HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPALLI-620 002. DEPARTMENT OF COMPUTER SCIENCE CHOICE BASED CREDIT SYSTEM
BACHELOR OF COMPUTER SCIENCE
(For Candidates admitted from June 2015 onwards)

Semester	Part	Course	Title of the Course	Code	Hrs / Wk	Credits	Marks
I	I	Language	Tamil Paper I / Hindi Paper I / French Paper I	U15TL1TAM01 U15HN1HIN01 U15FR1FRE01	6	3	100
	II	English	English Paper I	U15EL1GEN01	6	3	100
	III	Major Core-1	Problem Solving using C	U15CS1MCT01	7	5	100
	III	Allied-1 (Compulsory)	C Programming - Lab	U15CS1ACP01	4	4	100
	III	Allied-2 (Compulsory)	Applied Mathematics I	U15MA1ACT05	4	3	100
	IV	Environmental Studies	Environmental Studies	U15RE1EST01	2	2	100
	IV	Value Education	Ethics I/ Bible Studies I/ Catechism I	U15VE2LVE01 U15VE2LVB01 U15VE2LVC01	1	-	-
			TOTAL		30	20	600
II	I	Language	Tamil Paper II / Hindi Paper II / French Paper II	U15TL2TAM02 U15HN2HIN02 U15FR2FRE02	5	3	100
	II	English	English Paper II	U15EL2GEN02	6	3	100
	III	Major Core-2	Data Structures and Algorithms	U15CS2MCT02	5	5	100
	III	Major Core-3	Data Structures Using C Lab	U15CS2MCP03	5	4	100
	III	Allied-3 (Compulsory)	Applied Mathematics II	U15MA2ACT11	4	3	100
	IV	Skill-based Elective-1	Soft Skill Development	U15RE2SBT01	2	2	100
	IV	Skill-based Elective-2	Rural Enrichment and Sustainable Development	U15RE2SBT02	2	2	100
	IV	Value Education	Ethics I/ Bible Studies I/ Catechism I	U15VE2LVE01 U15VE2LVB01 U15VE2LVC01	1	1	100
			TOTAL		30	23	800
III	I	Language	Tamil Paper III / Hindi Paper III / French Paper III	U15TL3TAM03 U15HN3HIN03 U15FR3FRE03	6	3	100
	II	English	English Paper III	U10EL3GEN03	6	3	100
	III	Major Core-4	Database Systems	U15CS3MCT04	5	5	100
	III	Major Core-5	RDBMS – Lab	U15CS3MCP05	5	5	100
	IV	Allied-4 (Optional)	Allied Optional Paper I Applied Mathematics III	U15MA3AOT13	4	3	100
	IV	Skill-based Elective-3	Multimedia and Animation Lab	U15CS3SBP03	2	2	100
	IV	Gender Studies	Gender Studies	U15WS3GST01	1	1	100
	IV	Value Education	Ethics II /Bible Studies II / Catechism II	U12VE4LVE02 U12VE4LVB02 U12VE4LVC02	1	-	-
			TOTAL		30	22	700
IV	I	Language	Tamil Paper IV / Hindi Paper IV / French Paper IV	U15TL4TAM04 U15HN4HIN04 U15FR4FRE04	5	3	100
	II	English	English Paper IV	U13EL4GEN04	6	3	100
	III	Major Core-6	Computer Organization and Architecture	U15CS4MCT06	5	5	100
	III	Major Elective-1	Visual Programming - Lab / Open Source Technology - Lab / Dot Net Lab	U15CS4MEP01/ U15CS4MEP02/ U15CS4MEP03	5	5	100

	III	Allied-5 (Optional)	Basics of Electronics	U15PH4AOT05	4	4	100
	III	Allied-6 (Optional)	Electronics Practicals	U15PH4AOP05	4	3	100
	IV	Value Education	Ethics II/ Bible Studies II/ Catechism II	U12VE4LVE02 U12VE4LVB02 U12VE4LVC02	1	1	100
			TOTAL		**30**	**24**	**700**
V	III	Major Core-7	Java Programming	U15CS5MCT07	5	4	100
	III	Major Core-8	Software Engineering	U11CS5 MCT08	5	4	100
	III	Major Core-9	Operating System	U12CS5 MCT09	5	4	100
	III	Major Core-10	Java Programming Lab	U08CS5 MCP10	5	4	100
	III	Major Elective-2	Unix Shell Programming Lab / System Analysis and Design / Management Information System	U14CS5MEP04/ U14CS5MET05/ U14CS5MET06	5	5	100
	IV	Non Major Elective-1	Multimedia Lab – Photoshop	U13CS5NMP01	2		100
	IV	Skill Based Elective-4	Competitive Examination Skills	U14CS5SBT04	2	2	100
	IV	Value Education	Ethics III /Bible Studies III / Catechism III	U13VE6LVE03 U12VE6LVB03 U12VE6LVC03	1	-	-
			TOTAL		**30**	**25**	**700**
VI	III	Major Core-11	Computer Networks	U12CS6MCT11	6	5	100
	III	Major Core-12	Web Application Development Tools Lab	U14CS6 MCP12	6	5	100
	III	Major Core-13	Web Application Development	U15CS6MCT13	6	5	100
	III	Major Elective-3	Computer Graphics / Artificial Intelligence and Expert System / Software Testing	U14CS6MET07/ U14CS6MET08/ U14CS6MET09	5	5	100
	IV	Non Major Elective-2	Animation Lab – Flash	U13CS6NMP02	2	2	100
	IV	Skill Based Elective-5	Office Tools Lab	U13CS6SBP05	2	2	100
	IV	Skill Based Elective-6	Research Methodology	U15DS6SBT06	2	2	100
	IV	Value Education	Ethics III /Bible Studies III / Catechism III	U13VE6LVE03 U12VE6LVB03 U12VE6LVC03	1	1	100
	V	Extension Activity	RESCAPES -Impact study of project	U15RE6ETF01	-	1	100
			TOTAL		**30**	**27**	**900**
			GRAND TOTAL		**180**	**142**	**4400**

List of Allied Optional Courses

Offered by the Department to Other Students

Semester	Part	Course	Title of the Course	Code	Hrs/Wk	Credits	Marks
III	III	Allied-4 (Optional)	Allied Optional Paper I Office Management Software	U08CS3AOT02	4	3	100
			Multimedia and its Applications	U12CS3AOT03			
IV	III	Allied-5 (Optional)	Web Page Development	U08CS4AOT04	4	3	100
			Windows and Internet Concepts	U08CS4AOT05			
		Allied-6 (Optional)	Desktop Publishing Lab	U11CS4AOP05	4	3	100

List of Non Major Elective Courses

Semester	Part	Course	Title of the Course	Code	Hrs/Wk	Credits	Marks
V	IV	Non Major Elective-1	Multimedia Lab – Photoshop	U13CS5NMP01	2	2	100
VI	IV	Non Major Elective-2	Animation Lab – Flash	U13CS6NMP02	2	2	100

HOLY CROSS COLLEGE (Autonomous), Tiruchirappalli - 620 002.

TAMIL DEPARTMENT

BA/ B.SC/ B.COM DEGREE

Part - I : Language: Tamil Paper - 1

Total Hours : 90	**Code : U15TL1TAM01**
Hrs : 6Hrs /Wk	**Marks : 100**
Credit : 3	

நோக்கங்கள்:

1. தாய்மொழியை வலுவோடும், பொலிவோடும் கையாளும் வழி முறைகளைக் கண்டறியச் செய்தல்.

2. தமிழ் இலக்கியப் பரப்பையும், பாரம்பரியத்தையும் அறிமுகப்படுத்துதல்.

3. படைப்பாற்றலை வளர்த்துக் கொள்ள ஊக்கம் அளித்தல்.

4. உயர்ந்த பண்பாடுகளின் அடிப்படையில் வாழ்க்கையை அமைத்துக் கொள்ளும் உள்ளார்ந்த விருப்பத்தைத் தோற்றுவித்தல்.

5. மனித உரிமைகளை வலியுறுத்தி மனித நேயத்தை வளர்த்தல்.

6. நாம் வாழும் நாட்டையும், உலகையும் பற்றிய விழிப்புணர்வை ஊட்டி சமய நல்லிணக்கத்தையும், சமூக நல்லுறவையும் பேணிக்காக்கத் துணைப்புரிதல்.

7. ஆரோக்கியமான சிந்தனைகள் வளர ஆக்கம் அளித்தல்.

பயன்கள்:

1. தற்காலத் தமிழ் இலக்கிய வரலாற்றை வளர்க்க வழிகாட்டல்.

2. மாணவர்களின் தன்னம்பிக்கையை வளர்த்தல்

3. வாழ்வியல் நெறிகளை உணர்த்தல்.

4. பிழையின்றி எழுத பேச பயிற்சி அளித்தல்.

பாடத்திட்டம்

அலகு:1 செய்யுள்

1. பாரதியார் கவிதைகள் - தமிழ்
   கண்ணன் என் சேவகன்
2. பாரதிதாசன் கவிதைகள் - உலகம் உன்னுடையது
3. உமர்கய்யாம்   - உமர்கய்யாம் பாடல்கள
4. பட்டுக்கோட்டையார் - செய்யும் தொழிலே தெய்வம்
5. ந. பிச்சமூர்த்தி – ஒளியின் அழைப்பு
6. வைரமுத்து – ஐந்து பெரிது ஆறு சிறிது
7. **சிற்பி – ஒரு கிராமத்து நதி**

அலகு:2 செய்யுள்

8. கல்யாண்ஜி – பேசும்பார் என் கிளி
9. நிர்மலா சுரே' - தைலச்சிமிழும் தச்சன் மகளும்
10. இரா. மீனாட்சி – ஒரு கோதை
11. விஜி – குரங்கு மனிதன்
12. பா. சத்திய மோகன் - எங்கெங்கு காணினும்
13. ஹைகூ கவிதைகள்

அலகு:3

தமிழ் இலக்கிய வரலாறு

20-ஆம் நூற்றாண்டு (தற்காலம்)

தமிழாய்வுத்துறை வெளியீடு

அலகு:4

படைப்பிலக்கியம் - சிறுகதைத் தொகுப்பு

அலகு:5

பொதுப்பகுதி   - கலைச்சொற்கள்

தமிழாய்வுத்துறை வெளியீடு

பாட நூல்கள்

செய்யுள்	- தமிழாய்வுத்துறை வெளியீடு
தமிழ் இலக்கிய வரலாறு	- தமிழாய்வுத்துறை வெளியீடு
சிறுகதைத் தொகுப்பு	- தமிழாய்வுத்துறை வெளியீடு
கலைச்சொற்கள்	- தமிழாய்வுத்துறை வெளியீடு

HOLY CROSS COLLEGE (AUTONOMOUS) TIRUCHIRAPPALLI-620002
DEPARTMENT OF HINDI
PART – I LANGUAGE HINDI FOR B.A, B.Sc & B.Com
HINDI PAPER-I SHORT STORY, PROSE, GRAMMAR
SEMESTER – I

HRS/WEEK : 6   **CODE: U15HN1HIN01**

CREDITS : 3   **MARKS : 100**

UNIT – I   **:** Purasakar, Sukamaya Jeevan, Ganga Singh, Machuye Ki Beti,
             Maharaj Ka Ilaj

UNIT- II   **:** Maatru vandana, Chandini, Thitalii, Divali, Seekho.

UNIT- III   **:** Sadak Ke Niyam, Bhagavan mahaveer, Prithvi Ka swarga,
             Mahan ganithagya Ramanujam, Birbal Ki Chathuraye.

UNIT- IV   **:** General Grammar
             (Sanghya, Visheshan, ling, Vachan, Kriyavisheshan)

UNIT- V   **:** Anuvad Abhyas – II

     Books   Prescribed :
     - Galpa Sanchayan   - D.B.H.P. Sabha Publishers, Chennai-17
     - Naveen Hindi Patamala – I- D.B.H.P. Sabha Publishers, Chennai-17
     - Naveen Hindi Patamala – II- D.B.H.P. Sabha Publishers, Chennai-17
     - Sugam Hindi Vyakaran   - D.B.H.P. Sabha Publishers, Chennai-17
     - Anuvad Abhyas – II   - D.B.H.P. Sabha Publishers, Chennai-17

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPPALLI – 2

DEPARTMENT OF FRENCH

<u>SYLLABUS</u>

SEMESTER I
PART I – LANGUAGE - FRENCH PAPER I [GRAMMAR & CIVILISATION
(ÉCHO A1 2e édition)]
(For candidates admitted 2013 onwards)

HRS/WEEK : 6   **CODE : U15FR1FRE01**
CREDIT : 3   **MARKS:100**

Unit 1 Parcours d'initiation ; Vous comprenez

La différence entre le prénom et le nom, les nationalités, les nombres, les professions

La présentation, le genre et le nombre d'un nom, l'interrogation et la négation – l'identité, les lieux de la ville, les mots du savoir-vivre – saluer, remercier – l'espace francophone.

Unit 2 Au travail!

La conjugaison des verbes du 1er groupe, des accords, les articles – l'état civil, des personnes et des objets caractéristiques d'un pays – exprimer ses gouts – première approche de la société française.

Unit 3 On se détend!

La conjugaison des verbes irréguliers, le future proche, les pronoms après une préposition – les loisirs – proposer, accepter, refuser, demander une explication – première approche de l'espace de France, repérages de quelques lieux de loisirs

Unit 4 Racontez-moi ! ; Bon voyage !

Le passé composé, la date et l'heure – les moments de la journée, de l'année, les événements liés au temps – dire ce qu'on a fait – les rythmes de vie en France, des personnalités du monde francophone.

La comparaison, les adjectifs démonstratifs et possessifs – les voyages et les transports – négocier une activité, faire les recommandations – les transports en France

Unit 5 Bon appétit!

L'emploi des articles, la forme possessive – la nourriture, les repas, la fête – les situations pratiques à l'hôtel et au restaurant – les habitudes alimentaires en France.

TEXT BOOKS :

ECHO A1 – METHODE DE FRANÇAIS & CAHIER PERSONNEL D'APPRENTISSAGE
Authors: J. Girardet and J. Pécheur
Publication: CLÉ INTERNATIONAL, 2012.

HOLY CROSS COLLEGE (AUTONOMOUS) TIRUCHIRAPPALLI – 2.
2015 - 2016
I B.A., B.Sc., B.Com., B.R.Sc., B.C.A., B.B.A.,SEMESTER I
PART II - ENGLISH 1 - GENERAL ENGLISH PAPERI

HOURS – 6 PER WEEK   **CREDIT : 3**
                                                             CODE : U15EL1GEN01

OBJECTIVES
   - Students learn to use LSRW skills and advanced communication skills in the context required in their daily life.
   - The students learn to analyze and express their self and their concern and responsibilities to the world around.
   - The students learn how English is used in literary writing so as to imbibe the spirit of using the standard language for communication.

UNIT I - I, ME, MYSELF
Listening for specific information in instructions and directions
Speaking about oneself, family and friends, likes, dislikes, strengths, weaknesses, profession,
          talents, emotions, feelings, incidents, reactions, opinions, views, aim, vision.
Reading for comprehension of routine work.
Writing -Paragraph guided
Grammar- Articles, Prepositions, Punctuation
Vocabulary-Meanings, Synonyms, Antonyms
Composition –GuidedCreative writing

TEXTS
Listening	-	*This is the Photograph of me* by Margaret Atwood
Speaking	-	*The Mayonnaise Jar*
Reading	-	*In Prison* by Jawaharlal Nehru (edited)
Writing	-	Othello's soliloquy (extract from Shakespeare's *Othello*)

UNIT II -MY FAMILY AND FRIENDS
Listening to identify the persons/ places/ things from descriptions
Speaking -Describing incidents, favorite places, traits of a person, analyzing the nature of a
          person.
Reading to get specific information and to analyze characters
Writing -Letters (personal),paragraphs-family profile and history
Grammar -adjectives and verbs
Vocabulary-synonyms and antonyms in context
Composition - Guided paragraph

TEXTS
Listening	-	*Night of the Scorpion* by Nissim Ezekiel
Speaking	-	*The Old Folks at Home* by Alphonse Daudet (edited)
Reading	-	*Will you? Daddy* (Extract from Reader's digest)
Writing	-	conversation among King Lear and his daughters professing their love for their father (extract from Shakespeare's *King Lear Act I Scene I*)

UNIT III -THE WORLD AROUND ME
Listening To identify specific information
Speaking –Discussing and expressing opinions
Reading To infer meaning
Writing Descriptive and Diary writing
Grammar Uses of 'be' Verbs – subject verb concord
Vocabulary Coining new words with Prefix and suffix- converting one part of speech to
                 another
Composition - Essay writing

TEXTS
Listening   -   *Snake* by D.H. Lawrence (poem)
Speaking   -   *Floating Fantasy* by Vinu Abraham (Prose)
Reading   -   *Discovery* (ed.) (play)
Writing   -   *A Handful of Dates* by Tayeb Salih (Short story)

UNIT IV - MY CONCERN AND RESPONSIBILITIES
Listening to short speeches and getting main concern- Global comprehension
Speaking Expressing opinions, concerns and responsibilities
Reading To detect one's perspective
Writing Debate and Dialogue
GrammarSentence patterns (5 basic types)
VocabularyAppropriate words in the context ,coinage of new words , use of phrases
Composition-Imaginative writing

TEXTS
Listening   -   *I have a Dream* by Martin Luther King Jr(edited)
Speaking   -   *What I have lived for?* by Bernard Russell
Reading   -   *Three days to see* by Helen Keller(edited)
Writing   -   Quality of Mercy (Portia court scene)
                                     (extract from Shakespeare's *The Merchant of Venice*)

UNIT V - MY PROFESSIONAL WORLD
Listening to short profile to get details –global comprehension
Speaking Discussion on secrets of success learnt from success stories
Reading to infer meaning – to trace the development and analyze the ratio of development
Writing resume and E-mail writing
Grammar- Four Types of sentences
Vocabulary-Idioms and phrases- meaning
Composition – Formal and imaginative writing

TEXTS
Listening   -   Profile of a successful personality
Speaking   -   Success story of Indra Krishnamoorthy Nooyi
Reading   -   *The Verger* by Somerset Maugham

Prescribed Book:
English for Communication –PoGo publication Trichy

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPALLI – 2
DEPARTMENT OF COMPUTER SCIENCE
B.Sc.   COMPUTER SCIENCE
SEMESTER I
MAJOR CORE 1 PROBLEM SOLVING USING C

CODE: U15CS1MCT01   **HOURS/WEEK: 7**
                                                                                  CREDITS   5

OBJECTIVE
        To develop programming skills using C language.
        To understand the concepts of Structure oriented programming.

UNIT I

CONSTANTS, VARIABLES, AND DATA TYPES: Introduction – Character Set – C
Tokens – Keywords and Identifiers – Constants – Variables – Data Types – Declaration of
Variables and Storage Class – Assigning Values to Variables – Defining Symbolic Constants
OPERATORS AND EXPRESSIONS: Introduction - Arithmetic Operators - Relational
Operators - Logical Operators - Assignment Operators - Increment and Decrement Operators-
Conditional Operators - Bitwise Operators - Special Operators - Arithmetic Expressions -
Evaluation of Expressions - Precedence of Arithmetic Operators - Some Computational
Problems.

UNIT II

MANAGING INPUT AND OUTPUT OPERATORS: Introduction - Reading a Character -
Writing a Character – Formatted Input - Formatted Output.
DECISION MAKING AND BRANCHING: Introduction - Decision Making with if
Statement - Simple if Statement- The if else Statement - Nesting of if...else Statements - The
Else if Ladder - Switch Statement - ?: Operator - Goto Statement.
DECISION MAKING AND LOOPING: Introduction – The While Statement - The do Statement
– The for Statement - Jumps in Loops.

UNIT III
 ARRAYS: Introduction – One-dimensional Array – Two-dimensional Arrays - Initializing
Two - dimensional Arrays – Multi-dimensional Arrays. **HANDLING OF CHARACTER
STRINGS:** Introduction - Declaring and Initializing String Variables - Reading Strings from
Terminal – Writing Strings to Screen - Arithmetic Operations on Characters - Putting Strings
Together - Comparison of Two Strings – String- handling Functions - Table of Strings.

UNIT IV
USER DEFINED FUNCTIONS : Introduction - Need for User-defined Functions - A Multi-
function Program – Elements of User-defined Functions – Definition of Functions - Return
Values and their Types -Function Calls – Function Declaration - Category of functions - No
Arguments and No Return Values - Argument but No Return Values - Arguments with Return
Values – No Arguments but Returns a Value – Functions that Return Multiple Values - Nesting
of Functions - Recursion – Passing Arrays to Functions – Passing Strings to Functions - The
Scope, Visibility and Lifetime of Variables
– Multi-file Programs.

STRUCTURES AND UNIONS : Introduction - Structure Definition - Giving Values to Members - Structure Initialization - Comparison of Structure Variables – Operations on Individual Members - Arrays of Structures - Arrays Within Structures – Structures Within Structures - Structures and Functions - Unions - Size of Structures - Bit Fields.

UNIT V
POINTERS : Introduction - Understanding Pointers - Accessing the Address of a Variable - Declaring and Initializing Pointers - Accessing a Variable through its Pointer - Chain of Pointers - Pointer Expressions - Pointer Increments and Scale Factor - Pointers and Arrays - Pointers and Character Strings – Arrays of Pointers - Pointers as Functions Arguments - Functions Returning Pointers - Pointers to Functions – Pointers and Structures.
FILE MANAGEMENT IN C: Introduction - Defining and Opening a File - Closing a File - Input/Output Operations on Files - Error Handling During I/O Operations - Random Access to Files - Command Line Arguments.

