HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPALLI-620 002. DEPARTMENT OF COMPUTER SCIENCE CHOICE BASED CREDIT SYSTEM

BACHELOR OF COMPUTER SCIENCE

(For Candidates admitted from June 2017 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 U16FR1FRE01	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 U16FR2FRE02	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 U16FR3FRE03	6	3	100
	II	English	English Paper III	U15EL3GEN03	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	U15VE4LVE02 U15VE4LVB02 U15VE4LVC02	1	-	-
			TOTAL		**30**	**22**	**700**
IV	I	Language	Tamil Paper IV / Hindi Paper IV / French Paper IV	U15TL4TAM04 U15HN4HIN04 U16FR4FRE04	5	3	100
	II	English	English Paper IV	U15EL4GEN04	6	3	100
	III	Major Core-6	Computer Organization and Architecture	U16CS4MCT06	5	5	100
	III	Major Elective-1	VB.NET - Lab / Open Source Technology - Lab / Dot Net Lab	U15CS4MEP01/ U15CS4MEP02/ U15CS4MEP03	5	5	100
	III	Allied-5 (Optional)	Basics Of Electronics	U15PH4AOT04	4	4	100

	III	Allied-6 (Optional)	Electronics Practicals	U15PH4AOP05	4	3	100
	IV	Value Education	Ethics II/ Bible Studies II/ Catechism II	U15VE4LVE02 U15VE4LVB02 U15VE4LVC02	1	1	100
	VI	Extension Activity outside class hours from the Semesters(I –IV)		Any 1 activity based on the student's choice (11 Activities)	-	1	-
			TOTAL		**30**	**25**	**700**
V	III	Major Core-7	Java Programming	U17CS5 MCT07	5	4	100
	III	Major Core-8	Software Engineering Concepts	U17CS5 MCT08	5	4	100
	III	Major Core-9	Operating System	U15CS5 MCT09	5	4	100
	III	Major Core-10	Java Programming Lab	U15CS5 MCP10	5	4	100
	III	Major Elective-2	Shell Programming Lab / System Analysis and Design / Management Information System	U17CS5MEP02/ U15CS5MET05/ U15CS5MET06	5	5	100
	IV	Non Major Elective-1	Multimedia Lab – Photoshop	U15CS5NMP01	2	2	100
	IV	Skill Based Elective-4	Competitive Examination Skills	U15CS5SBT04	2	2	100
	IV	Value Education	Ethics III /Bible Studies III / Catechism III	U15VE6LVE03 U15VE6LVB03 U15VE6LVC03	1	-	-
			TOTAL		**30**	**25**	**700**
VI	III	Major Core-11	Computer Networks	U17CS6MCT11	6	5	100
	III	Major Core-12	PHP Programming Lab	U17CS6 MCP12	6	5	100
	III	Major Core-13	PHP Programming	U17CS6MCT13	6	5	100
	III	Major Elective-3	Computer Graphics / Artificial Intelligence and Expert System / Software Testing	U17CS6MET03/ U15CS6MET08/ U15CS6MET09	5	5	100
	IV	Non Major Elective-2	Animation Lab – Flash	U15CS6NMP02	2	2	100
	IV	Skill Based Elective-5	Web Application Development Tools Lab	U17CS6SBP05	2	2	100
	IV	Skill Based Elective-6	Research Methodology	U15DS6SBT06	2	2	100
	IV	Value Education	Ethics III /Bible Studies III / Catechism III	U15VE6LVE03 U15VE6LVB03 U15VE6LVC03	1	1	100
	IV	Extension Activity	RESCAPES -Impact study of project	U15RE6ETF01	-	1	100
			TOTAL		**30**	**28**	**900**
VI			ED: Extra Credit (Compulsory: Mini Project)	U15CS6ECP01		2	100
			GRAND TOTAL		**180**	**143**	**4300**

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	U15CS5NMP01	2	2	100
VI	IV	Non Major Elective-2	Animation Lab – Flash	U15CS6NMP02	2	2	100

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 பாடல்கள்
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

SYLLABUS

SEMESTER I
PART I – LANGUAGE - FRENCH PAPER I [GRAMMAR & CIVILISATION
(ÉCHO A1 2e édition)]
(For candidates admitted 2016 onwards)

HRS/WEEK : 6   CODE : U16FR1FRE01

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, 2013.

