unit II: 8085 Instruction set and programs

Assembly Language programming Basics- Classification of Instructions -Addressing modes- 8085 Instruction set- Instruction and data Formats- Decision Making-Looping- Stack and Subroutines- Developing Counters and Time Delay Routines-Simple programs: 8-bit addition-8bit subtraction-8-bit multiplication-8-bit division -sum of N numbers-find largest number in an array -smallest number in an array

Unit III: 8051 Microprocessor Architecture and I/O programming

Microcontroller versus general purpose Microcontroller-overview of the 8051 - Internal Architecture -Registers-Internal RAM -8051 Register Banks and Stack-program counter- Addressing modes - Instruction set-Data Transfer Instructions - Arithmetic -Logical - Boolean variables manipulation-program branching -Simple programs: Addition-subtraction-multiplication-division-I/O port pins and their functions-I/O bit manipulation programs.

Unit IV: Timers and Serial port programming

Programming 8051 Timers-TMOD Register-TCON Register-model programming- mode2 programming-program for generating square wave Generator using Timer -counter programming -Basic of serial communications- serial port programming-SBUF Register -SCON

Register -Simple program: Transfer and Receive Data Serially -8051
Interrupts - IE and IP registers -simple program using Interrupts.

Unit V: Application using 8051 Microcontroller

Blinking of LEDs- polling a Button and Turn on a LED -Interface
ADC 0804 With 8051 Microcontroller-DAC Interfacing- LCD
Interfacing -DC Motor Control Using PWM—Stepper motor interfacing

Books for Study:

1. Ramesh S.Gaonkar, "**Microprocessor Architecture, Programming, and Applications With the 8085**", Penram International, 2013.
2. MuhammadAli Mazidi, Janice Gillispie Mazidi, Rolin D.Mckinlay, "**8051 Microcontroller and Embedded Systems using Assembly and C**", Pearson Education 2007.

Books for Reference:

1. K. Udaya Kumar , B.S. Umashakar, **The 8085 Microprocessor: Architecture, Programming and Interfacing: Pearson Education India—2008.**
2. Kenneth J Ayala, "**The 8051 Microcontroller Architecture Programming and Applications**", Penram International ISBN 81-900828-4-1

Code: 15S621	CC - XII - Computer Networks	Sem-VI
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Objectives:

To understand the basic types of networks, its classifications and its properties.

To know the different functionalities of the networks and to understand data is how communicated through network.

Unit-I:

Introduction: Uses of Computer Networks - Network Hardware - Network Software - The Reference Model. **The Physical Layer:** Concepts of Guided Transmission Media - Wireless Transmission - The Telephone System.

Unit-II:

Data Link Layer: Data Link Layer Design Issues - Error Detection and Correction - Elementary Data Link Protocols . The **Medium Access Control Sub layer** : The Channel Allocation Problem - Wireless LANs - Bridges.

Unit-III:

Network Layer : Network Layer Design issues - Routing Algorithms - The Optimality Principle - Shortest Path Routing - Flooding - Distance Vector Routing - Link State Routing - Hierarchical Routing - Broadcast Routing - Multicast Routing - Congestion Control Algorithms .

Unit-IV:

Transport Layer: The Transport Service - Elements of Transport Protocols - A simple Transport protocol - The TCP Protocol - The TCP Segment Header - UDP.

Unit-V:

Application Layer : Network Security - Cryptography - Symmetric Key Algorithms: DES - IDEA - Public Key Algorithms: RSA -Concepts of Email, SNMP,WWW,FTP,MIME.

Book for Study:

1. Andrews S. Tannenbaum, "**Computer Networks**", Prentice Hall of India, New Delhi, Fifth Edition, ISBN-13: 978-0132126953.

Book for Reference:

1. Behrouz A. Forouzan, "**Data Communication and Networking**", Tata McGraw Hill, New Delhi 2013, Fifth Edition, ISBN: 0073376221.

Code: 15S622	CC – XIII - Web Technology	Sem-VI
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Objectives:

To introduce the technology behind designing dynamic web page.

To introduce the client server technology

To learn HTML, Java Script, PHP and MYSQL.

Unit-I:

HTML: Basic HTML, The Document body, Text, Hyperlinks, Adding more formatting, Lists, Tables, Using colors and images, Images, Multimedia objects, Frames, Forms- towards interactivity, Cascading Style Sheets: Introduction, Using styles: Simple examples, Defining your own styles, Properties and values in styles.

Unit-II:

Client Side Scripting: JavaScript: JavaScript—The basics, Variables, String manipulation, Mathematical functions, Statements, Operators, Arrays, Functions- Data and objects in java script, Regular expressions, Exception Handling, Built in objects, Events. Dynamic HTML with Java Script: Data validation, Opening a new window, Messages and Confirmations, The status bar, writing to a different frame, Rollover buttons, Moving images, multiple pages in a single download, A text-only menu system, Floating logos.