TEXT BOOK

1. Balagurusamy E., **"Programming in ANSI C"**, 6th Edition 2013, Tata McGraw-Hill Education private Ltd., New Delhi.

REFERENCE BOOKS

1. Ashok N. Kamathana , **"Programming With ANSI and Turbo C"**, 2006, Sixth Edition, Dorling Kindersley.

2. Srivatsava S.K., **"C in depth"**, 2000, BPB Publications, New Delhi.

3. Yashavant Kanethkar**, "Let us C"**, 2005, BPB Publications, New Delhi.

4. Herbert Schildt, **"C The Complete Reference"**, 2000, Fourth Edition Tata McGraw Hill Publishing Company Ltd., New Delhi.

5. Venugopal K.R., Prasad S.R**., "Mastering C"**,2007,Tata McGraw Hill Publishing Company Ltd, New   Delhi .

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPALLI - 2
DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SEMESTER I
ALLIED 1

C PROGRAMMING - LAB

CODE: U15CS1ACP01   **HOURS/WEEK: 4**
                                                    CREDITS   4

C PROGRAMMING

1. Simple Programs.

2. I/O Operations

3. Control Structures.

4. Arrays.

5. Handling of Character Strings.

6. User defined function.

7. Structures and Unions.

8. Pointers.

8. File.

HOLY CROSS COLLEGE (AUTONOMOUS) TIRUCHIRAPPALLI – 620 002.
(For the candidates admitted from2015 onwards)
SEMESTER - I
ALLIED 2 : APPLIED MATHEMATICS I
(for BCA and B.Sc. Computer science students)

Total Hours: 60
Hours/Week: 4   **Code:U15MA1ACT05**
Credits: 3   **Marks: 100**

OBJECTIVE :
   To enable the students to understand the concept of mathematical logic. To provide sufficient knowledge of statistics which enables them to compute various statistical measures.

UNIT 1: MATHEMATICAL LOGIC   **(12 HRS)**
   Introduction – Notations – Negation – Conjunction – Disjunction - Conditional and bi-conditional Statements – Statement Formulas – Truth Table

UNIT II : MATHEMATICAL LOGIC (CONTINUED)   **(12 HRS)**
   Well formed formulae – Tautology – Equivalence of formulae – Truth table - Truth table method – Replacement Process.

UNIT III: MEASURES OF CENTRAL TENDENCY   **(12 HRS)**
   Mean – Median – Mode

UNIT IV: DISPERSION, SKEWNESS & KURTOSIS   **(12 HRS)**
   Range – Quartile deviation – Mean deviation &Standard deviation – Karl Pearson's Coefficient of Skewness – Kurtosis.

UNIT V : CORRELATION AND REGRESSION   **(12 HRS)**
   Karl Pearson's Coefficient of Correlation – Spearman's Rank Correlation Coefficient – Regression- Lines of Regression.

TEXT BOOKS:

1. Treatment and content as in G.S.S. BHISHMA RAO, Discrete structure and graph theory(2006) , Scitech Publications Pvt Ltd., Hydrabad, for Units I & II
     UNIT I : Chapter 1 : Sections 1- 5
     UNIT II : Chapter 1 : Sections 6- 8

2. Treatment and content as in R.S.N. PILLAI & BHAGAVATHI (2007) , Statistics Theory &practice ,S.Chand and Company Ltd., for Units III , IV , V

UNIT III : Chapter 9
UNIT IV : Chapter 10 & 11
UNIT V : Chapter 12 & 13

REFERENCE BOOKS :
1. J.N.Kapur&H.C..Saxena(2003), "MATHEMATICAL STATISTICS",
2. Shukla M.C(2000), "STATISTICS", S .Chand and S.Chand and Company, New Delhi.company, New Delhi.
3. Vittal .P.R.,(2004), "BUSINESS STATISTICS", Margham publishers, Chennai

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPPALLI-2
B.A /B.Sc./B.Com/B.R.SC/B.C.A/B.B.A DEGREE EXAMINATION
SEMESTER I
ENVIRONMENTAL STUDIES

Hrs – 2/Week   **CODE: U15RE1EST01**
                                                            CREDITS :2

Unit I–Awareness and Natural Resources

Awareness of Environmental issues and management strategies–need of the hour

Renewable and non-renewable resources-uses, present status and management of forest, water, land and energy resources.

Unit II–Ecosystems and Biodiversity

Ecosystem–concepts, structure and types–concept of food chain sand food web–causes and effects of weakening food chains

Biodiversity–concept of genetic, species and ecological biodiversity–ecological and economic values–India, a mega diversity country, hotspots–threats to biodiversity and conservation measures.

Unit III–Environmental Pollution

Causes, effects and control of water, and air pollution–global warming–ozone depletion–Nuclear hazards.

Unit IV–Human population and Environment

Population growth at national and global level.

World food production-Effects of modern agriculture on land and Eco systems-GMOs and related issues

Environmental pollutions and diseases-malaria- chikungunya

Unit V–Environment and Social Issues

Rich–poor wide–at national and global levels

Urbanization –slums

Changing value systems -AIDS

Family welfare programs

REFERENCES:

Agarwal,K.C.(2001). Environmental Biology, Nidi Publication Ltd. Bikaner.

Chairas,D.D.(1985).Environmental Science. The Benjamin Cummings   Publishing company.,Inc.

Clarke George,L. (1954). Elements of Ecology. Hohn Wiley and SONS, Inc.

Hodges,L. (1977). Environmental Pollution, II Edition. Holt, Rinehart and Winston, New York.

Krebs,C.J.(2001). Ecology.VI Edition. Benjamin Cummings.

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPPALLI-2
B.A. /B.Sc. / B.Com. / B.R.Sc. / B.C.A. DEGREE COURSE
LIFE ORIENTED EDUCATION
ETHICS – I: RELIGION AND VALUE SYSTEMS

HRS / WK :1   **CODE: U15VE2LVE01**
                                                                 CREDITS :1
                                                                 MARKS : 100

OBJECTIVES:

- To Understand My and Other Religions and Culture
- To Appreciate My and Other Religions and Culture
- To Learn from other Religions and Culture
- To Interact with My and Other Religions and Culture to enhance My faith in My religion.
- To Help the students to become aware of the negative forces of religions.

UNIT – I: RELIGION

God – concept of faith, Faith, Meaning, Definition, Nature, Characteristics and Basic values of different religions. Impact of Globalization on religion – Importance of worship in holy places – celebration, come-union, socialization.

UNIT – II: DIFFERENT RELIGIONS

Basic characteristics and basic thoughts- Buddhism, Christianity, Hinduism, Islam, Jainism and Sikhism

UNIT – III: UNITY OF RELIGION

Unity of Vision and Purpose- Respect for Other's Faith, Inter Religious Co-operation, Religious Pluralism as a fact and Religious Pluralism as a value.

UNIT – IV: FUNDAMENTALISM, COMMUNALISM AND SECULARISM

Meaning and impact of Fundamentalism-Communalism-Violence and terrorism – Tolerance – Secularism - Individualism

UNIT – V: VALUE SYSTEMS

Value and Value Systems - Moral Values -Individuals and the need to stand for values in the concept of Globalization – Consumerism - Will power to live up to your values - Healthy body for empowerment – Physical health and Mental hygiene, food and exercises.

REFERENCES:
1. Social Analysis (a course for all first year UG students), 2001. Department of Foundation Courses, Loyola College, Chennai-34.
2. Special topics on Hindu Religion, 2001.Department of Foundation Courses,Loyola College, Chennai-34.
3. Religion: the living faiths of the world, 2001. Department of Foundation Courses, Loyola College, Chennai-34.
4. Sydney Am Meritt, 1997. Guided meditations for youth.
5. Marie Migon Mascarenhas,1986. Family life education- Value Education, A text book for College students.

HRS / Wk :1   **CODE: U15VE2LVBO1**
                                               CREDIT : 1
                                               MARKS : 100

OBJECTIVE:

- Developing the passion for the Word of God – Jesus and inculcating the thirst of Missionaries being a disciple of Christ.

UNIT – I: BIBLE – THE WORD OF GOD

- Books of the Bible – Division into Old Testament and New Testament – history of the Bible-

- Messiah Prophecies(Isaiah 9:6,40:3,53:1-12,61:1-3,Micah 5:2)

- The Birth and Ministry of John the Baptist (Luke 1:1-80,Mat 3:1-17,14:1-12)

- The Birth, Passion and Resurrection of Jesus (Luke 1:26-80,2:1-52,John 1 :18-21)

UNIT – II: MINISTRY OF JESUS

- Miracles (Mark 2:1-12,Luke 4:38-41,6:6-11,7:1-17,8:26-56,John 2:1-12)

- Parables (Luke 6:46-49,8:4-15,10:25-37,15:1-32)

- Preaching

  - ➢ Sermon on the mount (Mat 5-7)

  - ➢ Lord's Prayer (Luke 11: 1-13)

  - ➢ Kingdom of God (Mat 13: 24-50)

- Prayer life of Jesus (Luke 5:12-16,John 11:41-45,17:1-26,Mark 14:32-42)

- Rich and Poor (Luke 16: 19-31,21:1-4)

- Women Liberation (John 4:1-30,8:1-4)

- Women in the New Testament

- Martha & Maria (Luke 10: 38- 42, John 11: 1-46)

UNIT – III: CHURCH – BIRTH AND GROWTH

- Early Church

- Birth (Acts 2:1-41)

- Unity and sharing (Acts 2:42-47,4:1-37,5:1-11)

- Witnessing life (Acts 3:1-26,5:12-42,8:26-40, 16:20-34)

- Comparison between early Church and present Church.

UNIT – IV: DISCIPLES AND APOSTLES

- Mother Mary (Mother of Jesus) (Luke 1: 27-35, John 2: 1-12, 19:35, Acts 1: 13-14)

- Betrayal and the change in the life of St.Peter (Luke 22:1-7,Acts 2:1-41,12:1-17)

- St.Andrew (Mat 4:18-20,John 1:35-42,6:1-14)

- St.Stephen (Acts 6,7)

- St.Paul (Acts 8,9,14,17,26 and 28)

UNIT – V: MISSIONARIES AND EVANGELISTS

- St.Thomas (John 20:24-31) & Missionary to India\Pandithar Rama Bai

- William Carrie

- Dr.Ida Scuddar& St. Britto (Oriyur)

- Amy Carcheal

- Mother Teresa (Calcutta)

- Devasagayam (Nagercoil)

- Staines & Family

REFERENCES:

1. John Stott, 1994, **"Men with a Message"**, Angus Hudson Ltd. London.

HOLY CROSS COLLEGE (AUTONOMOUS) TIRUCHIRAPPALLI -2
B.A/B.Sc./B.Com/B.R.Sc/B.C.A-DEGEE COURSES
LIFE ORIENTED EDUCATION
CATECHISM – I: GOD OF LIFE

HRS / Wk: 1　　　　　　　　　　　　　　　　　**CODE: U15VE2LVC01**
　　　　　　　　　　　　　　　　　　　　　　　　CREDIT: 1
　　　　　　　　　　　　　　　　　　　　　　　　MARKS: 100

OBJECTIVES:
- To enable the students to know God and his Salvific acts through Holy Bible
- To enable the students to know about the Paschal Mystery

UNIT – I: CREATION AND COVENANT
Study from petty catechism - Genesis - God revealed himself in creation -God who preserves creation through covenants
(Pentateuch) -Our response to God's covenant -Reason for its success and failure -The relationship of God with Israel -Image of God in Old Testament-God and me

UNIT – II: GOD OF THE PROPHETS
God's care for the humanity through Prophets-Major (Isaiah, Jeremiah) Minor (Amos) and Women (Deborah) - Prophets-Their life and mission - Theology of Prophets -Concept of sin and collective sins expressed by prophets and God's saving love

UNIT – III: GOD OF WISDOM
God experience through wisdom Literature, its origin and growth

UNIT – IV: SYNOPTIC GOSPELS
Synoptic Gospels and John's Gospel – Author –historical background –Chief message of each Gospel and for whom it was written. A few passages for the study of parallelism in the synoptic gospels

UNIT – V: LUKE'S GOSPEL
Study of Luke's Gospel in detail – specialty of the gospel – main emphasis of the message – meaning and blessing of suffering and paschal joy in one's life.
Passion –

Paschalmystery

REFERENCES:

1. Catechism of the Catholic Church published by Theological Publications in India for the Catholic Hierarchy of India, 1994
2. The Holy Bible Revised Standard Version with Old and New Testaments Catholic Edition for India.
3. VaalvinValizha – St. John's Gospel – Fr. Eronimus

TAMIL DEPARTMENT

BA/ B.SC/ B.COM DEGREE

Part - I : Language: Tamil Paper - II

Total Hours : 75	**Code : U15TL2TAM02**
Hrs : 5Hrs /Wk	**Marks : 100**
Credit : 3	

நோக்கங்கள்:

1. இறைச் சிந்தனை வழி மாணவர்களை ஒருமுகப்படுத்துதல்.

2. தமிழ்ச் சான்றோர்களின் சிறப்புகளை அறிமுகப்படுத்துதல்.

3. மாணவர்களின் நல்லெண்ணங்களை மேம்படுத்துதல்.

4. நட்புணர்வை மாணவர்கள் மனதில் பதியவைத்தல்.

பயன்கள்:

1. இப்பாடம் மாணவர்களிடையே ஆன்மீக அறிவு அறிமுகமாகவும், வளரவும், ஆழப்படவும் துணைபுரிகின்றது. இது ஓர் இயற்கைப் பூங்கா.

2. தமிழை நேசித்து, தமிழ்ச் சான்றோர்களின் மீது மதிப்புக் கொள்ளவும், தானும் சான்றோர் ஆகவும் இது ஒரு பாலமாக பயன்படுகிறது.

3. ஊற்றுக்களாய் மாணவிகளிடையே மறைந்து கிடக்கும் நல்லெண்ணங்களை வெளிக்கொணரவும் நேர்மறைச் சிந்தனைகள் தோன்றவும் பயன்படுவதால் இது ஒரு நூலகமாகும்.

4. வாழ்க்கையில் நட்பின் தேவையை உணர வைக்கும் வழிகாட்டியாகத் திகழ்கிறது. இது வாழ்க்கைப் பெட்டகம்.

பாடத்திட்டம்

அலகு:1 செய்யுள்

1. தேவாரம்   - சுந்தரர் (திருமழப்பாடி)

2. திருவாசகம்   - மாணிக்கவாசகர் (குயில் பத்து)

3. திருமந்திரம்   - திருமூலர்
4. திருப்பாவை   - ஆண்டாள்
5. நாலாயிர திவ்வியபிரபந்தம்   - குலசேகராழ்வார் (பெருமாள்
                                                                  திருமொழி)

அலகு:2   செய்யுள்

6. மீனாட்சியம்மை பிள்ளைத்தமிழ்   - குமரகுருபரர்
7. இரட்சணிய யாத்திரிகம்   - எச்.ஏ.கிருட்டிணப்பிள்ளை

8. வேதநாயகம் சாஸ்திரியார் பாடல்கள்- வேதநாயகம் பிள்ளை
9. நபிகள் நாயக மான்மிய மஞ்சரி   - செய்கு தம்பிப் பாவலர்

அலகு:3

தமிழ் இலக்கிய வரலாறு - தமிழாய்வுத்துறை வெளியீடு
பல்லவர்காலம்
நாயக்கர்காலம்

அலகு:4

படைப்பிலக்கியம்   - புதினம்
 கல்கி   - பார்த்திபன் கனவு

அலகு:5

கடிதம் எழுதுதல்

பாட நூல்கள்

செய்யுள்   - தமிழாய்வுத்துறை வெளியீடு
தமிழ் இலக்கிய வரலாறு   - தமிழாய்வுத்துறை வெளியீடு
கல்கி   - பார்த்திபன் கனவு
 கடித இலக்கியம்   - பயிற்சி ஏடு.

HOLY CROSS COLLEGE (AUTONOMOUS) TIRUCHIRAPPALLI-620002
DEPARTMENT OF HINDI
PART – I LANGUAGE HINDI FOR B.A, B.Sc & B.Com
HINDI PAPER-II PROSE, DRAMA, GRAMMAR-II, COMPREHENSION
SEMESTER –II

HRS/WEEK : 5   **CODE: U15HN2HIN02**
CREDITS : 3   **MARKS : 100**

UNIT – I : Bharat matha, Premchand, Taj mahal ki Aathma Kahani, Mahakavi Prasadh, Meri theertha yatra

UNIT- II : Sathyameva jayathe - Drama (chapter 1& 2)

UNIT- III : Sathyameva jayathe – Drama (chapter 3)

UNIT- IV : General Grammar (Sarvanaam, Kriya, Kaal, Karak, Ne Ka niyam)

UNIT- V : Comprehension – Prose passages

Books   Prescribed :
- Naveen Gadhya Chayanika   –   D.B.H.P. Sabha Publishers, Chennai-17
- Sathyameva Jayathe   –   D.B.H.P. Sabha Publishers, Chennai-17
- General Grammar   –   D.B.H.P. Sabha Publishers, Chennai-17

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPPALLI – 2

DEPARTMENT OF FRENCH

SYLLABUS

SEMESTER II
PART I - LANGUAGE - FRENCH PAPER II [GRAMMAR, CIVILISATION & TRANSLATION (ÉCHO A1 2ᵉ édition)]
(For candidates admitted 2013 onwards)

HRS/WEEK : 5   **CODE : U15FR2FRE02**
CREDIT : 3   **MARKS : 100**

Unit 1 Quelle journée !

La conjugaison pronominale, l'impératif, l'expression de la quantité – les activités quotidiennes, les achats et l'argent – demander des nouvelles de quelqu'un – le comportement en matière d'achat et d'argent.

Unit 2 Qu'on est bien ici !

Les prépositions et les adverbes, les verbes exprimant un déplacement – le logement, la localisation, l'orientation, l'état physique, le temps qu'il fait – demander de l'aide, exprimer une interdiction – le climat en France, les cadres de vie (ville et campagne)

Unit 3 Souvenez-vous ?

Emplois du passé composé et de l'imparfait – les moments de la vie, la famille, les relations amicales, amoureuses, familiales – demander/donner des informations sur la biographie d'une personne – le couple et la famille.

Unit 4 On s'appelle ?

Les pronoms compléments directs et indirects – les moyens de la communication – aborder quelqu'un, exprimer une opinion sur la vérité d'un fait – les conseils de savoir-vivre en France.

Unit 5 Un bon conseil ! ; Parlez-moi de vous !

L'expression de déroulement de l'action, les phrases rapportées – le corps, la santé et la maladie – téléphoner, prendre rendez-vous, exposer un problème – les conseils pour faire face aux situations d'urgence.

La place de l'adjectif, la proposition relative, la formation des mots – la description physique et psychologique des personnes, les vêtements et les couleurs – demander/donner une explication – quelques styles comportementaux et vestimentaires en France.

TEXT BOOKS :

ECHO A1 – METHODE DE FRANÇAIS & CAHIER PERSONNEL D'APPRENTISSAGE Authors: J. Girardet and J. Pécheur

Publication: CLÉ INTERNATIONAL, 2012.

HOLY CROSS COLLEGE (AUTONOMOUS) TIRUCHIRAPPALLI – 2.
2015 - 2016
I B.A., B.Sc., B.Com., B.R.Sc., B.C.A., B.B.A.,SEMESTER II
PART II – ENGLISH II - GENERAL ENGLISH   PAPER II

HOURS – 6 PER WEEK   **CREDIT : 3**
                                                                               CODE : U15EL2GEN02

OBJECTIVES
- Students learn to use LSRW skills and advanced communication skills in the context required in their daily life.
- The students learn to analyze and express their self and their concern and responsibilities to the world around.
- The students learn how English is used in literary writing so as to imbibe the spirit of the standard language for communication.

UNIT I – SELF

Listening- Specific information from demonstration and instructions, transfer of information.
Speaking - Sharing expressions, dreams and expressing opinions.
Reading -Skimming and Scanning for specific information, reading for local comprehension.
Writing - Story Writing
Grammar - Articles and Sentence Pattern
Vocabulary - Meanings, Synonyms, Antonyms
Composition - Transfer of information: Paragraph to Bar graph/pie chart
            General Essay - Courage is the key to success

TEXTS
1. *When I have fears* by John Keats   (poem)
2. *Key to courage* by I.A.R. Wylie   (prose)
3. *The Far and the Near* by Thomas Wolfe (Short Story)

UNIT II – STRENGTHS

Listening - Listening to a process
Speaking - Telephone Etiquette
Reading - Loud reading with pause, intonation and expression in dialogue form
Writing - Writing about oneself (strengths& weaknesses, Have's & Have not's)
Grammar- Subject verb agreement, Prepositions
Vocabulary- One word substitute in the context
Composition- Letter Writing - informal letters
            General essay – A bird in hand is worth two in bush.

TEXTS
1. *My early days* (An extract from *Wings of fire* by A.P.J. Abdul Kalam (prose)
2. *The robe of peace* by O. Henry   (Short Story)
3. An extract from *Androcles and the lion* by G.B. Shaw (play)
4. *Give me the strength* by Tagore's *Gitanjali* (poem)

UNIT III - POSITIVE SHORTCOMINGS
Listening - Listening to facts and opinions and trying to differentiate it
Speaking - Pair Work – about have's & have not's, understanding the strengths and
            overcoming the weaknesses
Reading - Reading newspapers, articles, magazines, anecdotes for global and specific in
            analytical thinking
Writing - Filing Complaints, Travelogues

Grammar - Tenses, Direct and Indirect Speech
Vocabulary - Compound words
Composition - Dialogue Writing
                General essay – Adversity is the seed of success.