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.

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 chains and 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

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

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

OBJECTIVES:
- To understand and appreciate other Religions and Culture
- To learn from other Religions and Culture
- To interact with all 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 – Faith, Religion, Definition, Nature, Characteristics and Basic values of different religions. Impact of Globalization on religion – Importance of worship in holy places – celebration, Communion (come-union) – Socialization

UNIT – II: DIFFERENT RELIGIONS

Basic characteristics and basic thoughts of different religions: Buddhism, Christianity, Hinduism, Islam, Jainism and Sikhism

UNIT – III: UNITY OF RELIGION

Unity of Vision and Purpose- Respect for Other Religions, 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 context 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.C.A-DEGREE COURSES
LIFE ORIENTED EDUCATION
BIBLE STUDIES – I: NEW TESTAMENT

HRS / WK : 1   **CODE: U15VE2LVB01**
                                                     CREDIT : 1
                                                     MARKS : 100

OBJECTIVE:

- To enable the students to develop the passion for the Word of God – Jesus and inculcate 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-

- Messianic 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, Death 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)
- 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)
- St. Thomas (John 20:24-31)

UNIT – V: ST. PAUL'S LETTERS AND THE MESSAGE

- I & II Corinthians
- Galatians
- Ephesians
- Philippians
- I & II Timothy
- Titus

REFERENCES:

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

HOLY CROSS COLLEGE (AUTONOMOUS) TIRUCHIRAPPALLI -2
B.A/B. Sc /B.Com/ B.C.A-DEGREE 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 HolyBible
- 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 – speciality of the Gospel – main emphasis of the message
– meaning and blessing of suffering and paschal joy in one's life - Passion – Paschal Mystery

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. Vaazhvin Vazhiyil – St. John's Gospel- Fr. Eronimus
4. God's Word nourishes A catholic approach to the Scriptures Dr. Silvano Renu Rita, O.C.V. STD and Dr. Mascarenhas Fio S.J. D.mim. Catholic Bible I
5. Documents of Vatican II – St. Paul's Publications, Bombay 1966.

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.

<div align="center">பாடத்திட்டம்</div>

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 2016 onwards)

HRS/WEEK : 5   **CODE : U16FR2FRE02**

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, 2013.

HOLY CROSS COLLEGE (AUTONOMOUS) TIRUCHIRAPPALLI – 2.
I YEAR UG – SEMESTER II
PART II – ENGLISH 2 - GENERAL ENGLISH   II

HOURS : 6   **CODE : U15EL2GEN02**
CREDIT : 3   **MARKS: 100**

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.*The Far and the Near* by Thomas Wolfe (Short Story)
2. *The Owl who was a God* by James Thurber (Short Story)
3.*Wings of Fire – Chapter I* by Dr. A.P.J. Abdul Kalam (Prose)

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. *The Robe of Peace* by O' Henry (Short Story)
2. An extract from *Androcles and the Lion* by George Bernard Shaw (Play)

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. *Six Thinking Hats* by Edward de Bono (Prose)
2. *A Cup of Tea* by Katherine Mansfield   (Short Story)
3. 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. *Easy Ways to Avoid an Argument* by Sam Horn (Prose)
2. *Pygmalion* by George Bernard Shaw (Play)
3. My Heart Leaps up when I behold by William Wordsworth (Poem)
4. The Flower by Alfred Lord Tennyson (Poem)

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. *On Saying Please* by A.G. Gardiner (Prose)
2. *A Time of Green* by Anna Stillaman (Play)

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

B.Sc./B.C.A.
SEMESTER II
MAJOR CORE 2

DATA STRUCTURES AND ALGORITHMS

CODE: U15CS2MCT02   **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. **LINKEDLISTS:**
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

TREES:
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 Kanti Swarup, 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. Panneer Selvam (2003), **OPERATIONS RESEARCH**, Prentice Hall of India Private Limited, New Delhi.