Unit-III:

Server Side Scripting: PHP: evolution of PHP - structure and syntax of PHP and integrating the same with HTML - comments - variables - data types - operators - control structures - passing information between pages - Strings - Arrays and Functions.

Unit-IV:

MySQL Databases: SQL tutorial(DDL, DML, DCL) - MySQL introduction - data types in MySQL - Pattern Matching - GroupBy - IS NULL - DISTINCT Optimization - Max and Min function - Using auto increment.

Unit-V:

Integration of Apache, MySQL, PHP to design dynamic web pages: MySQL functions in PHP - Connecting and disconnecting from

MySQL - Using tables - form design - editing the database - Validation - Handling and avoiding errors.

Books for Study:

1. Timothy Boronczyk, Michael, Elizabeth Naramore, Jason Gerner, Yann Le Scouarnec, Jeremy Stolz,, Michael K. Glass "**Beginning PHP6, Apache, MySQL® Web Development**", Wiley Publishing, 2009 Edition. ISBN-13: 978- 8126521227.
2. Chris Bates, "**Web Programming Building Internet Applications**", Third Edition, Wiley, 2007, ISBN-10: 0470017759.

Books for Reference:

1. Robin Nixon, "**Learning PHP, MySQL & JavaScript With jQuery, CSS & HTML5**" O'Reilly Media, Fourth edition, December 2014, ISBN: 978-1-491-91866-1.
2. David [R. Brooks](#), "**An Introduction to HTML and JavaScript for Scientists and Engineers**", Springer-Verlag London Limited 2007, ISBN-13: 978-1-84628-656-. Michael K Glass, Yann Le Scouarnec, Elizabeth Naramore, Gary Mailer, Jeremy Stolz,
3. Jason Gerner, "**Begining PHP, Apache, MySQL Web Development**", Wiley dreamtech press, 2004 edition. ISBN: 9780764557446

Code: 15S623L	CC – XIV - Software Lab - VI (Web Technology and Hardware)	Sem-VI
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Objectives:

- To provide in depth programming practical knowledge in Web Technology and Microprocessor Lab.

Cycle – I:

- Create a web page with all types of cascading style sheets.
- Create a form for Student information. Write JavaScript code to find Total, Average, Result and Grade.
- Create a form for Employee information. Write JavaScript code to find DA, HRA, PF, TAX, Gross pay, Deduction and Net pay.
- Using JavaScript perform Form Validation with Limit Login Attempts.

Cycle – II:

- Write a PHP script to display the values entered into a Web form that contains:
 - i. One text input field ii. One text area
 - ii. iii. One hidden field iv. One password field
 - v. One selection list vi. Two radio buttons
 - vii. Two checkboxes.
- Create a calculator script that allows the user to submit two numbers and Choose an operation to perform on them (addition, multiplication, Division, subtraction).
- Write a program in PHP for admin interface to add and delete users Using MySQL.

Cycle –III:

- Create an authentication script that checks a username and password. If the user input matches an entry in the database, present the user with a special message. Otherwise, re-present the login form to the user.
- Create a database with three fields: email (up to 70 characters), message (up to 250 characters), and date (an integer that contains a

Unix timestamp). Build a script to allow users to populate the database.

- Create a script that displays the information from the database. Use regular expressions to extract email addresses from a file. Add them to an array and output the result to the browser.
- Write a program in PHP to upload file using form control.

Hardware Lab

Cycle I

Microprocessor Experiments

1. 8-bit addition, subtraction, multiplication and division
2. Multibyte addition and subtraction
3. Sum of series (8-bit)
4. Data transfer from one part of the memory to another
5. Maximum and minimum values
6. Sorting (Ascending and Descending order)
7. Hexadecimal to decimal and decimal to hexadecimal conversion (simple logic only]

Cycle II

Writing Shell Scripts for

1. Create and Modify user and group accounts
2. Setup and modify access permission to the files and directories
3. Manage files and directories
4. Backup Management

Cycle III

1. Utilizing cron services
2. Setting up Date and Time
3. Configure and Investigate the use of FTP
4. Process Monitoring
5. Configure Database and Web Servier
6. Dual OS Installation

Code: 15S624a	EC - II - Multimedia and Animation Techniques	Sem-VI
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Objectives:

*To study the multimedia concepts and various I/O technologies.
In this course the students will learn the basic concepts of animation.*

Unit-I:

Multimedia Systems Design - An Introduction - Multimedia applications - Multimedia System Architecture - Evolving technologies for Multimedia -Multimedia Databases.

Unit-II:

Multimedia File Handling - Compression & Decompression: Types of Compression - Binary Image Compression Scheme - Audio and Fractal Compression - Data & File Format standards: Rich Text Format - TIFF file Format - RIFF and MIDI File Format - Multimedia I/O Technologies. Hypermedia - Multimedia Authoring and User Interface - Hypermedia messaging.