TEXTS
　　1. *The Ballad of father Gilligan* by Alexander Pope   (poem)
　　2. *Six thinking hats* by Edward de Bono   (prose)
　　3. *A cup of tea* by Katherin Mansfield   (Short Story)
　　4. An extract from Shakespeare's *As you like it (Act II Scene I lines 12 -17)*

UNIT IV   POTENTIALS
Listening - Listening to the description of personalities, historical places and monuments
Speaking - Group Discussion – Totally controlled, partially controlled, Free
Reading - Parallel Reading, reading for pleasure
Writing - Letter writing – formal letters
Grammar - Adjectives, Degrees of Comparisons
Vocabulary - Idioms and Phrases
Composition - Debates and Discussions
                General essay – My potentials
TEXTS
　　1. *The flower* by Tennyson   (poem)
　　2. *How to avoid argument* by Sam Horn (prose)
　　3. *The child is father of man* by Wordsworth (poem)
　　4. An extract from *Pygmalion* by G.B. Shaw

UNIT V   ACHIEVEMENTS
Listening - Listening to comparisons and arguments
Speaking - Performance
Reading - In-depth reading
Writing - Script writing of story to play
Grammar - Question Tags
Vocabulary - Homophones
Composition - Essay Writing
                General essay - The reward of hard work.
TEXTS
　　1. *The Garden* by Dom Moraes (poem)
　　2. *On saying please* by A.G. Gardiner (prose)
　　3. *One good turn* by A.E.M. Bayliss (play)
                              *****.

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPALLI – 2
DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SEMESTER II
MAJOR CORE 2:DATA STRUCTURES AND ALGORITHMS

CODE: U15CS1MCT02/U10CA2MCT02   **HOURS/WEEK: 5**
                                                                          CREDITS:5

OBJECTIVE : To understand the fundamental concepts of Data Structures
                    and learn to develop Algorithms.

UNIT I

INTRODUCTION TO DATA STRUCTURE: Data types - Abstract Data types –
Arrays -Arrays as abstract data type - Arrays row major and column major Sequences.
STACK: Definition and Example - Representing Stack: Implementing the Pop operation
– Testing for exceptional conditions
– Implementing the Push operation. **APPLICATIONS**: Infix, Postfix and Prefix; Basic
Definitions and Examples – evaluating a Postfix Expression - Converting an Expression
from infix to postfix. **RECURSION:** Recursive definition and processes: Factorial
function – Multiplication of Natural Numbers – Fibonacci sequence – Binary Search –
Properties of Recursive Definitions or Algorithms.

UNIT II

QUEUES: The Queue and its Sequential representation: The Queue as an Abstract Data
Type – Insert Operation – Priority Queue – Array implementation of a Priority Queue.
LINKED LISTS: Inserting and Removing Nodes from a List – Linked implementation of
Stacks – getnode and freenode operations – Linked implementation of Queues – Linked list
as a Data Strucutre – List implementation of Priority Queues – Header nodes.

UNIT III:
BINARY TREES: Operations on Binary trees – Applications of Binary Trees.
BINARY TREE REPRESENTATIONS: Node representation of Binary Trees – Internal
and External Nodes – Implicit Array representation of Binary Trees.
APPLICATIONS: Tree Traversals – General Expression as Trees – Evaluating an Expression tree
– Constructing a Tree.

UNIT IV

SORTING: Bubble Sort – Quick Sort – Heap Sort; Insertion Sort: Simple Insertion – Shell Sort.

UNIT V

GRAPHS: Transitive Closure - Warshall's Algorithm – Shortest Path Algorithm –
Dijkstra's Algorithm Revisited**.**

TEXT BOOK :

1. Yedidyah Langsam, Moshe J. Augenstein, Aaron M. Tenenbaum, "**Data Structures Using C and C++**", 2006,Second Edition.

UNITI : Chapters1.1(Pg.no29-34), 1.2(Pg.no42-55), 2.1-2.3(Pg.no93-122), 3.1(Pg.no133-141).
UNIT II : Chapters 4.1- 4.2(Pg.no190-218).
UNIT III : Chapters 5.1-5.2(Pg.no265-284),5.5(325-334).
UNIT IV : Chapters 6.2(Pg.no355-361), 6.3(Pg.no372-378), 6.4(Pg.no381 - 384)
UNIT V : Chapters 8.1(Pg.no531-532,537-544), 8.3(Pg.no563-564).

REFERENCE BOOKS:

1. Ellis Horowitz, Sartaj Sahni, Dinesh Mehta. " **Fundamentals of Data Structures in C++**", 2009,Second Edition.

2. Yedidyah Langsam, Moshe J.Augenstein, Aaron M.Tenenbaum, "**Data Structures Using C**", 2005.

3. D.Samanta, "**Classic Data Structures**", 2005.

4. Robert.L.Kruse, " **Data structures and program design**", Third Edition , 2001.

5. A.Michael Berman, "**Data structures via C++ Object by Evolution**", 2002.

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPALLI – 2
DEPARTMENT OF COMPUTER SCIENCE

B.Sc. COMPUTER SCIENCE
SEMESTER II
MAJOR CORE 3

DATA STRUCTURES USING C LAB

CODE: U15CS2MCP03   **HOURS/WEEK: 5**
                                                                              CREDITS   4

Write the C Programs to implement the following:

1. Operations on Stack and Conversion of expressions

2. Operations on Queue

3. Operations on Linked List

4. Operations on Doubly Linked List

5. Operations on Binary tree and Traversals

6. SORTING:

      a. Bubble Sort

      b. Insertion Sort

      c. Selection Sort

      d. Heap Sort

      e. Quick Sort

7. SEARCHING:

      a. Linear Search

      b. Binary Search

8. Dijkstra's Algorithms to find the Shortest Path

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPPALLI – 620002
(For the candidates admitted from2015 onwards)
SEMESTER – II
ALLIED-3 APPLIED MATHEMATICS- II
(For BCA & Computer Science students)

Total Hours: 60
Hours/Week: 4   **Code:U15MA2ACT11**
Credits: 3   **Marks: 100**

OBJECTIVES:
- To provide an understanding of basic concepts in Operations Research Techniques for Analysis and Modeling in computer applications.
- To understand, develop and solve mathematical model of linear programming, Transportation and assignment problems.
- To understand network modeling for planning and scheduling the project activities.

Unit I: Linear programming problem (12 HRS) Introduction –Mathematical formulation of the Problem – Solving LPP by graphical method – General LPP - Canonical and standard forms – Simplex method. **(Simple problems only)**

Unit II: Transportation Problem (12 HRS) Introduction – Mathematical Formulation –Initial basic feasible solution by North West Corner Rule – Least cost method – Vogel's approximation method- Unbalanced and maximization transportation problems.
(Initial basic feasible solution problems only)

Unit III: Assignment problem (12 HRS) Assignment Problem – Hungarian method Unbalanced AP – Maximization in AP.

Unit IV: Sequencing Problem   (12 HRS)
Introduction – problem of sequencing- Basic terms - Processing n jobs through 2 machines & 3 machines.

Unit V: Network Scheduling by PERT/CPM   (12 HRS)
Introduction – Network Basic components – logical sequencing – Rules of network construction – Concurrent activities - Critical path analysis.

TEXT BOOK:
Treatment and content as in KantiSwarup, Gupta P.K, Man Mohan (2007),13th revised edition

OPERATIONS RESEARCH Sultan Chand & Sons, New Delhi.

Unit I : Chapter 2: Sections 2.1 to 2.4 , Chapter 3 : Sections 3.1 to 3.5, Chapter 4: Section 4.3

Unit II : Chapter 10 : Sections 10.1 to 10.3, 10.5,10.9,10.15

Unit III: Chapter 11: Sections 11.1, 11.2, 11.3 (4), 11.4
Unit IV: Chapter 12 : Section 12.1 to 12.5.

Unit V: Chapter 25 : Sections 25.1 to 25.6

REFERENCE BOOKS:

1. S.Kalavathy , (2nd Reprint 2011), OPERATIONS RESEARCH , 3rd edition, Vikas Publishing House Pvt.Ltd, New Delhi.

2. Gupta P.K., Hira S.(2005) , **OPERATIONS RESEARCH**, S.Chand& Co. Limited , New Delhi.

3. Mariappan P.(2001), **OPERATIONS RESEARCH METHODS & APPLICATIONS** New Century Book House Private Limited..

4. PanneerSelvam (2003), **OPERATIONS RESEARCH**, Prentice Hall of India Private Limited, New Delhi.

5. Sharma J.K.(2007), **OPERATION RESEARCH THEORY & APPLICATIONS**, Macmillan India Limited, Chennai.

SBE-1 SOFT SKILL DEVELOPMENT

Credits -2
Hrs – 2/Week   **Code: U15RE2SBT01**

General Objective:
The student understands the need for the development of self esteem, team spirit and communicative skills to prepare themselves for self development.

UNIT I:
Individual Capacity Building
Self awareness – building self–esteem – importance of having a strong self–esteem – developing positive attitude - .Anchoring on principles: Universal principles and values–forming & inculcating values-Leadership skills.

UNIT:II
Interpersonal skills
Trust worthiness-interpersonal communication–art of listening, reading and writing–
art of writing–building relationship-empathy.

UNIT III:
Corporate skills
Vision, mission and goals: Concepts, vision setting, goal setting, Individual and Group goals, Concept of synergy, team building, group skills.

UNIT IV:
Management skills
Developing Body Language–Practicing etiquette and mannerism–Stress Management–
Time Management Prioritization Importance and urgent activities-Time management to move towards life vision.

UNIT V:
Self Development Plan
Concept and Need for Self Development Plan–Preparing Self Development Plan9 Format is used to complete the self development Plan), Monitoring and Evaluation of self Development plan– Developing indicators for self development introduction to National Skill Development Mission.

REFERENCES:

Delhi Meena K.AyothiV. (2013). A Book on Development of Soft Skills (Soft Skills: A Road Map to Success), P.R. Publishers & Distributors, Trichy.

Francis   Thamburaj   S.J.(2009).Communications
        of   skills   for   Professional Excellence,1st
Ed., Grace Publishers,

Rathan ReddyB.(2005).Team Development and Leadership, Jaico Publishing House, Mumbai.

Hrs – 2/Week   **Code: U15RE2SBT02**
                                                                     CREDITS :2

Course Objective:

The students are able to understand practically the Environmental concerns of rural areas and develop an alternative thinking through various field based intervention.

Unit–I
Village–Public Administration- Survey of natural resources and resource mapping of villages, village level Participating Approach (VLPA) – Role of NGO'S and SHG'S, Department of Rural development(central and state):

Unit–II
Green Revolution and industrialization cost climatic changes and mismanagement of natural resources- Reduced economic returns from agriculture-resultant social issues- poverty and farmer suicide- introduction to WTO, GATT and LPG and its impact on green Revolution.

Unit–III
Sustainable Development-Concepts , Environmental , social and economic aspects of sustainable development, sustainable development as solution to address rural issue-successful case studies from India

Unit-IV
Elements in sustainable development-Comparison and Compliments of Traditional water shed and modern water shed management techniques-water shed management practices-rain water harvesting, managing existing rain water drainage canals, desilting, buns construction, check dams, micro irrigation, agro forestry and alternative agriculture models and agriculture implements –Afforestation- Honey Bee rearing-dairyfarming.
.
Unit-V
Elements in sustainable development –addressing agriculture issues-traditional farming technology-organic farming-Zero budget farming-organic manures vermicompost-azolla cultivation panchakavya- amirthakaraisal, organic pesticides mulikaipuchiviratti-neem products-natural management in soil-precision farming soil fertility. Ecological sanitation-bio- diversity and natural resource-terrace farming-seed banking and kitchen garden.

 REFERENCES:
 1. Packages of organic practices from Tamil Nadu Center for Indian Knowledge System(CIKS)
 2. www.fao.org.in

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPPALLI-2
B.A. /B.Sc. / B.Com. / B.R.Sc. / B.C.A. DEGREE COURSE
LIFE ORIENTED EDUCATION
ETHICS – I: RELIGION AND VALUE SYSTEMS

HRS / WK :1   CODE: U15VE2LVE01
                                                                          CREDITS :1
                                                                          MARKS : 100

OBJECTIVES:

- To Understand My and Other Religions and Culture
- To Appreciate My and Other Religions and Culture
- To Learn from other Religions and Culture
- To Interact with My and Other Religions and Culture to enhance My faith in My religion.
- To Help the students to become aware of the negative forces of religions.

UNIT – I: RELIGION
God – concept of faith, Faith, Meaning, Definition, Nature, Characteristics and Basic values of different religions. Impact of Globalization on religion – Importance of worship in holy places – celebration, come-union, socialization.

UNIT – II: DIFFERENT RELIGIONS
Basic characteristics and basic thoughts- Buddhism, Christianity, Hinduism, Islam, Jainism and Sikhism

UNIT – III: UNITY OF RELIGION
Unity of Vision and Purpose- Respect for Other's Faith, Inter Religious Co-operation, Religious Pluralism as a fact and Religious Pluralism as a value.

UNIT – IV: FUNDAMENTALISM, COMMUNALISM AND SECULARISM
Meaning and impact of Fundamentalism-Communalism-Violence and terrorism – Tolerance – Secularism - Individualism

UNIT – V: VALUE SYSTEMS
Value and Value Systems - Moral Values -Individuals and the need to stand for values in the concept of Globalization – Consumerism - Will power to live up to your values - Healthy body for empowerment – Physical health and Mental hygiene, food and exercises.

REFERENCES:
1. Social Analysis (a course for all first year UG students), 2001. Department of Foundation Courses, Loyola College, Chennai-34.
2. Special topics on Hindu Religion, 2001.Department of Foundation Courses,Loyola College, Chennai-34.
3. Religion: the living faiths of the world, 2001. Department of Foundation Courses, Loyola College, Chennai-34.
4. Sydney Am Meritt, 1997. Guided meditations for youth.
5. Marie Migon Mascarenhas,1986. Family life education- Value Education, A text book for College students.

HOLY CROSS COLLEGE(AUTONOMOUS) TRICHIRAPALLI-2.
B.A/ B.Sc/ B.Com/ B.R.Sc/ B.C.A DEGREE COURSES
LIFE ORIENTED EDUCATION
BIBLE STUDIES – I: NEW TESTAMENT

HRS / Wk :1   **CODE: U15VE2LVBO1**
                                                   CREDIT : 1
                                                   MARKS : 100

OBJECTIVE:

- Developing the passion for the Word of God – Jesus and inculcating the thirst of Missionaries being a disciple of Christ.

UNIT – I: BIBLE – THE WORD OF GOD

- Books of the Bible – Division into Old Testament and New Testament – history of the Bible-

- Messiah Prophecies(Isaiah 9:6,40:3,53:1-12,61:1-3,Micah 5:2)

- The Birth and Ministry of John the Baptist (Luke 1:1-80,Mat 3:1-17,14:1-12)

- The Birth, Passion and Resurrection of Jesus (Luke 1:26-80,2:1-52,John 1 :18-21)

UNIT – II: MINISTRY OF JESUS

- Miracles (Mark 2:1-12,Luke 4:38-41,6:6-11,7:1-17,8:26-56,John 2:1-12)

- Parables (Luke 6:46-49,8:4-15,10:25-37,15:1-32)

- Preaching

  - Sermon on the mount (Mat 5-7)

  - Lord's Prayer (Luke 11: 1-13)

  - Kingdom of God (Mat 13: 24-50)

- Prayer life of Jesus (Luke 5:12-16,John 11:41-45,17:1-26,Mark 14:32-42)

- Rich and Poor (Luke 16: 19-31,21:1-4)

- Women Liberation (John 4:1-30,8:1-4)

- Women in the New Testament

- Martha & Maria (Luke 10: 38- 42, John 11: 1-46)

UNIT – III: CHURCH – BIRTH AND GROWTH

- Early Church

- Birth (Acts 2:1-41)

- Unity and sharing (Acts 2:42-47,4:1-37,5:1-11)

- Witnessing life (Acts 3:1-26,5:12-42,8:26-40, 16:20-34)

- Comparison between early Church and present Church.

UNIT – IV: DISCIPLES AND APOSTLES

- Mother Mary (Mother of Jesus) (Luke 1: 27-35, John 2: 1-12, 19:35, Acts 1: 13-14)

- Betrayal and the change in the life of St.Peter (Luke 22:1-7,Acts 2:1-41,12:1-17)

- St.Andrew (Mat 4:18-20,John 1:35-42,6:1-14)

- St.Stephen (Acts 6,7)

- St.Paul (Acts 8,9,14,17,26 and 28)

UNIT – V: MISSIONARIES AND EVANGELISTS

- St.Thomas (John 20:24-31) & Missionary to India\Pandithar Rama Bai

- William Carrie

- Dr.Ida Scuddar& St. Britto (Oriyur)

- Amy Carcheal

- Mother Teresa (Calcutta)

- Devasagayam (Nagercoil)

- Staines & Family

REFERENCES:

1. John Stott, 1994, **"Men with a Message"**, Angus Hudson Ltd. London.

HOLY CROSS COLLEGE (AUTONOMOUS) TIRUCHIRAPPALLI -2
B.A/B.Sc./B.Com/B.R.Sc/B.C.A-DEGEE COURSES
LIFE ORIENTED EDUCATION
CATECHISM – I: GOD OF LIFE

HRS / Wk: 1

CODE: U15VE2LVC01
CREDIT: 1
MARKS: 100

OBJECTIVES:
- To enable the students to know God and his Salvific acts through Holy Bible
- To enable the students to know about the Paschal Mystery

UNIT – I: CREATION AND COVENANT

Study from petty catechism - Genesis - God revealed himself in creation -God who preserves creation through covenants
(Pentateuch) -Our response to God's covenant -Reason for its success and failure -The relationship of God with Israel -Image of God in Old Testament-God and me

UNIT – II: GOD OF THE PROPHETS

God's care for the humanity through Prophets-Major (Isaiah, Jeremiah) Minor (Amos) and Women (Deborah) - Prophets-Their life and mission - Theology of Prophets -Concept of sin and collective sins expressed by prophets and God's saving love

UNIT – III: GOD OF WISDOM

God experience through wisdom Literature, its origin and growth

UNIT – IV: SYNOPTIC GOSPELS

Synoptic Gospels and John's Gospel – Author –historical background –Chief message of each Gospel and for whom it was written. A few passages for the study of parallelism in the synoptic gospels

UNIT – V: LUKE'S GOSPEL

Study of Luke's Gospel in detail – specialty of the gospel – main emphasis of the message – meaning and blessing of suffering and paschal joy in one's life.
Passion – Paschalmystery

REFERENCES:

1. Catechism of the Catholic Church published by Theological Publications in India for the Catholic Hierarchy of India, 1994
2. The Holy Bible Revised Standard Version with Old and New Testaments Catholic Edition for India.

VaalvinValizha – St. John's Gospel – Fr. Eronimus

TAMIL DEPARTMENT

BA/ B.SC/ B.COM DEGREE

Part - I : Language: Tamil Paper - III

Total Hours : 90   Code   : U15TL3TAM03

Hrs   : 6Hrs /Wk   **Marks : 100**

Credit   : 3

நோக்கங்கள்:

1. வாழ்வியல் நெறிகளாகிய அறம், பொருள், இன்பம், வீடுபேறு

   ஆகியவற்றின் மேன்மையை எடுத்துரைத்தல்

2. சமூக வாழ்க்கைப் பற்றிய விழிப்புணர்வினைத் தோற்றுவித்தல்

3. ஆன்மீக உணர்வுகளை வலுப்படுத்துதல்

பயன்கள்:

1. காப்பியங்களைப் பயில்வதன் மூலமாக மாணவர்கள் அறக்கருத்துக்களை

   உணர்ந்து கொள்ளுதல்.