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

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPPALLI
B.A/B.Sc./B.Com/B.R.SC/B.C.A/B.B.A DEGREE EXAMINATION
SEMESTER-II
SBE-1 SOFT SKILL DEVELOPMENT

Hrs – 2/Week

CODE: U15RE2SBT01

CREDITS -2

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 Plan. (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:

Alex K.(2012)Soft Skills–Know Yourself & Know the World, S. Chand &Company Ltd., New 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 Reddy B.(2005).Team Development and Leadership, Jaico Publishing House, Mumbai.

(For candidates admitted from 2015 onwards)
HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPPALLI– 2
B.A./B.Sc.,/B.Com./BCA&BBA,DEGREE EXAMINATION
SEMESTER II
SBE- 2 RURAL ENRICHMENT AND SUSTAINABLE DEVELOPMENT

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-dairy farming.

Unit-V
Elements in sustainable development –addressing agriculture issues-traditional farming technology-organic farming-Zero budget farming-organic manures vermicompost-azolla cultivation panchakavya-amirtha karaisal, 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.C.A-DEGREE COURSES
LIFE ORIENTED EDUCATION
ETHICS – I: RELIGIONS AND VALUE SYSTEMS

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

OBJECTIVES:
- To understand and appreciate other Religions and Culture
- To learn from other Religions and Culture
- To interact with all 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 – Faith, Religion, Definition, Nature, Characteristics and Basic values of different religions. Impact of Globalization on religion – Importance of worship in holy places – celebration, Communion (come-union) – Socialization

UNIT – II: DIFFERENT RELIGIONS

Basic characteristics and basic thoughts of different religions: Buddhism, Christianity, Hinduism, Islam, Jainism and Sikhism

UNIT – III: UNITY OF RELIGION

Unity of Vision and Purpose- Respect for Other Religions, 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 context 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: U15VE2LVB01**
                                                                   CREDIT : 1
                                                                   MARKS : 100

OBJECTIVE:

- To enable the students to develop the passion for the Word of God – Jesus and inculcate 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-
- Messianic 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, Death 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)
- 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)
- St. Thomas (John 20:24-31)

UNIT – V: ST. PAUL'S LETTERS AND THE MESSAGE

- I & II Corinthians
- Galatians
- Ephesians
- Philippians
- I & II Timothy
- Titus

REFERENCES:

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

HOLY CROSS COLLEGE (AUTONOMOUS) TIRUCHIRAPPALLI -2
B.A/B. Sc /B.Com/ B.C.A-DEGREE 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 – speciality of the Gospel – main emphasis of the message
– meaning and blessing of suffering and paschal joy in one's life - Passion – Paschal Mystery

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. Vaazhvin Vazhiyil – St. John's Gospel- Fr. Eronimus
4. God's Word nourishes A catholic approach to the Scriptures Dr. Silvano Renu Rita, O.C.V. STD and Dr. Mascarenhas Fio S.J. D.mim. Catholic Bible I
5. Documents of Vatican II – St. Paul's Publications, Bombay 1966.

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 2015 onwards)

HRS/WEEK : 6   **CODE : U16FR3FRE03**

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 – l'économie en France - le travail en dix points

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 région 'Poitou- Charentes' - la vie politique

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, 2013.

HOLY CROSS COLLEGE (AUTONOMOUS) TIRUCHIRAPPALLI – 2.
II YEAR UG – SEMESTER III
PART II – ENGLISH 3 - GENERAL ENGLISH   III

HOURS : 6   **CODE : U15EL3GEN03**
CREDIT : 3   **MARKS: 100**

GROWING WITH VALUES
Objectives:
    1. To acquaint students with fine pieces of literature thereby enhancing their communicative   skills.
    2. To develop both receptive (reading, listening) and productive (speaking, writing) skills   through communicative classes
    3. To create interest among students for self-learning
    4. To create a general awareness among students regarding the importance of humanistic values in the modern world.
    5. To acquire proficiency in oral and written language.