UNIT-III:

Defining Character Animation - Character Movement- Walks- Squash and Stretch- Head Turns and Eye Movement- Animal Animation - Flash 3D Animations - Walkthrough of Mannequin- Modeling for Rendering and Animation- Poser Walk Cycle Exported to Flash- Creating the Walk -Cycle- Building 3D Characters- 3D Tools- Using Sound to Enhance your Animation- Sound - Compression- Getting Creative with Sound Effects- Event Sounds- Soundtrack Looping.

UNIT-IV:

Lip Syncing and Facial Expressions- Eye Expressions- Animation- ActionScript-driven animation techniques-Dynamic animation.

UNIT-V:

Getting started with CG and Maya 2011-Working with objects in Maya-Polygon-NURBS - Light camera - Transforming objects in Maya - Duplicating an object- Polyg- onal modeling in Maya.

Books for Study:

1. Prabat K Andleigh and Kiran Thakrar, "**Multimedia Systems and Design**", PHI, 2. 2003, Second Edition, ISBN: 81-. 203-2177-4.
2. **Animating with Flash MX:Professional Creative Animation Techniques**- Alex Michael - Focal Press - Italy -2003
3. **Flash® 8 ActionScript Bible** Joey Lott and Robert Reinhardt Wiley Publishing, Inc 2010
4. **Macromedia Flash 8 Bible** Robert ReinhardtandSnow Dowd - John Wiley & Sons
5. **Maya 2011 in simple steps** Dreamtech press 2011

Book for Reference:

1. Judith Jeffcoate, "**Multimedia in practice technology and Applications**", PHI, 1998.

Code: 15S624b	EC - II Rapid Application Development Using Python	Sem-VI
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Objectives:

- To understand the basic concepts of Python Programming*
- To give insight for the data structures*
- To imbibe the concepts of file handling and exception handling*
- To give brief overview of standard library and regular expression*
- To elaborate the concepts of OOP*
- To imbibe the applications of Python viz., database programming, web programming and game development*

Unit-I:

Using python: Installing python- The python Interpreter - Interactive mode - IDLE programming environment - Basics of Python Language: comment - variables Strings and String literals - Getting input and Displaying output (input, raw_input & print)- Operators and Expressions - Control Flow Statements: Decision structures and loop control structures.

Unit-II:

Data Structures: Strings, List, Tuples, Dictionaries and Set - Functions - Modules.

Unit-III:

File Handling - Errors and Exception Handling - Python Standard Library - Regular Ex- pression.

Unit-IV:

Object Oriented Programming: Objects and Classes - Inheritance - Network programming - Client Server architecture - Sockets-Connection Oriented Vs Connectionless - Socket() Modules -Socket Objects- Methods - Creating TCP client/server - Executing PCP server- Multithreaded programming -Thread Module-Thread class.

Unit-V:

Game Development using pygame—Installing pygame - Importing the pygame module - pygame init() -Pygame.Display.Set_mode()- and

pygame.display.set_caption() - Colors in Pygame - Fonts-Drawing functions - Fill and blit method -pygame.display.update()-events and game loop- pygame,event.get()- pygame.quit()-pygame.time.Clock and tick() method.

Book for Study:

1. *Book prepared by the department.*

Books for Reference:

2. *Tony Gaddis, "Starting out with python", 2nd edition, Addison Wesley, Pearson*
3. *Michael Dawson, "Python programming for the absolute beginner", Premier press, 2003*
4. *"Core python Programming "by Wesley Chun Pearson Education- 2006 ,Second Edition ,ISBN:0137061595.*
5. *Al Sweigart, "Invent your own computer games with python", 2nd edition, 2008*

Code: 15S624c	EC – II - UML Programming	Sem-VI
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Objectives:

To understand the basic concepts of UML Programming.

Unit-I:

Principles of Modeling-OO Modeling-Introducing the UML-basic Structural Modeling: Classes-Relationships-Common Mechanism-Diagrams-Class Diagrams.

Unit-II:

Advanced Structural Modeling: Advanced Classes-Relationships-Interfaces, types and roles-Packages-Object Diagrams.

Unit-III:

Basic Behavioral Modeling: Interactions-Use cases-Use case Diagram-Interaction Diagram-Activity Diagrams.

Unit-IV:

Advanced Behavioral Modeling: Events and Signals- State Machines- Processes and threads- Time and Space - State Chart Diagrams.

Unit-V:

Architectural Modeling: Components - Deployment- Components Diagram - Deployment Diagrams - Systems and Models.

Book for Study:

1. *Grady Booch, James Rumbaugh, Ivar Jacobson, "The Unified Modeling Language", Addison-Wesley Ltd, ISBN: 0321267974, 9780321267979.*

Book for Reference:

1. *[Simon Bennett, John Skelton, Ken Lunn](#), "Schaum's Outline of UML", McGraw- Hill Professional, Second Edition, ISBN-13: 978-0077107413.*