2. சமூக மாற்றங்களைக் கண்டறிந்து மேம்பாடுகளை உருவாக்கச் செய்தல்

3. கலைநுட்பங்களையும் பண்பாட்டுச் சிறப்புக்களையும் உணர்ந்து கொள்ளச்

   செய்தல்

அலகு:1 செய்யுள்

   1.   சிலப்பதிகாரம் - கடலாடு காதை
   2.   மணிமேகலை – உலகவறவி புக்க காதை
   3.   கம்பராமாயணம் - கங்கைப் படலம்

அலகு:2 செய்யுள்

   4.   இரட்சணிய யாத்திரிகம் - மரணப் படலம்
   5.   சீறாப்புராணம் - ஒட்டகை பேசிய படலம்

அலகு:3

   தமிழ் இலக்கிய வரலாறு

   சோழர் காலம்

அலகு:4

   நாடகம்

   சத்திய வேள்வி – அய்க்கண்

அலகு:5

கோயிற்கலை - திட்டக்கட்டுரை, வினாடி வினா

பாட நூல்கள்

1. செய்யுள்   - தமிழ்த்துறை வெளியீடு

2. தமிழ் இலக்கிய வரலாறு   - தமிழ்த்துறை வெளியீடு

3. நாடகம்
   அய்க்கண்   -   சத்திய வேள்வி

4. கோயிற்கலை   - தமிழ்த்துறை வெளியீடு

HOLY CROSS COLLEGE (AUTONOMOUS) TIRUCHIRAPPALLI-620002
DEPARTMENT OF HINDI
PART – I LANGUAGE HINDI FOR B.A, B.Sc & B.Com
HINDI PAPER-III POETRY, PREDICS, HISTORY OF HINDI LITERATURE
SEMESTER – III

HRS/WEEK : 6   **CODE: U15HN3HIN03**

CREDITS : 3   **MARKS: 100**

UNIT – I : Shubhagaman, Man, Tere ghar ked war bahuth hym
     Memory poem : - Kabir das Ke Dohe - 6
     Thulasidas Ke Dohe - 6 Rahim Ke Dohe - 6

UNIT- II : History of Hindi Literature :
     Essay Type Questions : Veeragatha Kaal

UNIT- III : Bakthi Kaal

UNIT- IV : Poetics

     a. Ras : Shringar, karun, Hasya, Veer
     b. Alankar : Anupras, Yamak, Upama, Roopak
     c. Chand : Choupayee, Baravai

UNIT- V : Kavi Parichaya : Ayodiya singh upadyaya Harioudh, Maithili Sharan Gupth, Siyaram
     Sharan Gupth, Kabir, Thulasi das

     Books Prescribed :

- Naveen Padhya Rathnakar– D.B.H.P. Sabha Publishers, Chennai-17
- Pracheen Padhya Sangrah– D.B.H.P. Sabha Publishers, Chennai-17
- Hindi Sahitya Ka Sanshitpta Itihas – Rajnath Sharma, Agrwal Publication, Uttar Prakash
- Kavya Pradeep – Ram Bahori Shukla, Hindi Bhavan, Illahabad.

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPPALLI – 2

DEPARTMENT OF FRENCH

SYLLABUS

SEMESTER III
PART I - LANGUAGE - FRENCH PAPER III [LANGUAGE & CIVILISATION
(ÉCHO A2 2e édition)]
(For candidates admitted 2013 onwards

HRS/WEEK : 6   **CODE : U15FR3FRE03**

CREDIT : 3   **MARKS: 100**

Unit 1 Vivement demain !

Le futur, la comparaison des qualités, des quantités et des actions – la santé – le travail dans trente ans – la vie quotidienne - l'éducation et la formation (l'enseignement en France) – faire des projets.

Unit 2 Tu as du boulot ?

Le pronom « en » et « y » - exprimer une condition : si + présent, si + passé composé, exprimer des préférences – les emplois de demain - des idées pour créer une entreprise – le travail en France.

Unit 3 Qu'en pensez-vous?

L'emploi du subjonctif , l'expression de la quantité – revue de presse – entrée en politique – la naissance des départements –la vie politique - l'organisation administrative et politique de la France.

Unit 4 C'est tout un programme !

Les propositions relatives, la formation des adverbes, la forme « en + participe présent » - parler de la télévision et de la radio - comment les Français s'informent (la télévision et la presse en France)

Unit 5 On se retrouve

L'emploi et la conjugaison de l'indicatif – parler de son apprentissage du français langue étrangère – les rencontres : modes et comportements – une vraie vie de quartier grâce à Internet – formules pour un premier contact par écrit.

TEXT BOOKS :

ECHO A2 – METHODE DE FRANÇAIS & CAHIER PERSONNEL D'APPRENTISSAGE
Authors: J. Girardet and J. Pécheur
Publication: CLÉ INTERNATIONAL, 2010.

HOLY CROSS COLLEGE (AUTONOMOUS) TIRUCHIRAPPALLI – 2.
2015 - 2016
I B.A., B.Sc., B.Com., B.R.Sc., B.C.A., B.B.A.,SEMESTER III
PART II – ENGLISH III - GENERAL ENGLISH PAPER III

HOURS – 6 PER WEEK   **CREDIT : 3**
                                                             CODE :U10EL3GEN03

OBJECTIVES

To reinforce the LSRW skills of students.
To enhance their study skills and literary skills through a selection of prose extracts.
To develop soft skills such as presentation and group discussion skills.
To strengthen sub skills including vocabulary, grammar, comprehension, argumentative and imaginative writing

UNIT I
A Little Bit of What You Fancy :*Desmond Morris*

UNIT II
The Avenger :*Anton Chekov*

UNIT III
Know When to Say 'It's None of Your Business': *Mark McCormack*

UNIT IV
The Second Crucifixion: *Larry Collins and Dominique Lapierre*

UNIT V
General Essay – 5 topics given
 Idioms and Phrases - 20 Idioms and phrases given

BOOKS FOR REFERENCE

Anand, Renu .,& Rajeevan, Geetha. *Images of Life:An Anthology of Prose*. New Delhi: Foundation Books, 2007. Print.

****

List of Idioms and Phrases:

1.	To tuck in
2.	In tune with
3.	To frown upon
4.	In favour of
5.	In vogue
6.	To gloat at
7.	On the contrary
8.	Prompted by
9.	To pale to nothing
10.	To wax enthusiastic

11.	To figure one out
12.	Crystal clear
13.	Grey area
14.	To have second thoughts
15.	On red alert
16.	On a fool's errand
17.	To be taken aback
18.	To storm
19.	Trouble spots
20.	Flood of humanity

GENERAL ESSAY TOPICS

1. Women are not as intelligent as men.
2. The use of the internet and the computer.
3. Life in the next decade.
4. The ways of using the cell phone to minimize health hazards.
5. How will you save the planet?

*****

CODE: U15CS3MCT04   **HOURS/WEEK : 5**
                                                        CREDITS   5

OBJECTIVE
To impart the fundamental aspects of database design, database languages and
database-system implementation.

UNIT I

INTRODUCTION : Database System Applications – Purpose of Database Systems – View of Data – Database Languages – Relational Databases – Database Design – Object-Based and Semistructured Databases – Data Storage and Querying – Transaction Management – Data Mining and Analysis – Database Architecture – Database Users and Administrators – History of Database Systems.

UNIT II

RELATIONAL MODEL : Structure of Relational Databases – Fundamental Relational-Algebra Operations – Additional Relational-Algebra Operations – Extended Relational-Algebra Operations – Null Values – Modification of the Database.

UNIT III

DATABASE

DESIGN
Database Design and the E-R Model: Overview of the Design Process – The Entity-Relationship Model – Constraints – Entity-Relationship Diagrams – Entity-Relationship Design Issues – Weak Entity Sets. **Normalization:** Recharacterizing Relational Database Schemas – Normal Forms – Anomalies and Data Redundancies – Lossless Join and Dependency – Preserving Decomposition – Decomposition into Third Normal Form - BCNF – Problems in the Decomposition Approach – Normalization through Synthesis – Multivalued Dependency – Normalization using Join Dependency: Fifth Normal Form.

UNIT IV

SQL AND ADVANCED SQL : Background – Data Definition – Basic Structure of SQL Queries – Set Operations – Aggregate functions –Null Values – Nested Sub queries – Complex Queries – Views – Modification of the databases of the database –Joined Relations. SQL data
types & schemas – Integrity constraints- Authorization – Embedded SQL- Functions and procedural Constructs - Recursive Queries – Advanced SQL Features.

UNIT V

 DATA STORAGE AND TRANSACTION MANAGEMENT
Storage and File Structure: Overview of physical Storage Media– File Organization – Organization of Records in files-Data Dictionary storage. **Transaction :** Transaction Concept – Transaction State – Implementation of Atomicity and Durability – Concurrent Executions – Serializability - Recoverability.

TEXT BOOKS

1. Abraham Silberschatz, Henry F. Korth, S. Sudarshan, "**Database System Concepts**", 2006, Fifth Edition, McGraw-Hill Publications.
    UNIT I : Chapter 1(1.1-1.13)
    UNIT II : Chapter 2(2.1-2.6)
    UNIT III : Chapter 6(6.1-6.6)
    UNIT IV : Chapters 3(3.1-3.11),4(4.1-4.6)
    UNIT V : Chapters 11(11.1,11.6-11.8),15(15.1-15.6)
2. Bipin C. Desai, "**An Introduction to Database Systems**" ,2000, West Publishing Company.
    UNIT III : Chapters 6(6.5(6.5.1-6.5.3,6.5.5,6.5.6)),7(7.1-7.4)

REFERENCE BOOKS

1. Alexis Leon and Mathews Leon, "**Database Management Systems"**, 2002, Vikas Publishing House Pvt, Ltd., New Delhi.

2. Desai Bipin C., "**An Introduction to Database Systems"**, 2001, Galgotia Publications Ltd., New Delhi.

3. Elmasri & Navathe, "**Fundamentals of Database Systems"**, 2006, Pearson Education Publications, New Delhi.

4. Ragu Ramakrishnan, "**Database Management System"**, 2000, Tata McGraw Hill Publications Company Limited, New Delhi.

5. Ramez Elmasri, Navathe Shamkant B., "**Fundamentals of Database Systems"**, 2001, Addison Wesley Longman Publications Pvt. Ltd., New Delhi.

MAJOR CORE 5:RDBMS - LAB

CODE: U15CS3MCP05   **HOURS/WEEK : 5**
                                                         CREDITS   5

1. Table creation and simple queries.

2. Queries using aggregate functions.

3. Queries using set Operators.

4. Table creation with various joins.

5. Partitioned table creation.

6. Nested sub queries and correlated sub queries.

7. View creation and manipulations.

8. PL/SQL program to prepare mark sheet.

9. PL/SQL program to prepare a pay slip.

10. PL/SQL program to prepare the electricity Bill.

11. PL/SQL program to prepare the multiplication table for a given number.

12. PL/SQL program to count the number of characters and digits in a string.

HOLY CROSS COLLEGE (AUTONOMOUS) TIRUCHIRAPPALLI – 620 002.
(For the candidates admitted from2015 onwards)
SEMESTER III
Allied 4(Optional) - APPLIED MATHEMATICS III
(for BCA and B.Sc. Computer Science students)

Total Hours: 60

Hours/Week: 4   **Code:U15MA3AOT13**

Credits: 3   **Marks: 100**

OBJECTIVES:

To impart the knowledge on matrices and enable the students to know about different methods of solving numerical equations, methods of interpolation ,numerical differentiation and integration.

UNIT 1: MATRICES   **(12 HRS)**

Types of matrices- operation on matrices-rank of a matrix-solution of simultaneous linear equation

UNIT II : MATRICES (CONTINUED)   **(12 HRS)**

Eigen values – eigen vectors- similar matrices- cayley Hamilton theorem (without proof) - eigen values for symmetric matrices

UNIT III : SOLUTION OF ALGEBRAIC AND TRANSCENDENTAL EQUATIONS AND INTERPOLATION   **(12 HRS)**

Solving algebraic and transcendental equations – Bisection, False position and Newton Raphson methods. Newton Gregory forward and backward interpolation formulae

UNIT IV : SOLUTION OF SIMULTANEOUS EQUATIONS   **(12 HRS)**

Gauss elimination – Finding inverse of a matrix using Gauss elimination method – Iterative methods. Gauss Jacobi and Gauss Seidal methods.

UNIT V : NUMERICAL INTEGRATION AND SOLUTION OF ORDINARY DIFFERENTIAL EQUATIONS: **(12 HRS)**

Trapezoidal rule and Simpsons 1/3 rule (truncation error excluded). Solving differential equations (1st order differential equations only) – solutions by Euler's method - Euler's modifiedmethod(excluding improved Euler's method) – RungeKutta 2nd and 4th order method.

TEXT BOOKS:

For Units I and II

1. Narayanan S, HanumanthaRao.R, ManicavachagomPillay.T.K, Dr.Kandaswamy .P.(2000),

ANCILLARY MATHEMATICS – VOLUME 1 - PART I – ALGEBRA, S.Viswanathan

Printers and publishers Pvt Ltd, Chennai.

UNIT I Chapter 3 : Sections 3.1-3.3

UNIT II Chapter 3 : Sections 3.4,3.5

For Units III, IV and V

2. Venkataraman M. K(2006), "NUMERICAL METHODS IN SCIENCE AND ENGINEERING", National Publishing House, Chennai

UNIT III Chapter 3 : Sections 1,2,4,5 and Chapter 6: Sec 1-4

UNIT IV Chapter 4 Section 1-3,6

UNIT V Chapter 9 Section 8,10 and Chapter 11 Sections 10,12,14,16

REFERENCE BOOKS :

1. S. Arumugam and A. Thangapandi Isaac MODERN ALGEBRA, Scitech Publications (India) pvt ltd Chennai.

2.S. Arumugam, A. Thangapandi Isaac & A. SomasundaramNUMERICAL METHODS Scitech Publishers ,Chennai

3.A.Singaravelu (2008) ,ENGINEERING MATHEMATICS ,NUMERICAL METHODS-MeenakshiPublishers ,Chennai

4. ManicavachagomPillay .T.K ,Natarajan.T, Ganapathy K.S ,(2005), ALGEBRA VOL IIS.Viswanathan (Printers and publishers),Chennai

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPALLI- 2
DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SEMESTER - III
SKILL BASED ELECTIVE 3
MULTIMEDIA AND ANIMATION - LAB

CODE: U15CS3SBP03 **HOURS/WEEK : 2**
 CREDITS *2*

Photoshop Practical Exercises

1. Using various selection tools
2. Using image adjustment tools to enhance an image
3. Create scenery using Photoshop brushes.
4. Demonstrate the use of layer effects.
5. Create a text with picture inside.
6. Demonstrate the use of ripple effect and lens flare.
7. Create a snapshot inside a photo.
8. Photo retouching.
9. Coloring a BW photo.
10. Create slide mount template.
11. Create Photo mount template.
12. Create photo frame effect.
13. Create photo film effect.
14. Create a 3D Photo effect.
15. Create 2D and 3D logos.
16. Animate text using Image Ready.
17. Create three frames with Lens flare effect and different background colors and animate using Image Ready
18. Create a Christmas Tree with Blinking Lights.
19. Animate a candle flame using Liquify filter.

Flash Practical Exercises

1. Animation Using Motion Tween.
2. Animation Using Shape Tween.
3. Animation Using Guide Layer.
4. Animation of Text in Multiple Layers.
5. Masking the Text by an Object.
6. Animation Using images and its effects.
7. Masking Two Images.
8. Text Morphing.
9. Importing sound
10. Animation Using Movie clip objects.
11. Create an e-Invitation for College Day with audio note.
12. Create 30 seconds multi-media profile about your College.
13. Animate a 5 yr child walking on the street.
14. Animate the same child stopping when a vehicle crosses.
15. Generate a new comic character and give a name to it.
16. Create a video-resume about yourself.

Hours: 1Hr/wk   **CODE: U15WS3GST01**
                                                                                          CREDITS: 1

Objectives

To make boys and girls aware of each other's strength 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
– Equality – Gender Mainstreaming – Empowerment.

Unit II Women's Studies Vs Gender Studies: UGC's Guidelines – VII to XI Plans – Gender Studies :Beijing
Conference and 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 Politics and Planning.

Unit – IV Women Development and Gender Empowerment : Initiatives – International Women's Decade –
International Women's Year – National Policy for Empowerment of Women – Women Empowerment Year
2001 – Mainstreaming Global Policies.

Unit – V

Women's Movements and Safeguarding Mechanism: In India National / State 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 – PNDT Act – Hindu
Succession Act 2005 – Eve Teasing Prevention Act – Self Help Groups – 73_{rd} Amendment for PRIs.

BOOK FOR STUDY

Manimekalai. N & Suba. S (2011), Gender Studies, Publication Division, Bharathidasan
University, Tiruchirappalli

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPPALLI-2
B.A. /B.Sc. / B.Com. / B.R.Sc./ B.C.A. DEGREE COURSE
LIFE ORIENTED EDUCATION
ETHICS – II: EMPOWERMENT OF WOMEN

HRS / WK :1   **CODE: U12VE4LVE02**
                                                         CREDIT :1
                                                         MARKS : 100

OBJECTIVES:

- To make the learners aware of various Social, Gender issues and Cyber Crimes.
- To make them aware of the property rights.
- To make them understand and appreciate the role of media, in facing the challenges on various life issues.

UNIT – I: GENDER ISSUES

Feminism, Responsibilities of men and women towards Egalitarian society, Gender Identity-Factors contributing to gender identity (Family values, culture, tradition, religion, societal values, mass media).

UNIT – II: WOMEN AND MEDIA

Portrayal of women in media, Media world - News paper, Magazine, Cinema, TV, Video and Advertisements - Morality in Media and Right use of Media

UNIT – III: SOCIAL ISSUES RELATED TO WOMEN

Eve teasing, Rape, Dowry, Harassment in marriage, Divorce and Widows Remarriage, HIV & AIDS, Transgender, Female Genocide, sex workers, trafficking, fugitive, Female foeticide, handicapped children and women and evils of drug abuse

UNIT – IV: WAYS OF EMPOWERING WOMEN

Need for empowerment –Skills required for empowerment and Career Oriented Skills, Women's bill-Property rights, Models of Empowered Women-Mother Teresa, Indira Gandhi, and Helen Keller, Chanu Sharmila and Malala

UNIT – V: CYBER CRIME AGAINST WOMEN

Harassment and Spoofing via e-mail, Cyber Stalking, Cyber Pornography, Morphing - Cyber Laws, social network, face book, and twitter

REFERENCES:

1. Dr.M.Arumairaj et al., 1999, "Marching towards the Millenium ahead".

2. Thomas Anjugandam, 1999, "Grow Free Live Free" Salesian Publicaiton.

3. H.C PrettiNandhiniUpretti, jaipur 2000 "Women and problems of Gender Discrimination".

4. Thomas B.Jayaseelan, 2002, "Women: Rights and law" Indian Social Institute, New Delhi. Reni

   Jacob vol I & II, April- June 2004, "Vikasimi – The journal of Women's Empowerment, Ed,"

HOLY CROSS COLLEGE(AUTONOMOUS) TRICHIRAPALLI-2.
B.A/B.Sc./B.Com/B.R.Sc/B.C.A – DEGREE COURSES
LIFE ORIENTED EDUCATION
BIBLE STUDIES – II: OLD TESTAMENT

HRS / Wk :1

CODE: U12VE4LVBO2
CREDIT :1
MARKS : 100

OBJECTIVE:
- Understanding the desires of God through Prophetic revelation and becoming sensitiveto the heart beat of God.

UNIT – I: PURPOSE OF LIFE
Creation of man – fall of man (Gen 1-4)Plan of redemption through the life of :
- Noah (Gen 6-9); Abraham (Gen 12-18);
- Joseph (Gen 37-40); Moses (Exo 4-5);
- Joshua (Joshua 1-8)

UNIT – II: JUDGES AND KINGS
- **JUDGES:** Deborah (Judges 4); Samson (Judges 6-8); Gideon (Judges 13-16)
- **KINGS:** David (I Sam 17-31, II Sam 1-12); Solomon (I Kings 1-11, Proverbs 1-5,31)

UNIT – III: WOMEN IN THE BIBLE
- Women in the Old Testament
- Eve (Gen 3)
- Ruth (Ruth 1-4)
- Hannah (I Sam 1:1-28)
- Esther (Esther 1-6)

UNIT – IV: MINOR PROPHETS
- Brief Life History and teachings of
- Amos
- Jonah
- Micah
- Nahum
- Habakkuk

UNIT – V: MAJOR PROPHETS:
- Brief Life History and teachings of
- Isaiah (Is 1,6,11,36-38,40-42,44,50,53,61)
- Jeremiah (Jer 1-3,7-12,18-19,23)
- Ezechial (chapters 1,2,3,5,8,12 visions)
- Daniel (Daniel 1-6)

REFERENCES:

1. Missionaries Biographies. 1995, Amazon.com
2. Russell Fueller (1999) The Text book of the Twelve Minor Prophets. Wipf&Stock Publishers, UK.
3. Willis Judson Beecher (2002) The Prophets and The Promise. Wipf& Stock Publishers, UK

HOLY CROSS COLLEGE (AUTONOMOUS) TIRUCHIRAPPALLI – 2
B.A./B.Sc./ B.Com/ B,R.SC/ B.C.A - DEGREE COURSES
LIFE ORIENTED EDUCATION
CATECHISM – II: CHURCH AND SACRAMENTS

HRS / WK : 1   CODE : U12VE4LVC02
                                                        CREDIT : 1
                                                        MARKS : 100

OBJECTIVES:
- To instruct the students to live in relationship with God.
- To offer God's gift of the Holy Spirit.
- To build relationship with Jesus.
- To learn Sacraments and Prayer life through which a Christian is able to live in relationship with Christ.
- To enrich our devotion to Mother Mary and Saints.

UNIT – I: MISSION OF THE CHURCH
What is church (attributes) – Interpretation: body of the Christ- Bride of Christ, goal of all things- Historical as well as spiritual- Mystery and Sacrament-Pilgrim Church.

UNIT – II: PARTICIPATORY CHURCH (AS LAY FAITHFUL) AS A COMMUNITY
Work of the holy Spirit- Salt and leaven in the world "Church of modern World" Church as community – Its important aspect, early Christian Church – People of God as Church- Its characteristic and structure

UNIT – III: THE FUNCTIONARY CHURCH AND I
Ministerial Church – Relating Church –Parish Church- Role of lay faithful in the Church – Its challenges – Church and I.
Sacraments – Initiation- Social – Healing (all the seven) - stress on Confession, Confirmation and Holy Communion - Sacramental: holy "things" used –their sanctity

UNIT – IV: SACRAMENTS AND SACRAMENTAL
Sacraments-Initiation-Social-Healing (all the seven)-stress on Confession, Confirmation and Holy Communion. Sacramental: holy "things"used-their sancity.