UNIT I – Love, Faith and Hope
Listening for comprehension and general significance
Speaking about one's fear and hope
Reading for specific and global comprehension.
Writing – creative writing
Grammar – reporting speeches
Vocabulary – shades of meaning, Idioms and phrases (10)
Composition – Writing Paragraphs

TEXTS
"Hope" by Emily Dickinson **(Internal Testing)**
1. An extract from the Nobel Lecture by Mother Teresa
2. Angels Never Say "Hello!" by Dottie Walters
3. The Treasure by Alice Grey (Taken from Plant the seed by Timothy Kendrick)

UNIT II – Perseverance
Listening- for distinguishing / convert / summarize/(interview)
Speaking- a role play on the theme of perseverance (enactment of fables/ folk tales based on the theme)
Reading – read the passage (from encyclopedia) and draw a flowchart / tree diagram [main idea]
Writing- parallel writing
Grammar – descriptive discourse – degrees of comparison (describing person, city, places, things, weather climate)
Vocabulary – antonyms, idioms and phrases (10)
Composition – Creative writing

TEXTS
Mother to Son by Langston Hughes**(Internal Testing)**
1.**The Perseverance of a Spider.**
2. Two Gentlemen of Verona by A.J Cronin
3. Faith of determination and perseverance (about Walt Disney)

UNIT III – Tolerance/Benevolence/Compassion

Listening- for developing / relating (speech)
Speaking- simulate any personality related to humanity
Reading – scan the passage (life of …) and write down key phrases to sum up [figurative languages]
Writing- case study / letter writing (personal)
Grammar –writing reports of events and processes (voices)
Vocabulary – Suffixes, idioms and phrases
Composition – imaginative writing

TEXTS:
Portrait of Gandhiji by Will Durant (1st Para)**(Internal Testing)**
1.   Gitanjali (Poem No. 11) Leave this chanting– Rabindranath Tagore
2.   The Selfish Giant – Oscar Wilde
3.   The Price of a Miracle in *Rainbows follow rain* by Dan Clark

UNIT IV – Essential Life Skills/ Resilience

Listening- for deducing/ illustrating / subdivide to make notes (newspaper article)
Speaking- interviewing (gap activity) / picture description
Reading – in-depth reading to classify/ categorize [point of view]
Writing- Situational writing
Grammar – analysis of sentences – simple, compound, complex
Vocabulary – compound words, idioms and phrases
Composition – essay writing (proverb as title)

TEXTS:
The story of Rosa Parks**(Internal Testing)**
1.   Life of Nelson Mandela
2.   It's cool to be kechi by Juliet Hindell
3.   'Home they brought Her warrior dead' by Alfred Lord Tennyson

UNIT V – The Art of Living

Listening- for comparing and contrasting (personality/lives of two people)
Speaking- reporting from the magazine / newspaper

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPALLI – 2
DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SEMESTER - III
MAJOR CORE 4: DATABASE SYSTEMS

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.

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPALLI – 2
DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SEMESTER - III
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 modified method(excluding improved Euler's method) – Runge Kutta 2nd and 4th order method.

TEXT BOOKS:

For Units I and II

1. Narayanan S, Hanumantha Rao.R, Manicavachagom Pillay.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. Somasundaram NUMERICAL METHODS Scitech Publishers ,Chennai

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

4. ManicavachagomPillay .T.K , Natarajan.T, Ganapathy K.S ,(2005), ALGEBRA VOL II S.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.

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPPALLI-2

B.A./B.Sc./ B.Com./ B.C.A./B.B.A DEGREE COURSE
II YEAR: SEMESTER - III
(Students who are admitted from 2015 onwards)

GENDER STUDIES

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

HRS / Wk : 1   **CODE: U15VE4LVE02**
                                                               CREDIT : 1
                                                               MARKS : 100

OBJECTIVES:

- To make the learners aware of various gender and social issues and Cyber Crimes.
- To make the learners understand and appreciate the role of media, in facing the challenges on various life issues.
- To enable the learners to understand the ways of empowering women and cyber crime against women

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: 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 – III: WOMEN AND MEDIA

Portrayal of women in media world - News paper, Magazine, Cinema, TV, Video and Advertisements - Morality in Media and Right use of Media
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- St. Teresa of Kolkata, Indira Gandhi, 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, Twitter and Whatsapp

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 Pretti Nandhini Upretti, jaipur 2000 "Women and problems ofGender Discrimination".