UNIT – V: MARY AND WOMEN IN THE BIBLE- RUTH, ESTHER, JUDITH
Mary as a young virgin- Disciple- Her role in the Catholic Church-Annual feasts- Pilgrimages-Devotion to Mary, Theologies. Saints in the Church- 10 women saints. Ex. Mother Teresa, St.Alphonse.

REFERENCES:

1. "Vatican II Revised" Archbishop Angelo Fernandes Published by X.Diax de Rio S.J. Gujarat Sahitya Prakash, P.O.Box. 70, Gujarat, 388001, India.

2. "The Sacraments The Word of God at the Mercy of the Body" Claretian Publications, Malleswaram, Bangalore 560055.

Total Hours : 75	Code : U15TL4TAM04
Hrs : 5Hrs /Wk	Marks : 100
Credit : 3	

நோக்கங்கள்:

1. மாணவர்களுக்குத் தமிழர்தம் வாழ்வியல் விழுமியங்களை உணர்த்துதல்.

2. அறநெறிகள் வாழ்க்கைக்கு வழிகாட்டும் விதத்தினை எடுத்துரைத்தல்

3. சிகரம் தொட்ட சாதனையாளரின் வாழ்வியலைப் புலப்படுத்துதல்

4. மொழித்திறன் வளர்த்தல்.

பயன்கள்:

1. வாழ்க்கையின் பல்வகை நிலைகளையும் உணர்ந்து செயல்படச் செய்தல்

2. தன்னைத் தானே நெறிப்படுத்திக்கொள்ள, பயன்பாடடைய இலக்கியம் வழிகாட்டுவதை புரிந்துகொள்ளச் செய்தல்.

3. இடைவிடாத முயற்சியின் வெற்றிப்படிகளைக் கண்டுணர்ந்து மேன்மை அடையச் செய்தல்.

4. இருமொழிப் புலமையை வளர்த்தல்.

அலகு:1 செய்யுள்

1. குறுந்தொகை

1. கொங்கு தேர் வாழ்க்கை அஞ்சிறைத் தும்பி - இறையனார்
2. யாரும் இல்லை தானே கள்வன் - கபிலர்
3. வேம்பின் பைங்காய்என் தோழி தரினே – மிளைக் கந்தன்
4. உள்ளது சிதைப்போர் உளரெனப் படாஅர் - பாலை பாடிய பெருங்கடுங்கோ
5. நோற்றோர் மன்ற தோழி – குறுங்குடி மருதன்

2. நற்றிணை

1. மனையுறை புறவின் செங்கால் பேடை
2. நீள்மலைக் கலித்த பெருங்கோட் குறிஞ்சி - பாண்டியன் மாறன் வழுதி
3. ஆய்மலர் மழைக்கண் தெண்பனி உறைப்பவும் - நல்விளக்கனார்
4. சிறுவீ முல்லைப் பெரிது கமழ் அலரி - மதுரை பேராலவாயர்

3. கலித்தொகை

1. எறித்தரு கதிர்தாங்கி ஏந்திய குடைநீழல் - கபிலர்
2. பாடுகம் வா வாழி தோழி - கபிலர்

அலகு:2   செய்யுள்

4.புறநானூறு

1. நின் நயந்து உறைநர்க்கும் - பெருஞ்சித்திரனார்
2. காய்நெல் அறுத்துக் கவளம் கொளினே - பிசிராந்தையார்
3. படைப்புப் பலபடைத்து -   பாண்டியன் அறிவுடைநம்பி
4. கேட்டல் மாத்திரை — கோப்பெருஞ்சோழன்
5. ஈன்று புறந்தருதல் என்தலைக் கடனே - பொன்முடியார்

5. பதிற்றுப்பத்து - ஐந்தாம் பத்து

1. சுடர் வீ வேங்கை
2. தசும்பு துளங்கு இருக்கை
3. ஊன்துவை அடிசில்

6. திருக்குறள்

1. அறத்துப்பால் - இனியவை கூறல்
2. பொருட்பால்   - வினை செயல்வகை
3. காமத்துப்பால் - புலவி நுணுக்கம்

அலகு:3

தமிழ் இலக்கிய வரலாறு (துறை வெளியீடு)

சங்ககாலம் - சங்கம் மருவியகாலம்

எட்டுத்தொகை, பத்துப்பாட்டு, பதினெண்கீழ்க்கணக்கு நூல்கள்

அலகு:4

வாழ்க்கை வரலாறு

அன்னை தெரசா   - பா. தீனதயாளன்

அலகு:5

பொது — மொழிபெயர்ப்பு

பாட நூல்கள்

1. செய்யுள் நூல்   - தமிழாய்வுத்துறை வெளியீடு

2. தமிழ் இலக்கிய வரலாறு   - தமிழாய்வுத்துறை வெளியீடு

3. **வாழ்க்கை வரலாறு**

   பா.தீனதயாளன்   - அன்னை தெரசா

4. மொழிபெயர்ப்பு   - தமிழாய்வுத்துறை வெளியீடு

HOLY CROSS COLLEGE (AUTONOMOUS) TIRUCHIRAPPALLI-620002
DEPARTMENT OF HINDI
PART – I LANGUAGE HINDI FOR B.A, B.Sc & B.Com
HINDI PAPER-IV FUNCTIONAL HINDI & TRANSLATION
SEMESTER – IV

HRS/WEEK : 5   **CODE: U15HN4HIN04**

CREDITS : 3   **MARKS: 100**

UNIT – I   Functional Hindi

UNIT- II   Adhunic Kaal

UNIT- III General Essays

       Parishram Ka Mahatva, Anushasan, Paropakar, Jawaharlal Nehru, Deepavalli, Bharath Mein Computer

UNIT- IV   Letter Writing

UNIT- V   Anuvad Abhyas - III

    Books   Prescribed :

- General Essays   - D.B.H.P. Sabha Publishers, Chennai-17
- Abinava Patra Lekhan   - D.B.H.P. Sabha Publishers, Chennai-17
- Anuvad Abhyas – III   - D.B.H.P. Sabha Publishers, Chennai-17

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPPALLI – 2

DEPARTMENT OF FRENCH

<u>**SYLLABUS**</u>

SEMESTER IV
PART I - LANGUAGE - FRENCH PAPER IV [LANGUAGE & CULTURE
(ÉCHO A2 2e édition)]
(For candidates admitted 2013 onwards)

HRS/WEEK : 5   **CODE : U15FR4FRE04**

CREDIT : 3   **MARKS: 100**

Unit 1 C'est la fête !

Les pronoms objets directs et indirects – parler d'une fête – exprimer des goûts et des préférences – fêtes sans frontières – plats des fêtes – les jours fériés – les saisons– le calendrier – les fêtes traditionnelles, importées, francophones.

Unit 2 Vous plaisantez !

Le conditionnel présent, la distinction du futur et du conditionnel – le mouvement en général – raconter une anecdote – journée de détente – la naissance d'un chef d'œuvre - l'art au début du 20e siècle – le plaisir de jeux de mots.

Unit 3 On s'entend bien !

Les constructions « faire + verbe » et « laisser + verbe », le discours rapporté – décrire le caractère ou le comportement, exprimer l'accord et le désaccord – le langage des couleurs – sujets de conversation – sujets d'étonnement.

Unit 4 À vos risqué et périls !

Le subjonctif présent, la voix passive – l'aventure d'aujourd'hui – travailler pour la planète – réussites et échecs - marathon de Paris – plaisir des sports – les sports les plus regardés et pratiqués - les français et les sports– les jeunes issus de l'immigration.

Unit 5 La vie est dure

Les pronoms possessifs, les adjectifs, les pronoms indéfinis – parler de ses activités quotidiennes, exprimer la confiance ou la méfiance – les taches ménagères – la France insatisfaite - sans travail – la chanteuse Diam's – le film 'Le Couperet de Costa-Gavras'.

TEXT BOOKS :

ECHO A2 – METHODE DE FRANÇAIS & CAHIER PERSONNEL D'APPRENTISSAGE
Authors: J. Girardet and J. Pécheur
Publication: CLÉ INTERNATIONAL, 2010

HOLY CROSS COLLEGE (AUTONOMOUS) TIRUCHIRAPPALLI – 2.
2015 - 2016
I B.A., B.Sc., B.Com., B.R.Sc., B.C.A., B.B.A.,SEMESTER IV
PART II – ENGLISH IV - GENERAL ENGLISH   PAPER IV

HOURS – 6 PER WEEK   **CREDIT : 3**
CODE :U13EL4GEN04

OBJECTIVES
To strengthen the LSRW skills of students through inter-active approaches, participatory methods and activity oriented exercises.
To develop skills required for referential and independent learning.
To focus on writing skills like creative and comparative writing and book reviews.
To reinforce sub skills including vocabulary, grammar, dialogue, report writing and note making.

UNIT I: READ AND COMMUNICATE: HISTORICAL SKETCHES
        The Renaissance
        India under the British Raj
UNIT II: READ AND COMMUNICATE : MODERN FABLES
        Nonchi Nona and Kotiya the Cat
        The Competition
UNIT III: READ AND COMMUNICATE : MODERN FABLES
        The Nightingale and the Rose
        The Butterfly that Stamped
UNIT IV -READ AND COMMUNICATE : BIOGRAPHIES AND MODERN FABLES
        Napoleon Bonaparte
        The Hiding Place

UNIT V
GRAMMAR   - Tenses
COMPREHENSION   - General
COMPOSITION   - 1. Note making
                 2. Dialogue
                 3. Creative Writing
                 4. Narrative Writing
                 5. Imaginative Writing
GENERAL ESSAY – 5 TOPICS
                 1. Should capital punishment be abolished?
                 2. Is a corruption- free India a dream?
                 3. The nuclear family and its consequent changes in society.
                 4. The threat of terrorism.
                 5. If man becomes immortal…
THINK BETTER - READ AND COMMUNICATE : MODERN FABLES
        1 – 10 for Internal Testing
BOOKS FOR REFERENCE
Oranee Jansz : EXPLORATIONS *A Course in reading, thinking and communication skills*.   New delhi:
Cambridge university press. 2004. Print.

List of words \ compound words\phrases for making sentences:

1. Store house of knowledge
2. Genre
3. To be divided over
4. Taboo
5. To take over
6. Hump
7. Bushy
8. Tiered
9. To roll from side to side
10. Flickered
11. To sail through
12. To tremble all over
13. Ecstasy
14. Thunder-clap
15. Mousy-quite
16. Collision
17. Exiled
18. Revolution
19. To come round
20. To fight for a cause

*****

CODE: U15CS4MCT06

Hours/Week: 5
Credits   5

OBJECTIVES

To Give Assembly Language Programming Knowledge in Intel 8086.

UNIT I

8086 Architecture CPU Architecture - Machine Language Instructions – The 8088 Assembler Language Programming: Assembler Instruction Format-Data Transfer Instructions - Arithmetic Instructions - Branch Instructions

UNIT II
Instructions - Loop Instructions **-** NOP and HLT Instructions - Flag Manipulation Instructions. Logical Instructions - Shift and Rotate Instructions - Byte and String Manipulation: String Instructions - REP Prefix.

UNIT III

Modular Programming: Linking and Relocation: Segment Combination-Access to External Identifiers - Stacks - Procedures: Calls, Returns and Procedure Definitions – Saving and Restoring Register – Procedure Communication – Recursive Procedures - Interrupts and Interrupt Routines

UNIT IV

MULTIPROCESSORS: Characteristics of Multiprocessors _ Interconnection Structures _ Interprocessor Arbitration _ Interprocessor Communication and Synchronization _Cache Coherence.
MEMORY ORGANIZATION
Virtual Memory – Memory Management Hardware

UNIT V

PIPELINE AND VECTOR PROCESSING: Parallel Processing – Pipelining – Arithmetic Pipeline – Instruction Pipeline – RISC Pipeline – Vector Processing.

TEXT BOOKS

1. Yu-Cheng Liu and Glenn A. Gibson, 2001, *Microcomputer Systems:The 8086 /8088 family*, Second Edition, Prentice -Hall of India,

2. M.Morris Mono, **"Computer System Architecture"**, 2005, Third Edition,Prentice – Hall of India Private Ltd, New Delhi.

UNITS - I,II,III ： Chapters 2 : (2.1, 2.3, 2.5), 3(3.1 - 3.9),4(4.1 - 4.4),5(5.1, 5.2)
UNIT IV UNITV   Chapters 13: (13.1-13.5), 12: (12.6,12.7)
          :   Chapters 9 (9.1-9.6)

REFERENCE BOOKS

1. V.Korneev,A.Kiselec,2005,*"ModernMicroprocessors*", New Delhi,Dreamtech,Press

2. Badri Ram,2003,*"Advanced Micro Processors and Interfacing",*NewDelhi, Tata McGraw – hill Publishing cmp Pvt ltd.

3. Charles M,Gilmore, 2005,Second Edison,*"Microprocessors Principles and application*", Tata McGrawhill Publishing cmp ltd.

4. Andrew Tanenbaum, **"Structured Computer Organization"** ,2006,Fifth Edition ,Pearson Education.

5. William Stallings,, **"Computer Organization and Architecture"**,2009,Seventh Edition, Pearson Education.

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPALLI - 2
DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SEMESTER - IV
MAJOR ELECTIVE 1(OPTIONAL)

VISUAL PROGRAMMING - LAB

CODE: U15CS4MEP01   **HOURS/WEEK : 5**
                                                            CREDITS   : 5

1. Write a Procedure for the following:
   For Scrolling Text on Client area using Scale properties.
   Execute the Program and show the results in a neat format.

2. Use the Circle method to draw several ellipses and circles so that they have the appearance of a pair of eyes.

3. Write code to develop Calculator program which includes basic mathematical functions like square, multiplication, division and cosine.

4. Develop a window environment which accepts the file name as input and displays the content of the selected file. The environment should include the options such as filename listing, types of files listed, directory and drive listing. After the listing, give provisions to confirm and cancel the selection.

5. Create a designer with basic primitives like circle, square, rectangle, ellipse and fill the same.

6. Write code for the following

   a. Scroll the text 'Visual Programming Lab' from left to right and right to left on the Client area.
   b. Divide the Client area into 8*8 cells and while moving the mouse on these cells, the shape of cursor should change in every cell
.
7. Write a program to expand and shrinking Objects – While a program is running.

8. Write a program to create animation by using the Move Method and a Timer object.

9. By the use of Flex Grid Control create sales Data to track sales in a particular region.

10. Write a program by using Data Grid to display a University Course List.

11. Write a Program to Majortain the following information in a Business Database.
    - Supplier Addresses.
    - Customer Addresses.
    - Type of Business.
    - Stock level of each Item.
Execute the Program with suitable data and show the results in a neat form.

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPALLI – 2
DEPARTMENT OF COMPUTER SCIENCE
BACHELOR OF COMPUTER SCIENCE SYLLABUS 2014 onwards
SEMESTER - IV
MAJOR ELECTIVE 1(OPTIONAL): OPEN SOURCE TECHNOLOGY

CODE: U15CS4MEP02   **HOURS/WEEK : 5**
                                        CREDITS   : 5

1. Use the LINUX commands and give the output.

2. Write a server side PHP program that displays marks, total, grade of a student in tabular format by accepting user inputs for name, number and marks from a HTML form.

3. Write a PHP program that adds products that are selected from a web page to a shopping cart.

4. Write a PHP program to access the data stored in a mysql table.

5. Write a PHP program interface to create a database and to insert a table into it.

6. Write a PHP program using classes to create a table.

7. Write a PHP program to upload a file to the server.

8. Write a PHP program to create a directory, and to read contents from the directory.

9. Create a mysql table and execute queries to read, add, remove and modify a record from that table.

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPALLI – 2
DEPARTMENT OF COMPUTER SCIENCE
BACHELOR OF COMPUTER SCIENCE SYLLABUS 2014 onwards
SEMESTER - IV
MAJOR ELECTIVE 1(OPTIONAL): DOT NET LAB

CODE: U15CS4MEP03   **HOURS/WEEK : 5**
                                                        CREDITS   : 5

VB.NET

1. Scientific Calculator.

2. Notepad Creation.

3. Student Marksheet Preparation.

4. Employee Pay Bill Preparation.

5. Electricity Bill Generation.

6. Telephone Bill Generation.

ASP.NET

1. Login Registration Form design and validation.

2. Library Management.

3. Train Information Processing.

   4.Job Portal Designing.

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPPALLI – 2
DEPARTMENT OF PHYSICS
SEMESTER – IV: ALLIED PHYSICS OPTIONAL PAPER - 5
BASICS OF ELECTRONICS
(For computer science students)

HOURS / WEEK: 4   **CODE: U15PH4AOT04**

CREDITS: 4   **MARKS : 100**

Course objective: To understand the characteristics and functions of various electronic elements such as diode, transistor and operational amplifier and the basic principles of digital electronics and microprocessor.

UNIT I: SEMICONDUCTOR ELECTRONICS

Semiconductors – P type and N type semiconductors – PN Junction diode – Biasing of PN junction – Volt – Ampere characteristics of diode – Zener diode - Characteristics of Zener diode – Zener diode as a voltage regulator - Bipolar junction transistor – Basic configurations – Characteristics of transistor in CE mode.

UNIT II: OPERATIONAL AMPLIFIER

Differential amplifier – Common mode and Differential mode signals – CMRR - Characteristics of an ideal op-amp - Virtual ground – Inverting amplifier – Non Inverting amplifier – Applications: Adder, Subtractor, Integrator and Differentiator.

UNIT III: COMBINATIONAL CIRCUITS

Boolean operations – Rules and Law of Boolean Algebra – Logic gates (NOT , AND, OR, NAND, NOR and EX-OR) - Demorgan's theorems - NAND and NOR as universal gates – Karnaugh map - four variables - Half adder - Full adder – Half subtractor – Encoder – Decoder.

UNIT IV: FLIP FLOPS AND COUNTERS

Flip Flops: SR, JK, D and T Flip Flops, Counters: Modulus of a counter – Modulo – N counter (asynchronous counters) – asynchronous Decade counter – Shift register: Series and Parallel –shift left and shift right registers.

UNIT V: MICRPPROCESSOR

General architecture of Microcomputer and Microprocessor - Types of memories – Architecture of 8085 – Instruction and data formats – Instruction set - Addressing modes – Simple programming: Addition, subtraction and finding smallest/largest element of an integer array.

BOOK FOR STUDY:

1. Mehta V.K., Principles of Electronics, S.Chand and company Ltd, New Delhi, 7th edition (2001) (Unit I & II)

2. Vijayendran. V, Introduction to integrated Electronics, S. Viswanathan Pvt., Ltd. (2011) (Unit III & IV)
3. Ram. B, Fundamentals of microprossesors and microcomputer, Dhanapat. Rai & sons New Delhi, Fifth Edition (2001). (Unit V).

BOOK FOR REFERENCE:

1. Sedha R.S., A text book of applied Electronics, S. Chand & company Ltd, New Delhi (2002)
2. Malvino. A and Leach, Digital Principles and Applications, 4th edition, Mc-Graw Hill, New York (1986)
3. Ramesh Gaonkar, Microprocessor: Architecture, Programming and Applications by Wiley Eastern Limited.

HOURS/WEEK: 4   **CODE: U15PH4AOP05**

CREDITS: 3   **MARKS: 100**

Course objective: To understand the role of various components in electronic circuits and to built basic circuits such as operational amplifiers and to study practical digital circuits like registers, adder, subtractor and microprocessor.

Any Sixteen Experiments Only

1. Study of Junction Diode Characteristics.
2. Study of Zener Diode Characteristics.
3. Construction of Regulated Power Supply using Zener Diode.
4. Study of Transistor Characteristics – Common Emitter Configuration.
5. Op –Amp –Adder and Subtractor.
6. Op –Amp –Inverting and Non-inverting amplifiers.
7. Op –Amp – Integrator and Differentiator.
8. Study of logic gates AND & OR discrete components.
9. Study of IC Chips.
10. Verification of De – Morgan's Theorems.
11. NAND as a universal gate.
12. NOR as a universal gate
13. Karnaugh Map - Construction of simplified circuit.
14. Flip – Flops: S-R, J –K and D.
15. Study of Encoders and Decoders.
16. Half adder, Half Subtractor and Full adder circuits.
17. Shift Left and Right registers
18. Construct mod-2, mod 9 counters using IC 7490.
19. Microprocessor – Programming for addition and subtraction.
20. Microprocessor – Programming for identifying the largest and smallest number from a series

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPPALLI-2
B.A. /B.Sc. / B.Com. / B.R.Sc./ B.C.A. DEGREE COURSE
LIFE ORIENTED EDUCATION
ETHICS – II: EMPOWERMENT OF WOMEN

HRS / WK :1   **CODE: U12VE4LVE02**
                                                       CREDIT :1
                                                       MARKS : 100

OBJECTIVES:

- To make the learners aware of various Social, Gender issues and Cyber Crimes.
- To make them aware of the property rights.
- To make them understand and appreciate the role of media, in facing the challenges on various life issues.

UNIT – I: GENDER ISSUES

Feminism, Responsibilities of men and women towards Egalitarian society, Gender Identity-Factors contributing to gender identity (Family values, culture, tradition, religion, societal values, mass media).