4. Thomas B.Jayaseelan, 2002, "Women: Rights and law" Indian Social Institute, New Delhi.
5. 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.C.A – DEGREE COURSES
LIFE ORIENTED EDUCATION
BIBLE STUDIES – II: OLD TESTAMENT

HRS / Wk :1   **CODE: U15VE4LVB02**
                                                                          CREDIT : 1
                                                                          MARKS : 100

OBJECTIVE:
- To enable the students to understand the desires of God through Prophetic revelation and to become sensitive to 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)

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

UNIT – IV: 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)
- Ezekiel (chapters 1,2,3,5,8,12 visions)
- Daniel (Daniel 1-6)

UNIT – V: 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)

REFERENCES:

1. Russell Fueller (1999) The Text book of the Twelve Minor Prophets. Wipf &Stock Publishers, UK.

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/ BBA/ B.C.A - DEGREE COURSES
LIFE ORIENTED EDUCATION
CATECHISM – II: CHURCH AND SACRAMENTS

HRS / Wk : 1   **CODE : U15VE4LVC02**
                                                          CREDIT : 1
                                                          MARKS : 100

OBJECTIVES:
- To enable the students to understand the ways of Christian living with the Church
- To understand God's gift of the Holy Spirit.
- To understand the methods of building relationship with Jesus.
- To learn the life of Sacraments and Prayer
- To enrich our devotion to Mother Mary and Saints.

UNIT – I: MISSION OF THE CHURCH

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

UNIT – II: PARTICIPATORY CHURCH

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 characteristics 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.

UNIT – IV: SACRAMENTS

Sacraments – Initiation– Healing – Service (all the seven) – Emphasis on Confession, Confirmation and Holy Communion. Sacramental: holy "things" used –Their sanctity.

UNIT – V: MARY AND SAINTS

Mary as a young virgin- Disciple- Her role in the Catholic Church-Annual feasts- Pilgrimages- Devotion to Mary, Dogmas. Saints in the Church- Prominent Women in the old testament

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.
3. Documents of Vatican II – St. Paul's Publications, Bombay 1966.

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 பெருங்கோற் 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

SYLLABUS

SEMESTER IV
PART I - LANGUAGE - FRENCH PAPER IV [LANGUAGE & CULTURE
(ÉCHO A2 2e édition)]
(For candidates admitted 2015 onwards)

HRS/WEEK : 5   CODE : U16FR4FRE04

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

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.

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.

TEXT BOOKS :

ECHO A2 – METHODE DE FRANÇAIS & CAHIER PERSONNEL D'APPRENTISSAGE
Authors: J. Girardet and J. Pécheur
Publication: CLÉ INTERNATIONAL, 2013.

HOLY CROSS COLLEGE (AUTONOMOUS) TIRUCHIRAPPALLI – 2.
II YEAR UG – SEMESTER IV
PART II – ENGLISH 4 - GENERAL ENGLISH   IV

HOURS : 6   **CODE : U15EL4GEN04**
CREDIT : 3   **MARKS: 100**

EMPLOYABILITY SKILLS

OBJECTIVES:
1. To develop both receptive (reading, listening) and productive (speaking, writing) skills   through communicative classes.
2. To acquire proficiency in oral and written language.
3. To train the students for employability skills such as team skills, communication skills and presentation skills.
4. To acquire values related to personal integrity and excellence in work propagated in the literary works.
5. To create interest among students for self-learning.

UNIT I – Personal integrity –Honesty, dependability, adaptability and loyalty.