UNIT – II: WOMEN AND MEDIA

Portrayal of women in media, Media world - News paper, Magazine, Cinema, TV, Video and Advertisements - Morality in Media and Right use of Media

UNIT – III: SOCIAL ISSUES RELATED TO WOMEN

Eve teasing, Rape, Dowry, Harassment in marriage, Divorce and Widows Remarriage, HIV & AIDS, Transgender, Female Genocide, sex workers, trafficking, fugitive, Female foeticide, handicapped children and women and evils of drug abuse

UNIT – IV: WAYS OF EMPOWERING WOMEN

Need for empowerment –Skills required for empowerment and Career Oriented Skills, Women's bill-Property rights, Models of Empowered Women-Mother Teresa, Indira Gandhi, and Helen Keller, Chanu Sharmila and Malala

UNIT – V: CYBER CRIME AGAINST WOMEN

Harassment and Spoofing via e-mail, Cyber Stalking, Cyber Pornography, Morphing - Cyber Laws, social network, face book, and twitter

REFERENCES:

1. Dr.M.Arumairaj et al., 1999, "Marching towards the Millenium ahead".

2. Thomas Anjugandam, 1999, "Grow Free Live Free" Salesian Publicaiton.

3. H.C PrettiNandhiniUpretti, jaipur 2000 "Women and problems of Gender Discrimination".

4. Thomas B.Jayaseelan, 2002, "Women: Rights and law" Indian Social Institute, New Delhi. Reni

   Jacob vol I & II, April- June 2004, "Vikasimi – The journal of Women's Empowerment, Ed,"

HOLY CROSS COLLEGE(AUTONOMOUS) TRICHIRAPALLI-2.
B.A/B.Sc./B.Com/B.R.Sc/B.C.A – DEGREE COURSES
LIFE ORIENTED EDUCATION
BIBLE STUDIES – II: OLD TESTAMENT

HRS / Wk :1   **CODE: U12VE4LVBO2**
                                                    CREDIT :1
                                                    MARKS : 100

OBJECTIVE:
- Understanding the desires of God through Prophetic revelation and becoming sensitiveto the heart beat of God.

UNIT – I: PURPOSE OF LIFE
Creation of man – fall of man (Gen 1-4)Plan of redemption through the life of :
- Noah (Gen 6-9); Abraham (Gen 12-18);
- Joseph (Gen 37-40); Moses (Exo 4-5);
- Joshua (Joshua 1-8)

UNIT – II: JUDGES AND KINGS
- **JUDGES:** Deborah (Judges 4); Samson (Judges 6-8); Gideon (Judges 13-16)
- **KINGS:** David (I Sam 17-31, II Sam 1-12); Solomon (I Kings 1-11, Proverbs 1-5,31)

UNIT – III: WOMEN IN THE BIBLE
- Women in the Old Testament
- Eve (Gen 3)
- Ruth (Ruth 1-4)
- Hannah (I Sam 1:1-28)
- Esther (Esther 1-6)

UNIT – IV: MINOR PROPHETS
- Brief Life History and teachings of
- Amos
- Jonah
- Micah
- Nahum
- Habakkuk

UNIT – V: MAJOR PROPHETS:
- Brief Life History and teachings of
- Isaiah (Is 1,6,11,36-38,40-42,44,50,53,61)
- Jeremiah (Jer 1-3,7-12,18-19,23)
- Ezechial (chapters 1,2,3,5,8,12 visions)
- Daniel (Daniel 1-6)

REFERENCES:

1. Missionaries Biographies. 1995, Amazon.com
2. Russell Fueller (1999) The Text book of the Twelve Minor Prophets. Wipf&Stock Publishers, UK.
3. Willis Judson Beecher (2002) The Prophets and The Promise. Wipf& Stock Publishers, UK

HOLY CROSS COLLEGE (AUTONOMOUS) TIRUCHIRAPPALLI – 2
B.A./B.Sc./ B.Com/ B,R.SC/ B.C.A - DEGREE COURSES
LIFE ORIENTED EDUCATION
CATECHISM – II: CHURCH AND SACRAMENTS

HRS / WK : 1   **CODE : U12VE4LVC02**
                                                   CREDIT : 1
                                                   MARKS : 100

OBJECTIVES:
- To instruct the students to live in relationship with God.
- To offer God's gift of the Holy Spirit.
- To build relationship with Jesus.
- To learn Sacraments and Prayer life through which a Christian is able to live in relationship with Christ.
- To enrich our devotion to Mother Mary and Saints.

UNIT – I: MISSION OF THE CHURCH
    What is church (attributes) – Interpretation: body of the Christ- Bride of Christ, goal of all things- Historical as well as spiritual- Mystery and Sacrament-Pilgrim Church.

UNIT – II: PARTICIPATORY CHURCH (AS LAY FAITHFUL) AS A COMMUNITY
    Work of the holy Spirit- Salt and leaven in the world "Church of modern World" Church as community – Its important aspect, early Christian Church – People of God as Church- Its characteristic and structure

UNIT – III: THE FUNCTIONARY CHURCH AND I
    Ministerial Church – Relating Church –Parish Church- Role of lay faithful in the Church – Its challenges – Church and I.
    Sacraments – Initiation- Social – Healing (all the seven) - stress on Confession, Confirmation and Holy Communion - Sacramental: holy "things" used –their sanctity

UNIT – IV: SACRAMENTS AND SACRAMENTAL
    Sacraments-Initiation-Social-Healing (all the seven)-stress on Confession, Confirmation and Holy Communion. Sacramental: holy "things"used-their sancity.

UNIT – V: MARY AND WOMEN IN THE BIBLE- RUTH, ESTHER, JUDITH
    Mary as a young virgin- Disciple- Her role in the Catholic Church-Annual feasts- Pilgrimages-Devotion to Mary, Theologies. Saints in the Church- 10 women saints. Ex. Mother Teresa, St.Alphonse.

REFERENCES:

1. "Vatican II Revised" Archbishop Angelo Fernandes Published by X.Diax de Rio S.J. Gujarat Sahitya Prakash, P.O.Box. 70, Gujarat, 388001, India.

2. "The Sacraments The Word of God at the Mercy of the Body" Claretian Publications, Malleswaram, Bangalore 560055.

CODE: U15CS5MCT07   HOURS/WEEK : 5
                                                                 CREDITS   4

OBJECTIVE
        Learn and develop JAVA Programming skills.

UNIT I

OVERVIEW OF JAVA LANGUAGE: Introduction – Simple Java Program – More of Java – An Application with Two Classes – Java Program Structure – Java Tokens – Java Statements – Implementing a Java Program – Java Virtual Machine – Command Line Arguments – Programming Style.
CONSTANTS, VARIABLES AND DATA TYPES: Introduction – Constants – Variables – Data types – Declaration of Variables – Giving Values to Variables – Scope of Variables - Symbolic Constants – Type Casting – Getting Values of Variables – Standard Default Values.
OPERATORS AND EXPRESSIONS: Introduction – Arithmetic Operators – Relational Operators – Logical Operators – Assignment Operators – Increment and Decrement Operators – Conditional Operator – Bitwise Operators – Special Operators – Arithmetic Expressions – Evaluation of Expressions – Precedence of Arithmetic Operators – Type Conversions in Expressions – Operator Precedence and Associativity – Mathematical Functions.

UNIT II
DECISION MAKING AND BRANCHING: Introduction – Decision Making with if Statement – Simple if Statement – The **if…else** Statement – Nesting of **if…else** statements The **else if** Ladder – The **Switch** Statement - The **?:** Operator.
DECISION MAKING AND LOOPING: Introduction – The **while** Statement – The **do** Statement – The **for** Statement – Jumps in Loops – Labeled Loops.
CLASSES, OBJECTS AND METHODS: Introduction – Defining a Class – Adding Variables – Adding Methods – Creating Objects – Accessing Class Members – Constructors – Methods Overloading – Static Members – Nesting of Methods – Inheritance – Overriding Methods – Final Variables and Methods – Final Classes - Finalizer Methods – Abstract Methods and classes – Visibility Control.

UNIT III
ARRAYS, STRINGS AND VECTORS: Arrays – One-Dimensional Arrays – Creating an Array – Two-Dimensional Arrays – Strings – Vectors – Wrapper Classes.
INTERFACES: MULTIPLE INHERITANCE: Introduction – Defining Interfaces – Extending Interfaces – Implementing Interfaces – Accessing Interface Variables.

UNIT IV

PACKAGES: PUTTING CLASSES TOGETHER: Introduction –Java API Packages – Using System Packages –Naming Conventions – Creating Packages – Accessing a Package – Using a Package – Adding class to a Package – Hiding classes.

MULTITHREADED PROGRAMMING: Introduction – Creating Threads – Extending the Thread Class – Stopping and Blocking a Thread – Life Cycle of a Thread – Using Thread Methods – Thread Exceptions – Thread Priority – Synchronization – Implementing the 'Runnable' Interface.

MANAGING ERRORS AND EXCEPTIONS: Types of Errors – Exceptions – Syntax of Exception Handling Code - Multiple Catch Statements - Using finally statements – Throwing Our Own Exceptions – Using Exceptions for Debugging.

UNIT V

APPLET PROGRAMMING: How Applets Differ from Applications – Preparing to Write Applets – Building Applet Code – Applet Life Cycle – Creating an Executable Applet – Designing a Web Page – Applet Tag – Adding Applet to HTML File – Running the Applet – More about Applet Tag – Passing Parameters to Applet – Aligning the Display – More About HTML Tags - Displaying Numerical Values – Getting Input from the User.

GRAPHICS PROGRAMMING: Introduction – The Graphics Class – Lines and Rectangles – Circles and Ellipses – Drawing Arcs – Drawing Polygons – Line Graphs – Using Control Loops in Applets – Drawing Bar Charts.

TEXT BOOK

1. Balagurusamy. E, **Programming with Java**, 2002, Tata McGraw-Hill Publication Pvt. Ltd., New Delhi.

UNIT I	: Chapters 3,4,5
UNIT II	: Chapters 6,7,8
UNIT III	: Chapters 9,10
UNIT IV	: Chapters 11,12,13
UNIT V	: Chapters 14,15

2. Grady Booch , James Rumbaugh , Ivar Jacobson **,"The Unified Modeling Language User Guide",** 2002,Pearson Education Pte. Ltd ., Delhi.
   UNIT III : Chapter 9,10,11,12,13,14.

REFERENCE BOOKS

1. Ken Arnold, James Gosling, David Holmes, **The Java Programming Language**, 2005, Pearson Education Pvt. Ltd., New Delhi.

2. Koparkar. P, **Java For You**, 2001, Tata McGraw-Hill Publications Pvt. Ltd., New Delhi.

3. Dr. Muthu. C, **Programming with Java**, 2004, Vijay Nicole Imprints Pvt. Ltd., Chennai.

4. Patrick Naughton , **The Java Hand Book**, 2002, Tata McGraw-Hill Publications Pvt. Ltd., New Delhi.

5. Xavier. C, **Projects on Java 2**, 2002, Scitech Publications India Pvt. Ltd., Chennai.

CODE: U11CS5MCT08   **HOURS/ WEEK : 5**
                                                         CREDITS   4

OBJECTIVE
          To understand the concept of software design,verification and validation techniques.

UNIT I
SOFTWARE AND SOFTWARE ENGINEERING: The nature of software – The unique nature of WebApps – Software Engineering – The Software Process – The Software Engineering Practice-Software myths.
PROCESS MODELS: A Generic Process Model – Process Assessment and Improvement – Prescriptive Process Models (The Waterfall Model, Incremental Process Models, Evolutionary Process Models, Concurrent Models)- Specialized Process models(Component based Development, The formal Methods model, Aspect-Oriented Software Development)- the Unified Process – Personal and Team process models.
AGILITY: What is agility? Agility and the Cost of change

UNIT II
UNDERSTANDING REQUIREMENTS: Requirement Engineering – Establishing the Ground work-Eliciting the Requirements- Developing Use cases – Building the requirement model – Negotiating Requirements – Validating Requirements.
REQUIREMENT MODELING: SCENARIOS, INFORMATION AND ANALYSIS CLASSES:
Requirement Analysis – Scenario Based Modeling – UML Models that Supplement the Use Case – Data Modeling Concepts – Class based Modeling.

UNIT III
DESIGN CONCEPTS
Design within the Context of Software Engineering – The Design process - The Design Concepts(Abstraction, Architecture, Patterns, Separation of concerns, Modularity, Information hiding, Functional Independence, refinement, Aspects , Refactoring, OOD Concepts.
The Design model(Data Design elements – Architectural Design Elements – Interface Design Elements- Component-Level Design Elements – Deployment-Level Design Elements)

UNIT IV
QUALITY MANAGEMENT
Quality Concepts : What is Quality? Software Quality? Achieving Software Quality - Software Quality Assurance – Elements of Software Quality Assurance – SQA Tasks, Goals and Metrics – Statistical Software Quality Assurance (six sigma) – ISO 9000 Quality standards

SOFTWARE TESTING STRATEGIES

A Strategic approach to Software Testing – Strategic Issues - Test Strategies for Conventional Software(Unit testing, Integration testing) – Test strategies for Object Oriented Software – Test Strategies for WebApps – Validation Testing – System Testing – The Art of Debugging.

UNIT V
TESTING CONVENTIONAL APPLICATION
Software Testing fundamentals – Internal and External use of Testing – White box Testing – Basic Path Testing – Control Structure Testing – Black box Testing – Model based Testing – Testing for Environments – Architectures and Applications.
ESTIMATION FOR SOFTWARE PROJECT
Abservation an estimation – The Project planning process – Embrical estimation models – Estimation for Object Oriented Project.
PROJECT SCHEDULING : Project Scheduling – Scheduling.

TEXT BOOK

1. Roger S.Pressman, "**Software Engineering: A Practitioner's Approach",** 2010, Seventh Edison, McGraw-Hill International Edition.

UNIT I	**:** Chapters 1.1 – 1.6, 2.1 – 2.6,3.1,3.2
UNIT II	**:** Chapters 5.1 – 5.7,6.1 – 6.5
UNIT III	**:** Chapters 8.1 – 8.4 ,Appendix 1 & 2
UNIT IV	**:** Chapters 14.1,14,2,14,4,16,2,16.3,16.5,16.7,17.1-17.8
UNIT V	**:** Chapters 18.1 – 18.8 ,26.1,26.2,26.7,26.8,27.2,27.5

REFERENCE BOOKS

1. Ian Sommarvilla, "**Software Engineering"**, 2009, Eigth edition,Pearson Education Publishing Ltd., New Delhi.
2. Richard Fairley, "**Software Engineering Concepts"**, 2000, Tata McGraw Hill International Publishing Company Ltd., New Delhi.

3. Ali Behfrooz and Frederick J.Hudson, "**Software Engineering Fundamentals"**, 2003, Oxford University Press, New York.

4. Carlo Ghezzi, Mehdi Jazayeri, Dino Mandride, "**Fundamentals of Software Engineering"**, 2002, Prentice Hall of India , New Delhi.

5. Jawadekar Waman S., "**Software Engineering - Principles and Practice"**, 2004, Tata McGraw Hill Publishing Companies, New Delhi

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPALLI-2.

DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SEMESTER -V
MAJOR CORE 9: OPERATING SYSTEM

CODE: U12CS5MCT09
HOURS/WEEK: 5
CREDITS   : 4

OBJECTIVE
To give deeper understanding of operating system as a resource manager.

UNIT I

INTRODUCTION: What is an Operating System? – Majorframe Systems – Desktop Systems – Multiprocessor Systems – Distributed Systems – Clustered Systems - Real-Time Systems – Handheld Systems – Feature Migration – Computing Environments.
COMPUTER-SYSTEM STRUCTURES: Computer-System Operation – I/O Structure – Storage Structure – Storage Hierarchy – Hardware Protection –Network Structure. **OPERATING-SYSTEM STRUCTURES:** System Components – Operating-System Services – System Calls – System Programs – System Structure – Virtual Machines.

UNIT II

PROCESSES: Process Concept – Process Scheduling – Operation on Processes – Cooperating Processes – Interprocess Communication.
THREADS: Overview – Multithreading Models - Threading Issues.
CPU SCHEDULING: Basic Concepts – Scheduling Criteria – Scheduling Algorithms – Multiple– Processor Scheduling – Real-Time Scheduling – Algorithm Evaluation.

UNIT III

PROCESS SYNCHRONIZATION: Background - The Critical-Section Problem – Synchronization Hardware – Semaphores – Classic Problems of Synchronization. **DEADLOCKS:** System Model – Deadlock Characterization – Methods for Handling Deadlocks – Deadlock Prevention – Deadlock Avoidance – Deadlock Detection – Recovery from Deadlock.

UNIT IV

MEMORY MANAGEMENT: Background – Swapping – Contiguous Memory Allocation – Paging - Segmentation – Segmentation with Paging.
VIRTUAL MEMORY: Background - Demand Paging – Process Creation - Page Replacement – Allocation of Frames – Thrashing – Other Considerations.

UNIT V

FILE-SYSTEM INTERFACE: File Concept – Access Methods – Directory Structure – File System Mounting – File Sharing – Protection.

FILE-SYSTEM IMPLEMENTATION: File-System Structure – File System Implementation - Directory Implementation – Allocation Methods – Free-Space Management –Efficiency and Performance – Recovery.

TEXT BOOK

1. Abraham Silberschatz, Peter Baer Galvin, Greg Gagne, "**Operating System Concepts**", 2002, John Wiley & Sons Publications Inc., Singapore.
   UNIT I: Chapters 1, 2, 3(3.1 – 3.6)
   UNIT II: Chapters 4(4.1 – 4.5), 5(5.1 - 5.3), 6(6.1 - 6.6)
   UNIT III: Chapters 7(7.1 – 7.5), 8(8.1 – 8.7)
   UNIT IV: Chapters 9(9.1 – 9.6), 10(10.1 – 10.6,10.8)
   UNIT V: Chapters 11(11.1 – 11.6), 12(12.1 – 12.7)

REFERENCE BOOKS

1. Deitel Harvay M., "**Operating Systems**", 2003, Pearson Education Publications, Singapore.

2. Godbole Achyut S., "**Operating Systems**", 2002, Tata McGraw Hill Publishing Company Limited, New Delhi.

3. Milan Milankovic, "**Operating System-Concepts and Design**", 2005, Tata McGraw Hill Publishing Company Limited, New Delhi.

4. Tanenbaum Andrew S. & Woodhull Albert S.," **Operating Systems – Design and Implementation**", 2002, Pearson Education Publications, Singapore.

5. William Stallings, "**Operating Systems – Internals and Design Principles**", 2006, Pearson Education Publications, Singapore.

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPALLI-2.
DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SEMESTER V
MAJOR CORE 10: JAVA PROGRAMMING - LAB

CODE: U08CS5MCP10   **HOURS/WEEK : 5**
                                                        CREDITS   4

1. SIMPLE PROGRAMS.

2. CONTROL STRUCTURES

3. CLASSES & OBJECTS AND METHODS

4. ARRAYS

5. INTERFACE

6. INHERITANCE

7. PACKAGES

8. MULTITHREADED PROGRAMMING

9. EXCEPTION HANDLING

10. APPLETS

CODE: U14CS5MEP04 **HOURS/WEEK : 5**
CREDITS   5

1. A. Unix programs using basic commands for the following cat, cp,

    rm, mv, cmp, wc, nl, tac, tail, head, cal, date, banner

   B. Menu driven program using who, ls, date, pwd

2. A. Write a shell program for the Positional Parameters

    B. Menu driven program using copy, edit, rename

3. A. Write a shell program to Search a word in a file

    B. Write a shell program to Sum of two digits

 4. A. Write a shell program to check whether the given file is readable or writable

    B. Write a shell program to find leap year or not

5. A. Write a shell script to find the string is a palindrome or not

    B. Write a shell program to convert the upper case and lower case letters.

 6. A. Write a shell program to find the factorial of n numbers

    B. Write a shell program to find the largest and smallest in numbers

7. A. Write a shell script to display the result of the student.

    B. Write a shell script to find the odd numbers that are present between the two given

      numbers

8. A. Write a shell program to add, sub, mul and divide B.

    Write a shell program to find prime number or not

9. Write a shell program to calculate electricity bill.

    A. Unix programs using basic commands for the following cat,

      cp, rm, mv, cmp, wc, nl, tac, tail, head, cal, date, banner

   B. Menu driven program using who, ls, date, pwd

10. A. Write a shell program for the Positional Parameters

B. Menu driven program using copy, edit, rename

11. A. Write a shell program to Search a word in a file

B. Write a shell program to Sum of two digits

12. A. Write a shell program to check whether the given file is readable or writable

B. Write a shell program to find leap year or not

13. A. Write a shell script to find the string is a palindrome or not

B. Write a shell program to convert the upper case and lower case letters.

14. A. Write a shell program to find the factorial of n numbers

B. Write a shell program to find the largest and smallest in numbers

15. A. Write a shell script to display the result of the student.

B. Write a shell script to find the odd numbers that are present between the two given numbers

16. A. Write a shell program to add, sub, mul and divide B. Write a shell program to find prime number or not

17. Write a shell program to calculate electricity bill.

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPALLI – 2
DEPARTMENT OF COMPUTER SCIENCE
BACHELOR OF COMPUTER SCIENCE SYLLABUS 2014 onwards
SEMESTER- V
MAJOR ELECTIVE 2: SYSTEM ANALYSIS AND DESIGN

CODE: U14CS5MET05   **HOURS/WEEK : 5**
                                                                CREDITS   : 5

OBJECTIVE
To understand the concept of software design,verification and validation techniques.