Listening to identify a person's attitude, values, situation and the decision made.
Speaking about one's action, expressing opinions, character analysis.
Reading for comprehension(inferring a character's method of managing a situation, adaptability and the like).
Writingrecommendations.
Grammar – use of appropriateadjectives and adverbs in contexts and reporting speeches
Vocabulary – differentiating shades of meaning, use of idioms and phrases in sentences
Composition – Your thoughts are the architects of your destiny – David O' Mckay
                   Honesty is the first chapter in the book of wisdom – Thomas Jefferson

TEXTS
1. *"How far is the river"* by Ruskin Bond
2. *The Pie and the Tart* by Hugh Chesterman.
3. An excerpt from Shakespeare's *"Julius Caesar"* Act III Scene II Lines 13 - 33– Antony's speech

UNIT II – Key to success – Self-esteem, perfection and excellence

Listening to differentiate dutyfrom obligation.
Speaking – Discussing one's knowledge about different subjects, learning skills, thirst for knowledge, learning form experiences.
Reading for comprehension exhibiting higher perception of life's experiences.
Writingparagraphs with cause and reason, analyzing motives behind people's actions and behavior.
Grammar – use of cohesive devices
Vocabulary – figures of speech– simile, metaphor.
Composition –
1. Excellence is not a destination, it is a continuous journey that never ends – Brian Tracy
2. To be perfect is to change often – Winston Churchill

TEXTS
1. Our urgent need for self-esteem by Nathaniel Brandon.
2. Five senses by Judith Wright
3. Three questions by Leo Tolstoy

<div align="center">**UNIT III – Team skills**</div>

Listening to speaker's ideas, opinions, and suggestions and analyzing their character.
Speaking –Discussing, questioning, interacting, respecting, sharing and participating.
Reading for comprehension – absorbing the attitude of the people.
Writing – personal essays and report writing
Grammar – use of inverted structures
Vocabulary –New words in current usage.
Composition –1. "Talent wins games, but teamwork and intelligence wins championships."
      2. "It takes two flints to make a fire."

TEXTS
1. "The Little Black Boy" by William Blake
2.How to get cooperation by Dale Carnegie.

<div align="center">**UNIT IV – Communication skills for interpersonal relationship**</div>

Listening to specific information and guessing.
Speaking –Facing interview and situational speeches (Master of ceremony, felicitation and the like).
Reading for comprehension to identify the methods of persuasion.
Writingformal letters and invitations.
Grammar – Transformation of sentences.
Vocabulary – Words related to technical registers.
Composition –1. "Communication is an art form that is crafted throughout our lives."
      2.Birds of same feather flock together.

TEXTS
1.The Refund by Fritz Karinthy

<div align="center">**UNIT V –Presentation skills**</div>

Listening to commands,information, announcements, and discussions in a meeting.
Speaking –role play in panel discussion, mock parliament and public speaking.
Reading for comprehension.
Writingagenda, minutes, memo, notice, circular, project proposal.
Grammar – use of simple, compound, complex, imperative sentences and punctuations.
Vocabulary – Business terms.
Composition – writing a project.

TEXTS
1.An excerpt from Abraham Lincoln's speech in Gettysburg.

<div align="center">*****</div>

HOURS / WEEK: 5   **CODE: U16CS4MCT06**
CREDITS   4   **MARKS:100**

Objectives:
To give Basic Knowledge on Various Building Blocks of a Digital Computer and Architecture.

UNIT I   **15 Hrs**
BASIC COMPUTER ORGANIZATION AND DESIGN: Computer Instructions: Instruction Set Completeness-Timing And Control-Instruction Cycle: Fetch And Decode- Determine The Type Of Instruction-Register-Reference Instructions-Memory-Reference Instructions–Input-Output And Interrupt: Input-Output Configuration-Input-Output Instructions-Program Interrupt-Interrupt Cycle.

UNIT II   **15 Hrs**
PROGRAMMING THE BASIC COMPUTER: Introduction –Machine Language-Assembly Language: Rules Of The Language-An   Example-Translation To Binary-The Assembler: Representation Of   Symbolic Program   In Memory-First Pass-Second Pass-Program Loops. Micro programmed Control: Control Memory-Addressing Sequencing: Conditional Branching-Mapping Of Instruction-Subroutines.