UNIT -I

Overview of System Analysis and Design, Business System concepts, System development life cycle, Project Selection, Feasibility Analysis, Design, Limitation, testing and evaluation. Initial Investigation- Sources of Requests, User / Analyst, interaction

UNIT –II

Qualities of a System Analyst, Feasibility studies- Technical and economic feasibilities, cost and benefit analysis.

UNIT –III

System requirement specification and analysis- Fact finding techniques, Data Flow Diagrams, Data Dictionaries, process organization and interaction, Decision Analysis, Decision Trees and Tables. Top down and bottom up variance, Audittrails.

UNIT –IV

Detail Design- Modularization, module specification, file design, system development involving databases.

UNIT - V
System control and quality assurance- Design objectives reliability and maintenance, software design and documentation tools, unit and integration testing, testing practice and plans, system control.

Text & Reference Books:

1. Awad, "System Analysis Design", Galgotia Publishing,Delhi.
2. Jamas, A.S., "Analysis and design of information systems", Mc GrawHill.
3. Luteberg, M.,Golkuhl, G and Hilsson, A, "Information System Development a Systematic
   Approach", PHI
4. Leeson N., "System Analysis and Design", Science Research Associates, 1985
5.Samprive, P.C., "System analysis: Definition Process and Design".

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPALLI – 2
DEPARTMENT OF COMPUTER SCIENCE
BACHELOR OF COMPUTER SCIENCE SYLLABUS 2015 onwards
SEMESTER- V
MAJOR ELECTIVE 2: MANAGEMENT INFORMATION SYSTEM

CODE: U14CS5MET06   **HOURS/WEEK : 5**

                                                                          CREDITS   : 5

OBJECTIVE

To enable the students to explore how technology and information can be best used to achieve the organization's goals and in doing so gain strategic and sustainable competitive advantage within its business sector.

UNIT I: AN OVERVIEW

An Introduction to Information Systems: Information Concepts – System Concepts – What is an Information System? – Business Information Systems – Global Challenges in Information Systems. Information Systems in Organizations: Organizations and Information Systems – Competitive Advantage – Careers in information systems.

UNIT II: INFORMATION TECHNOLOGY CONCEPTS

Hardware: Input and Output Devices - Software: Systems Software: Operating Systems – Current Operating Systems - Application Software: Overview of Application Software – Personal Application Software – Database Systems and Business Intelligence: Database Management Systems – Database Applications – Telecommunications and Networks: An overview of Telecommunications: Short Range Wireless options – Networks and Distributed Processing: Network Types – The Internet, Intranets and Extranets: Internet and Web Applications.

UNIT III: BUSINESS INFORMATION SYSTEMS

Electronic and Mobile Commerce: An Introduction to Electronic Commerce – An Introduction to Mobile Commerce – Electronic and Mobile Commerce Applications – Enterprise Systems: An Overview of Enterprise Systems: Transaction Processing Systems – Transaction Processing Activities – Information and Decision Support Systems: Decision Making and Problem Solving – Knowledge Management and Specialized Information Systems: Knowledge Management Systems – An Overview of Artificial Intelligence.

UNIT IV: SYSTEMS DEVELOPMENT

Systems Development: Investigation and Analysis: Systems Development Life Cycles – Systems Investigation - Systems Analysis. Systems Development: Design, Implementation, Maintenance and Review.

UNIT V: INFORMATION SYSTEMS IN BUSINESS AND SOCIETY

The Personal and Social Impact of Computers: Computer Waste and Mistakes - Preventing Computer-Related Waste and Mistakes - Computer Crime: The Computer as a Tool to Commit Crime - The Computer as the Object of Crime - Preventing Computer-Related Crime - Privacy Issues.

TEXT BOOK

1. Ralph M. Stair, George W. Reynolds, **"Principles of Information Systems, A Managerial Approach"**, Ninth Edition, Thomson Publishing.

BOOK FOR REFERENCE

1.   A.K. Gupta, S. Chand, **"Management Information System"**, 2010.

2.   Dr. S.P. Rajagopalan, **"Management Information System"**, Margham Publications, 2012.

3.   P. Mohan, **"Management Information System"**, Himalaya Publishing House, 2006.

4.   Elizabeth Hardcastle, **"Business Information** Systems**"**, Elizabeth Hardcastle & Ventus Publishing, 2008.

Paul Bocij Andrew Greasley Simon Hickie, "Business
Information Systems", Third Edition, Prentice Hall,
2008.

DEPARTMENT OF COMPUTER SCIENCE.
B.Sc./B.COM./B.A./B.B.A
SEMESTER V
NON MAJOR ELECTIVE 1: MULTIMEDIA LAB - PHOTOSHOP

CODE: U13CS5NMP01   **HOURS/WEEK: 2**
                                                                        CREDITS   2

1. Using various selection tools
2. Using image adjustment tools to enhance an image
3. Create scenery using Photoshop brushes.
4. Demonstrate the use of layer effects.
5. Create a text with picture inside.
6. Demonstrate the use of ripple effect and lens flare.
7. Create a snapshot inside a photo.
8. Photo retouching.
9. Coloring a BW photo.
10. Create slide mount template.
11. Create Photo mount template.
12. Create photo frame effect.
13. Create photo film effect.
14. Create a 3D Photo effect.
15. Create 2D and 3D logos.
16. Animate text using Image Ready.
17. Create three frames with Lens flare effect and different background colors and animate using Image Ready
18. Create a Christmas Tree with Blinking Lights.
19. Animate a candle flame using Liquify filter.
20. Design an attractive Greeting Card, Invitation, Wallpaper

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPPALLI -2.
DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SEMESTER V
SKILL BASED ELECTIVE 4: COMPETITVE EXAMINATION SKILLS

CODE: U14CS5SBT04   **HOURS/WEEK : 2**
                                         CREDITS   2

OBJECTIVE:
        To impart the basic knowledge on English, Mathematics, Verbal and Non-Verbal reasoning.

UNIT-I

General English: Tenses- Direct and Indirect Speech- Prepositions – Articles – Adverbs.

Common Errors & How to avoid them: Errors in uses of verbs - Errors in uses of Prepositions & Prepositional Phrases.

UNIT-II

Numerical Ability: Numbers – LCM – HCF Fraction –Average–Problem on Ages – Percentage Profit and Loss –– Chain Rule – Time and Work –– Simple Interest.

UNIT-III

Verbal Reasoning: Series completion – Coding and Decoding: Letter Coding, Number Coding, Mixed Letter Coding – Inserting the Missing Character.

UNIT-IV

Non-Verbal Reasoning: Series: Type1: Five Figure Series, Type 3: Choose the Missing Figure in a Series, Analogy: Type 1: Choose the One Element of a Similarly Related Pair.

UNIT-V

Brain Twisting: Puzzle Test: Type 1: Classification Type Question, Type 2: Seating / Placing Arrangement, Type 3: Comparison Type Question, Type 4: Sequential Order of Things– Direction Sense Test – Calendars.

TEXT BOOKS

1. Wren&Martin, "**High School Grammar & Composition"**, 2006, S.Chand & Company Pvt.Ltd., New Delhi.

   UNIT I   : General English : Units 14, 16,24,34,36.

2. J.K.Gangal, "**Competitive English for Professional Courses**", S. Chand & Company Ltd., New Delhi, 2010.

   UNIT I   : Common Errors & How to avoid them : Units 4, 7

2. R.S.Aggrawal, "**Quantitative Aptitude"**, S. Chand & Company Pvt. Ltd., New Delhi.

   UNIT II: Chapters 1, 2, 6,8,10,11,15,21

3. R.S.Aggrawal,"**Verbal & Non-Verbal Reasoning"**, 2007, S.Chand &Company Pvt.Ltd.,New Delhi.

   UNIT III : Verbal Reasoning   : Chapters 3,4,15
   UNIT IV : Non - Verbal Reasoning : Chapters 1, 2
   UNIT V   : Verbal Reasoning   : Chapters 6

4. Dr.Lal, Mishra & Kumar, **"Multi- dimensional Reasoning (Verbal & Non-Verbal)"**, Upkar Prakashan Private Company Ltd., New Delhi.

   UNIT V   : Verbal Reasoning : Chapters 3,7

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPPALLI-2
B.A. /B.Sc. / B.Com. / B.R.Sc./ B.C.A. DEGREE COURSE
LIFE ORIENTED EDUCATION
ETHICS – III: FAMILY AND CAREER DEVELOPMENT

HRS / Wk :1   **CODE: U13VE6LVE03**
       CREDIT :1
       MARKS : 100

OBJECTIVES:
- To help the students learn skills, knowledge, talent to lead a meaningful life.
- To help the students understand marriage life.
- To make the students learn skills of nurturing family and children.
- To make them aware of emotional intelligence and choose their carrier.

UNIT – I: PERSONAL COMPETENCE

Emotional Intelligence for Professional growth, Management Vs Leadership-Management and Leadership Skills - Conflict Management - Tips for Professional growth

UNIT – II: MARRIAGE AND FAMILY

Family Vision - Family Values, Family relationship, Family Management, Sex in Marriage, Emotional Balance and Imbalance, Compatibility between Husband and Wife

UNIT – III: MOTHERHOOD

Bringing up Children - Development stages(Eric Ericson model), Spirituality: Spirituality in Family - Prayer, God's Will , Role of Mother

UNIT – IV: PERSONALITY DEVELOPMENT

Self Analysis; interpersonal relation, introspection – character formation towards positive personality (values, self and college motto, punctuality, good moral, poverty, honesty, politeness, humanity, gentleness, friendship, fellowship and patriotism

UNIT – V: CAREER CHOICE

Career Choice according to Personality, Preparation for Competitive Exams, Sources of Knowledge, Memory Techniques, Mind Mapping

REFERENCES:
1. Tony B and Barry Buzan(2003), The mind map book, BBC world wide limited, London.
2. Susan Nash(2005), Turning team performance inside out, Jai CO. publishing House, New Delhi.
3. Fr. Ignacimuthu (1999) "Values for Life", VaigaraiPathipagam.
4. Grose. D.N. (2000), "A text book on Value Education", Dominant Publishers.

HOLY CROSS COLLEGE (AUTONOMOUS), TRICHIRAPALLI-2.
B.A/B.SC/B.COM/B.R.SC/B.C.A – DEGREE COURSES
LIFE ORIENTED EDUCATION
BIBLE STUDIES – III: ESSENCE OF CHRISTIAN FAITH

HRS / Wk : 1   **CODE: U12VE6LVBO3**
                                                      CREDIT :1
                                                      MARKS : 100

Objective:

- Prepare to practice Christian principles in family, church and society as a young women.

UNIT – I: ESSENTIALS OF CHRISTIAN FAITH

- Salvation   – Deliverance from sin (Is 53),Assurance of salvation and New life (II Cor 5:17)

- Sacraments – Baptism (Luke 3: 6-14), Lord's Supper (I Cor 10: 16,17; 11: 23-29)

- Trinity   – One in three and three in one. Illustrations from the Bible. (John 14: 16,17)

- Heaven and Eternal life (John 14: 13, 3: 13-21)

UNIT – II: MAARIAGE AND FAMILY LIFE

- Finding the God's Will - Issac (Gen 24)

- Man and woman as Partners – Abraham and Sarah (Gen 16-18,22)

                              Aquila and Priscilla (Acts 18: 1-3,26)

- Evils to be avoided – Premarital Sex, Extramarital Sex,

             Homosexuality, Abortion(Heb 13: 4, Psalm 127 : 4)

- Ideal Wife – Sarah (I Peter 3: 1-6), Ruth, Eph 5

UNIT – III: CHRISTIAN HOME

- Parental Responsibilities and bringing up children – Abraham (Gen 22),

             Eli (I Sam 2: 24-36,3: 11- 18), Mary Mother of Jesus (Luke 2: 51,52

- Caring for the Aged (I Sam 2: 31,32)

- Entertainments (I Cor 10: 23)

UNIT – IV: CHRISTIAN ETHICS

- Holiness – Joseph (Gen 39:9)Levi 11: 45, Ecc 12

- Obedience to God - Abraham (Gen 12) ; St. Paul (Acts 9)

- Freedom and Accountability

- Justice and Love

- Choices in Life – Making Decisions(Studies, job, life Partner)

- Model to follow – Who is your model? (John 15: 1-17)
- Social Evils – Dowry, Caste discrimination, Accumulation of wealth
- Freedom of Options, Time Management, Work Ethics (I Peter 2: 11-25)

UNIT – V: ROLE IN CHURCH AND SOCIETY

- Man is the temple of God (I Cor 3: 11-17, 6: 19-20)
  Individual responsibility in Gospel work
- Church –Body of Christ (I Cor 12: 14-27)
- Unity (John 17: 20-23, Mat 10: 37-39, 16:24-26, Mark 13: 11-13)
- Discipleship (I & II Timothy, Titus)
- Social Responsibilities (Phil 2; 1-11, James 1: 27, 2: 14-17, 4: 17, 5: 14-15)

REFERENCES:

1. Alban Douglass (1982) One Hundred Bible Lessons. Gospel Literature Service, Mumbai.
2. Derek Prince (1993) Foundations for Righteous Living. Derek Prince Ministries-South Pacific, New Zealand.
3. Derek Prince and Ruth Prince (1986) God is a Match maker. Derek Ministries, India.
4. Ron Rhodes(2005) Hand book on Cults. Amazon.com
5. Stanley.R. (1997) With God Again. Blessing Youth Mission, India.
6. Taylor.H. (1993) Tend My Sheep. SPCK, London.

HOLY CROSS COLLEGE (AUTONOMOUS) TIRUCHIRAPPALLI – 2
B.A./B.Sc/B.Com/B,R.SC/B.C.A DEGREE COURSES
LIFE ORIENTED EDUCATION
CATECHISM – III: LITURGY AND CHRISTIAN LIFE

HRS / WK :1
CODE:U12VE6LVC03
CREDIT :1
MARKS : 100

OBJECTIVES:
- To prepare the students to participate meaningfully in the liturgical celebration and experience GOD in their day today life.
- To become a living witness to Jesus Christ in their personal, family and social life.

UNIT – I: LITURGY

Personal prayer (Know oneself) – Vocal prayer – Community prayer – Meditation – Contemplation – Knowing the prayers : Our Father – Hail Mary – Holy Rosary – Mysteries of the Rosary- Litany of Mary – family prayer-Popular devotion

UNIT – II: HOLY SACRIFICE OF THE MASS

Significance – meaning and need for spiritual growth – mass prayers – part of the mass – liturgical year, its division and its significance. –Creed – Act of contrition – Discernment of spirits – Counseling – Spiritual direction.

UNIT – III: CHRISTIAN VOCATION AS DISCIPLE FOR THE KINGDOM OF GOD

Who am I as a Christian? – Christian dignity and others – The values of the Kingdom opposing to the values of the World – Christian social conscience – Christian in the reformation of the world – a call to be salt and light in today's context.

UNIT – IV: CHRISTIAN FAMILY

Holy family- characteristic of good family – Bible centered, Prayer centered, Christian centered– Responsibilities of parents, and children in the family – church – laws towards marriage- Pro life (Abortion, Euthanasia) – Lay Vocation – Lay Participation – Lay associates.

UNIT – V: CONSECRATED LIFE

"Come and follow me" – special disciples - Religious vocation – "I have called you to be mine"- Role of Nuns and Priest - called to be prophets and agents for God's Kingdom – nucleus of the church – Eschatological signs of the God's Kingdom.

REFERENCES:

1. Compendium – Catechism for the Catholic Church Published by Vaigarai Publishing House for the Catholic Church of India.
2. You are the light of the World, A course on Christian living for II year Religion published by Department of Foundation Courses, St.Joseph's College (Autonomous), Tiruchirappalli– 620 002.

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPPALLI -2.
DEPARTMENT OF COMPUTER
SCIENCE B.Sc. COMPUTER SCIENCE
SEMESTER VI
MAJOR CORE 11: COMPUTER NETWORKS

CODE: U12CS6MCT11   **HOURS/WEEK : 6**
                                              CREDITS   5

OBJECTIVE
   To impart deep knowledge on different layers of Computer Networks.

UNIT I

INTRODUCTION: Uses of Computer Networks - Network Hardware - Network Software - Reference models OSI reference Model (TCP/IP reference Model, A comparison of the OSI and TCP/IP Reference Models).

UNIT II

THE PHYSICAL LAYER: Guided Transmission Media - Wireless Transmission - Communication Satellites - The Public Switched Telephone Network- Mobile Telephone System.

UNIT III

THE DATA LINK LAYER: Data Link Layer Design issues - Error Detection and Correction - Elementary Data Link Protocols - Sliding Window Protocols.

UNIT IV

THE NETWORK LAYER: Network Layer Design Issues - Routing Algorithms - Congestion Control Algorithms. **THE TRANSPORT LAYER**: The Transport Service (Services Provided to the Upper Layers, Transport Service Primitives) – Elements of Transport Protocols.

UNIT V

THE APPLICATION LAYER: DNS - Domain Name System - Electronic Mail - The World Wide Web. **NETWORK SECURITY:** Cryptography – Symmetric Key Algorithms – Public Key Algorithms.

TEXT BOOK

1. Tanenbaum Andrew . S, **Computer Networks**, 2006, Fourth Edition, Prentice-Hall India of India Pvt. Ltd., New Delhi.

UNIT I	: Chapters 1 (1.1, 1.2, 1.3, 1.4.1 to 1.4.3)
UNIT II	: Chapters 2 (2.2, to 2.6)
UNIT III	: Chapters 3 (3.1 to 3.4)
UNIT IV	: Chapters 5 (5.1 to 5.3), 6 (6.1.1, 6.1.2, 6.2)
UNIT V	: Chapters 7 (7.1, 7.2, 7.3), 8 (8.1 to 8.3)

REFERENCE BOOKS

1. Black Uyless D., "**Data Communication and Distributed Networks"**, 2000, Prentice Hall of India Pvt. Ltd., New Delhi.

2. Forouzan Behrouz A., "**Local Area Networks"**, 2003, Tata McGraw Hill Publishing Limited, New Delhi.

3. Godbole Achyut S., "**Data Communication and Networks"**, 2002, Tata McGraw Hill Publishing Limited, New Delhi.

4. Mansfield Kenneth C., Antonakos James L., "**An Introduction to Computer Networking"**, 2002, Prentice Hall of India, New Delhi.

5. Tanenbaum Andrew S., "**Computer Networks"**, 2003, Pearson Education, Asia.

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPPALLI - 620 002.
DEPARTMENT OF COMPUTER SCIENCE
B.Sc. / B.C.A. Computer Science
SEMESTER - VI
MAJOR CORE 12
WEB APPLICATION DEVELOPMENT TOOLS LAB

CODE: U14CS6MCP12 / U14CA6 MCP12   **HOURS/WEEK: 6**
                                                       CREDITS   5

HTML5:

  1. Create a home page of your own using simple HTML tags.
  2. Develop a web page for a restaurant's menu card using tables.
  3. Design a web page for your college displaying various courses using lists and frames.
  4. Create a form to reserve a ticket in the southern railways
  5. Use the <input> element's list attribute to bind it together with a <data list> element.
  6. .Events triggered by actions inside a HTML form using on blur Event.

CSS:
  1. The element selector selects elements based on the element name.
  2. To create a border CSS3 border-image property you can use an image.
  3. Set the background color of the page using background property.
  4. To transform your elements using 2D or 3D transformation.

JAVA SCRIPT:

  1. Write a script to generate random numbers within 1 to 10 and display the
     numbers in a table.
  2. Write a script to compare two strings using string object.
  3. Write a script to validate an HTML form.
  4. Write a script to create an arithmetic calculator

JQuery:

  1. Demonstrates the jQuery hide() method, hiding all <p> elements.
  2. Demonstrates the jQuery focus() and blur() events.
  3. Set content with the jQuery text(), html() and val() methods.
  4. Use the $.get() method to retrieve data from a file on the server.
  5. Use the $.post() method to send some data along with the request.

DEPARTMENT OF COMPUTER SCIENCE
HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPPALLI -2.
B.Sc. COMPUTER SCIENCE
SEMESTER VI
MAJOR CORE 13
WEB APPLICATION DEVELOPMENT

CODE: U15CS6MCT13   HOURS/WEEK : 5
                                                 CREDITS   5

OBJECTIVE
To learn the basics for the development of individual components of a Multimedia System. To know the concepts and possible practical implementations.

UNIT I

INTRODUCTION TO ASP: What is Active Server Pages? - Active Server Pages Model – ASP File – The Process of Serving an Active Server Page – Using Scripting Language – Setting the Primary Scripting Language – Including Other Files. **UNDERSTANDING OBJECTS:** Build-in Objects – Active Server Pages Objects – Application Objects – Request Object – Response Object – Properties and Methods of the Response Object – Session Object – The global.asa File.

UNIT II

UNDERSTANDING COMPONENTS: Working with Users: Input Box and Message Function – Using HTML Forms – Using ActiveX Controls. **WORKING WITH HTML FORMS:** Retrieving Form Data – Using Text Boxes and Text Areas.

UNIT III

COOKIES: Working with Cookies – Applications of Cookies – Addressing the Drawbacks of using Cookies – Using Cookies in ASP Applications. **WORKING WITH FILES AND FILE SYSTEM:** Copying, Moving and Deleting Files, Detecting Whether a File Exists – Retrieving the Attribute of Files – Working with Drives and Folders. **WORKING WITH CONNECTION AND DATA SOURCES:** Creating Connection with OLEdb and ODbc – Connecting to a Microsoft Access Database.

UNIT IV

ABOUT THE CONNECTION OBJECT: Considering Performance and Data Production – Constant Description – Executing a SQL Statement with the Connection Object – Understanding Session and Connection Pooling – Working with Recordsets – Retrieving a Recordset – Recordset Cursor and Locking types – Understanding ADO Cursors – Paging through a Recordset.

UNIT V

WORKING WITH THE COMMAND OBJECT: Creating Stored Procedures – Executing Stored Procedures with the Connection Objects – Executing Stored Procedures with the Command Object-Retrieving Parameter Information.

TEXT BOOK

1. Ivan Bayross, **"Practical ASP"**, 2002, BPB Publications, New Delhi.

UNIT I : Chapters 1, 2
UNIT II : Chapters 3, 4, 5
UNIT III : Chapters 6, 7, 8
UNIT IV : Chapters 9
UNIT V : Chapters 10

REFERENCE BOOKS

1. Smith Eric A., **"Active Server Pages Bible**", 2000, Willey Publishing Inc., Indian Polix, Indiana.

2. Thomasson Michael. D, **"ASP3 Fast & Easy Web Development**", 2001, Prentice Hall of India Publications, New Delhi.

3. Scott Mitchell, J ames Atkinson, **"Sams Teach Yourself Active Server Pages 3.0 in 21 Days"**, 2000, Techmedia Publications, New Delhi.

4. Keyton Weissinger A., **"ASP in a Nutshell**", O'Reilly, 2000, Shroff Publishers & Distributors Pvt. Ltd., Calcutta.

5. Brian Francis, Richard Harrison, David Sussman, and Shawn Murphy, **"Professional Active Server Pages 2.0**", 2000, Shroff Publishers & Distributors Pvt..Ltd., Mumbai.

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPALLI-2.
DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SEMESTER VI
MAJOR ELECTIVE- 3: COMPUTER GRAPHICS

CODE: U14CS6MET07   **HOURS/WEEK : 5**
                                         CREDITS   : 5

OBJECTIVE
        This course introduces the concept of Computer Graphics.

UNIT I
OVERVIEW OF GRAPHICS SYSTEMS: Video Display Devices - Raster-Scan Systems - Random-Scan Systems - Graphics Monitors and Workstations - Input Devices – Input of Graphics Data.

UNIT II
OUTPUT PRIMITIVES: Points and Lines - Line-Drawing Algorithms - Loading the Frame Buffer - Line Function - Circle-Generating Algorithms – Curve Functions – Fill Area Functions – Character Generation.

UNIT III
ATTRIBUTES OF OUTPUT PRIMITIVES: Line Attributes - Curve Attributes - Color and Grayscale Levels - Area-Fill Attributes - Character Attributes - Bundled Attributes - Inquiry Functions.

UNIT IV
TWO - DIMENSIONAL GEOMETRIC TRANSFORMATIONS: Basic Transformations – Matrix Representations and Homogeneous Coordinates - Composite Transformations - Other Transformations - Transformations Between Coordinate Systems - Affine Transformations - Transformation Functions - Raster Methods for Transformations - Window to View Port Transformations - Clipping Operations - Point Clipping - Line Clipping – Cohen Sutherland Line Clipping – Polygon Clipping – Sutherland – Hodgeman Polygon Clipping.

UNIT V
THREE DIMENSIONAL CONCEPTS: Three - Dimensional Display Methods - Three-Dimensional Graphics Packages.
 THREE DIMENSIONAL VIEWING: Projections - Clipping.

TEXT BOOK

1. Donald Hearn & M.Pauline Baker, "**COMPUTER GRAPHICS"**, 2005, Prentice Hall of India, New Delhi.

UNIT I	: Chapters 2.1 – 2.5, 2.6, 8.2
UNIT II	: Chapters 3.1 – 3.5, 3.9, 3.12, 3.14
UNIT III	: Chapters 4.1 – 4.7
UNIT IV	: Chapters 5.1 – 5.8, 6.3, 6.5 – 6.8
UNIT V	: Chapters 9.1 – 9.2, 12.3, 12.5

REFERENCE BOOKS

1. Asthana R.G.S, Sinha. N.K, "**Computer Graphics"**, 2002, New Age International Publishers, New Delhi.

2. Foley, Van Dam, Feiner Hugher, **"Computer Graphics – Principles & Practice"**, 2004, Pearson Education, New Delhi.

3. Krishnamurthy N., **"Introduction to Computer Graphics"**, 2002, Tata McGraw Hill Publishing Company Limited, New Delhi.

4. Newman William M & Sproull Robert F., "**Principles of Interactive Computer Graphics"**, 2001, Tata McGraw Hill Publishing Company Limited, New Delhi.

5. Steven Harington, "**Computer Graphics"**, 2003, Tata McGraw Hill International Editions, New Delhi.

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPALLI – 2
DEPARTMENT OF COMPUTER SCIENCE
BACHELOR OF COMPUTER SCIENCE SYLLABUS 2015 onwards
SEMESTER VI
MAJOR ELECTIVE- 3: ARTIFICIAL INTELLIGENCE AND EXPERT SYSTEM

CODE: U14CS6MET08   **HOURS/WEEK : 5**

                                         CREDITS   : 5

OBJECTIVE

To develop a basic understanding of the building blocks of AI as presented in terms of intelligent agents.

UNIT I

Concept of intelligence, Artificial intelligence, definition turning test, areas of application. Search techniques, state space, Production rules, problem characteristics. Production system characteristic, depth first, breadth first search methods.

UNIT II

Heuristic search method, generate and test, hill climbing, best first method, graph search, AND OR search methods, constraint satisfaction, backtracking. Introduction to list and string processing, concept of knowledge, Logic, prepositional and predicate calculus, resolution.

UNIT III

Semiatics nets, frames, conceptual dependency, scripts, Monotonic reasoning, logical reasoning induction, default reasoning, minimalist reasoning, statistical reasoning, Baye's theorem, certainty factors, dempster shafer theory, Fuzzy logic.

UNIT IV

Concept of learning, Knowledge acquisition, rote learning, discovery, analogy.

UNIT V

Concept of expert system, need for an expert system, Component and categories of an expert system, Stages in the development of an expert system.

TEXT BOOKS

1. Elaine rich & Kevin Knight: Artificial Intelligence and Expert System, PHI.

2. Charniak, E.: Introduction of Artificial Intelligence, Narosa Publishing House.

3. Winton. P.H.: LISP, Narosa Publishing House.

REFERENCE BOOKS

1. Data W. Patterson, Introduction to Artificial Intelligence and Expert Systems, PHI, 2009.

 2. Stuart Russell and Peter Norvig, Artificial Intelligence A Modern Approach, Second

Edition, Pearson Education Series, 2003.

 3. Keith Darlington, The essence of Expert Systems, Pearson First Impression, 2011.

4. Marcellus: Expert System Programming in TURBO PROLOG Prentice-Hall Inc. 1989.

5. Clark, K. L. & McCabe, F.G.: Micro-Prolog Prentice-Hall Inc. 1987

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPPALLI -2.
DEPARTMENT OF COMPUTER SCIENCE
B.Sc./B.COM./B.A./B.B.A
SEMESTER VI
NON MAJOR ELECTIVE 2
ANIMATION LAB - FLASH

CODE: U13CS6NMP02   **HOURS/WEEK : 2**
                                              CREDITS   2

1. Animation Using Motion Tween.
2. Animation Using Shape Tween.
3. Animation Using Guide Layer.
4. Animation of Text in Multiple Layers.
5. Masking the Text by an Object.
6. Animation Using images and its effects.
7. Masking Two Images.
8. Text Morphing.
9. Importing sound
10. Animation Using Movie clip objects.
11. Create an e-Invitation for College Day with audio note.
12. Create 30 seconds multi-media profile about your College.
13. Animate a 5 yr child walking on the street.
14. Animate the same child stopping when a vehicle crosses.
15. Generate a new comic character and give a name to it.
16. Create a video-resume about yourself.

OFFICE TOOLS – LAB

CODE: U13CS6SBP05   **HOURS/WEEK : 2**
                                     CREDITS   2

MS Word

1 Creating Documents

2 Working with Documents

a. Opening Files – New & Existing

b. Saving Files

c. Formatting page and Setting Margins

d. Converting files to different formats

     i. Importing

     ii. Exporting

     iii. Sending files to others

     e. Editing text documents

          i. Inserting

          ii. Deleting

          iii. Cut, Copy, paste

          iv. Undo, Redo

          v. Find, Search, Replace

          f. Using Tool bars, Ruler

          i. Using Icons

          g. Using help

3 Formatting Documents

a. Setting Font Styles

     i. Font selection – style, size, color etc.,

     ii. Type face – Bold Italic, underline

     iii. Case settings

     iv. Highlighting

     v. Special symbols

b. Setting Paragraph style

    i. Alignments

    ii. Indents

    iii. Line space

    iv. Margins

    v. Bullets and Numbering

c. Setting Page Style

    i. Formatting

    ii. Border & Shading

    iii. Columns

    iv. Header & footer

    v. Setting Footnotes

    vi. Inserting manual Page break, Column break and line break.

    vii. Creating sections and frames

    viii. Inserting Clip arts, pictures, and other files

    ix. Anchoring & Wrapping

d. Setting Document Styles

    i. Table of Contents

    ii. Index

    iii. Page Numbering, data &Time, Author etc.,

    iv. Creating Master Documents

    v. Web page

4 Creating Tables

a. Table settings

b. Borders

c. Alignments

d. Insertion, deletion

e. Merging

f. Splitting

g. Sorting

h. Formula

5 Drawing

a. Inserting Pictures/Files etc.,

b. Drawing Pictures

c. Formatting &Editing pictures

d. Grouping and ordering

e. Rotating

6 Tools

a. Word Completion

b. Spell Checks

c. Macros

d. Mail merge

e. Templates

f. Using Wizards

g. Tracking Changes

h. Security

7 Printing Documents

      a. Printing Documents

MS Excel

1 Creating worksheet

2 Working with Spreadsheets

    a. Opening a File

    b. Saving Files

    c. Setting Margins

    d. Converting files to different formats

        i. Importing, Exporting and Sending files to

others e. Spreadsheet addressing

        i. Rows, Columns & Cells,

        ii. Referring cells and Selecting

cells f. Entering and Editing Data

        i. Entering Data

        ii. Cut, Copy, paste, Undo, Redo, Find, Search & Replace

        iii. Filling continuous rows, columns

        iv. Inserting - Data, cells, column, rows & sheets

        v. Manual breaks

g. Computing data

     i. Setting Formula

     ii. Finding total in a column or row

     iii. Mathematical operations (Addition, Subtraction, Multiplication, Division, Exponentiation)

     iv. Using other Formulas

3 Formatting Spreadsheets

a. Formatting – Cell, row, column & Sheet

     i. Alignment, Font, Border &shading

     ii. Highlighting values

     iii. Hiding/Locking Cells

b. Worksheet

     i. Sheet Name

     ii. Row & Column Headers

     iii. Row Height, Column Width

     iv. Visibility – Row, Column, Sheet

     v. Security

c. Formatting – worksheet

     i. Sheet Formatting & style - background, color , Borders & shading

d. Anchoring objects

e. Formatting layout for Graphics, Clipart etc.,

4 Working with sheets

a. Sorting

b. Filtering

c. Validation

d. Consolidation

e. Subtotal

5 Creating Charts

a. Selecting charts

b. Formatting charts, label, scaling etc.,

6 Using Tools

a. Error Checking

b. Spell Checks

c. Macros

d. Formula Auditing

e. Creating & using Templates

f. Tracking Changes

g. Customization

MS Power Point

1 Creating a presentation

a. Setting presentation style

b. Adding Text to the presentation

2 Formatting a presentation

a. Adding style

b. Color, gradient fills

c. Arranging objects

d. Adding Header & Footer

e. Slide Background

f. Slide layout

3 Adding Graphics to the presentation

a. Inserting pictures, movies, tables, etc into the
presentation b. Drawing Pictures using Draw

4 Adding effects to the presentation

a. Setting Animation & transition effect

b. Adding audio and video

5 Printing Handouts

6 Generating standalone presentation viewer

MS Access

1 Introduction

a. Database concepts

b. Tables

c. Queries

d. Forms

e. Reports

2 Opening & Saving database files

a. Creating Tables

b. Table Design

c. Indexing

d. Entering data

e. Importing data

3 Creating Queries

a. SQL statements

b. Setting relationship

c. Using wizards

4 Creating Forms

a. GUI

b. Form

5 Creating & printing reports

HOLY CROSS COLLEGE (AUTONOMOUS), TRICHIRAPPALLI -2
DEPARTMENT OF COMPUTER SCIENCE
IIIB.C.A/B.A/B.Sc/B.Com/BBA/B.R.Sc
SEMESTER VI
SKILL BASED ELECTIVE 6:RESEARCH METHODOLOGY

CODE: U15DS6SBT06   **HOURS/WEEK   : 2**
                                         CREDITS   : 2

Objectives:
    To help the students develop research skills
    To expose the students to the concept of research and to implement a research project.

UNIT I
Introduction to Research
        Definition, type, nature and scope of research – Research design

UNIT II
Data Collection
         Types-Primary and secondary data-Data processing-Hypothesis testing

UNIT III
Plan and Execution
        Methodology –Plan and execution-Analysis –Documentation

UNIT IV
Format and Presentation of Project Report
        Art of writing and Structure of a Project Report-Viva-Voce

UNIT V
Project
         Project work

REFERENCE BOOKS

1. Kothari C.R., Research Methodology. New Delhi: New Age International (P)
   Ltd Publishers, 2009.Reprint
2. Rahim F.A Thesis Writing: A manual for researchers. New Delhi: New Age
    International Publishers, 1998. Print.
3. Gopalana. Thesis Writing. Chennai: Vijay Nicole, 2005.Print.Oliver, Paul,
   Writing Your Thesis. New Delhi: Sage Publication, 2008. Print.

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPPALLI-2
B.A. /B.Sc. / B.Com. / B.R.Sc./ B.C.A. DEGREE COURSE
LIFE ORIENTED EDUCATION
ETHICS – III: FAMILY AND CAREER DEVELOPMENT

HRS / Wk :1   **CODE: U13VE6LVE03**
                                                   CREDIT :1
                                                   MARKS : 100

OBJECTIVES:
- To help the students learn skills, knowledge, talent to lead a meaningful life.
- To help the students understand marriage life.
- To make the students learn skills of nurturing family and children.
- To make them aware of emotional intelligence and choose their carrier.

UNIT – I: PERSONAL COMPETENCE

Emotional Intelligence for Professional growth, Management Vs Leadership-Management and Leadership Skills - Conflict Management - Tips for Professional growth

UNIT – II: MARRIAGE AND FAMILY

Family Vision - Family Values, Family relationship, Family Management, Sex in Marriage, Emotional Balance and Imbalance, Compatibility between Husband and Wife

UNIT – III: MOTHERHOOD

Bringing up Children - Development stages(Eric Ericson model), Spirituality: Spirituality in Family - Prayer, God's Will , Role of Mother

UNIT – IV: PERSONALITY DEVELOPMENT

Self Analysis; interpersonal relation, introspection – character formation towards positive personality (values, self and college motto, punctuality, good moral, poverty, honesty, politeness, humanity, gentleness, friendship, fellowship and patriotism

UNIT – V: CAREER CHOICE

Career Choice according to Personality, Preparation for Competitive Exams, Sources of Knowledge, Memory Techniques, Mind Mapping

REFERENCES:
1. Tony B and Barry Buzan(2003), The mind map book, BBC world wide limited, London.
2. Susan Nash(2005), Turning team performance inside out, Jai CO. publishing House, New Delhi.
3. Fr. Ignacimuthu (1999) "Values for Life", VaigaraiPathipagam.
4. Grose. D.N. (2000), "A text book on Value Education", Dominant Publishers.

HOLY CROSS COLLEGE (AUTONOMOUS), TRICHIRAPALLI-2.
B.A/B.SC/B.COM/B.R.SC/B.C.A – DEGREE COURSES
LIFE ORIENTED EDUCATION
BIBLE STUDIES – III: ESSENCE OF CHRISTIAN FAITH

HRS / Wk : 1   **CODE: U12VE6LVBO3**
                                                                       CREDIT :1
                                                                       MARKS : 100

Objective:

- Prepare to practice Christian principles in family, church and society as a young women.

UNIT – I: ESSENTIALS OF CHRISTIAN FAITH

- Salvation   – Deliverance from sin (Is 53),Assurance of salvation and New life (II Cor 5:17)
- Sacraments – Baptism (Luke 3: 6-14), Lord's Supper (I Cor 10: 16,17; 11: 23-29)
- Trinity   – One in three and three in one. Illustrations from the Bible. (John 14: 16,17)
- Heaven and Eternal life (John 14: 13, 3: 13-21)

UNIT – II: MAARIAGE AND FAMILY LIFE

- Finding the God's Will - Issac (Gen 24)
- Man and woman as Partners – Abraham and Sarah (Gen 16-18,22)

                        Aquila and Priscilla (Acts 18: 1-3,26)

- Evils to be avoided – Premarital Sex, Extramarital Sex,

            Homosexuality, Abortion(Heb 13: 4, Psalm 127 : 4)

- Ideal Wife – Sarah (I Peter 3: 1-6), Ruth, Eph 5

UNIT – III: CHRISTIAN HOME

- Parental Responsibilities and bringing up children – Abraham (Gen 22),

            Eli (I Sam 2: 24-36,3: 11- 18), Mary Mother of Jesus (Luke 2: 51,52

- Caring for the Aged (I Sam 2: 31,32)
- Entertainments (I Cor 10: 23)

UNIT – IV: CHRISTIAN ETHICS

- Holiness – Joseph (Gen 39:9)Levi 11: 45, Ecc 12
- Obedience to God - Abraham (Gen 12) ; St. Paul (Acts 9)
- Freedom and Accountability
- Justice and Love
- Choices in Life – Making Decisions(Studies, job, life Partner)

- Model to follow – Who is your model? (John 15: 1-17)
- Social Evils – Dowry, Caste discrimination, Accumulation of wealth
- Freedom of Options, Time Management, Work Ethics (I Peter 2: 11-25)

UNIT – V: ROLE IN CHURCH AND SOCIETY

- Man is the temple of God (I Cor 3: 11-17, 6: 19-20) Individual responsibility in Gospel work
- Church –Body of Christ (I Cor 12: 14-27)
- Unity (John 17: 20-23, Mat 10: 37-39, 16:24-26, Mark 13: 11-13)
- Discipleship (I & II Timothy, Titus)
- Social Responsibilities (Phil 2; 1-11, James 1: 27, 2: 14-17, 4: 17, 5: 14-15)

REFERENCES:

1. Alban Douglass (1982) One Hundred Bible Lessons. Gospel Literature Service, Mumbai.
2. Derek Prince (1993) Foundations for Righteous Living. Derek Prince Ministries-South Pacific, New Zealand.
3. Derek Prince and Ruth Prince (1986) God is a Match maker. Derek Ministries, India.
4. Ron Rhodes(2005) Hand book on Cults. Amazon.com
5. Stanley.R. (1997) With God Again. Blessing Youth Mission, India.
6. Taylor.H. (1993) Tend My Sheep. SPCK, London.

HOLY CROSS COLLEGE (AUTONOMOUS) TIRUCHIRAPPALLI – 2
B.A./B.Sc/B.Com/B,R.SC/B.C.A DEGREE COURSES
LIFE ORIENTED EDUCATION
CATECHISM – III: LITURGY AND CHRISTIAN LIFE

HRS / WK :1   **CODE:U12VE6LVC03**
                                                   CREDIT :1
                                                   MARKS : 100

OBJECTIVES:
- To prepare the students to participate meaningfully in the liturgical celebration and experience GOD in their day today life.
- To become a living witness to Jesus Christ in their personal, family and social life.

UNIT – I: LITURGY
Personal prayer (Know oneself) – Vocal prayer – Community prayer – Meditation – Contemplation – Knowing the prayers : Our Father – Hail Mary – Holy Rosary – Mysteries of the Rosary- Litany of Mary – family prayer-Popular devotion

UNIT – II: HOLY SACRIFICE OF THE MASS
Significance – meaning and need for spiritual growth – mass prayers – part of the mass – liturgical year, its division and its significance. –Creed – Act of contrition – Discernment of spirits – Counseling – Spiritual direction.

UNIT – III: CHRISTIAN VOCATION AS DISCIPLE FOR THE KINGDOM OF GOD
Who am I as a Christian? – Christian dignity and others – The values of the Kingdom opposing to the values of the World – Christian social conscience – Christian in the reformation of the world – a call to be salt and light in today's context.

UNIT – IV: CHRISTIAN FAMILY
Holy family- characteristic of good family – Bible centered, Prayer centered, Christian centered– Responsibilities of parents, and children in the family – church – laws towards marriage- Pro life (Abortion, Euthanasia) – Lay Vocation – Lay Participation – Lay associates.

UNIT – V: CONSECRATED LIFE
"Come and follow me" – special disciples - Religious vocation – "I have called you to be mine"- Role of Nuns and Priest - called to be prophets and agents for God's Kingdom – nucleus of the church – Eschatological signs of the God's Kingdom.

REFERENCES:

1. Compendium – Catechism for the Catholic Church Published by Vaigarai Publishing House for the Catholic Church of India.
2. You are the light of the World, A course on Christian living for II year Religion published by Department of Foundation Courses, St.Joseph's College (Autonomous), Tiruchirappalli– 620 002.