UNIT III   **15 Hrs**
INPUT – OUTPUT ORGANIZATION: Peripheral   Devices -- Input Output Interface   – Asynchronous Data Transfer – Modes of Transfer – Priority Interrupt – Direct Memory Access.

UNIT IV   **15 Hrs**
CENTRAL PROCESSING UNIT: General Register   Organization – Stack Organization   – Instruction Formats – Addressing Modes – Data Transfer and Manipulation.
PIPELINE AND VECTOR PROCESSING: Parallel Processing – Pipelining – Arithmetic Pipeline – Instruction Pipeline – RISC Pipeline – Vector Processing.

UNIT V   **15 Hrs**
MEMORY ORGANIZATION: Memory Hierarchy – Main Memory – RAM and ROM Chips – Memory Address Map – Memory Connection to CPU – Auxiliary Memory – Magnetic Tape – Associative Memory -- Cache Memory – Virtual Memory – Memory Management Hardware.

References
Text Books:
1. M.Morris Mono, **Computer System Architecture**, Third Edition,2011,Prentice – Pearson, New Delhi.
            UNIT I: Chapters 5.3 - 5.7

UNIT II   : Chapters 6.1 – 6.5, 7.1, 7.2
UNIT III : Chapters 11
UNIT IV : Chapters 8.1 – 8.6, 9.1 – 9.6
UNIT V   : Chapters 12

Reference Books
1. Thomas C.Bartee, **Digital Computer Fundamental**, 1991,Tata McGraw – Hill Publishing Company,
    New Delhi.
2. Albert Paul Malvino and Jerald A.Brown, **Digital Computer Electronics** ,1999 ,Tata McGraw – Hill

3. M.Morris Mano, **Digital Logic and Computer Design**,1998, Prentice Hall of India Private Ltd, New
    Delhi.
4.   Kai Hwang, Faye A. Briggs, **Computer Architecture and Parallel Processing** , 1985,McGraw – Hill
    Book Company, New Delhi.
5. Thomas C.Bartee, **Computer Architecture and Logic Design** , 1991,Tata McGraw – Hill Publishing
     Company, New Delhi.

VB.NET - 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 2017 onwards
SEMESTER IV
MAJOR ELECTIVE I: OPEN SOURCE TECHNOLOGY-LAB

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

CREDITS   : 5

1. Use the LINUX commands and give the output.

2. Write a PHP program for shopping cart.

3. Write a 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

4. Write a PHP program for student marklist preparation using database connection.

5. Write a PHP program for employee payroll preparation using database connection.

6. Performing all the MySQL queries using GUI(PHPMy Admin).

7. Write a python program for sorting given n numbers.

8. Write a python program for preparing inventory control.

9. Write a perl program for preparing electricity bill.

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.

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.

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPPALLI – 2
DEPARTMENT OF PHYSICS
SEMESTER – IV: ALLIED PHYSICS OPTIONAL PAPER - 6
ELECTRONICS PRACTICALS
(For computer science students)

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. / BBA/ B.C.A. DEGREE COURSE
LIFE ORIENTED EDUCATION
ETHICS – II: EMPOWERMENT OF WOMEN

HRS / Wk : 1   CODE: U15VE4LVE02
                                                               CREDIT : 1
                                                               MARKS : 100

OBJECTIVES:

- To make the learners aware of various gender and social issues and Cyber Crimes.
- To make the learners understand and appreciate the role of media, in facing the challenges on various life issues.
- To enable the learners to understand the ways of empowering women and cyber crime against women

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: 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 – III: WOMEN AND MEDIA

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

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- St. Teresa of Kolkata, Indira Gandhi, 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, Twitter and Whatsapp

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 Pretti Nandhini Upretti, jaipur 2000 "Women and problems ofGender Discrimination".

4. Thomas B.Jayaseelan, 2002, "Women: Rights and law" Indian Social Institute, New Delhi.
5. 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.C.A – DEGREE COURSES
LIFE ORIENTED EDUCATION
BIBLE STUDIES – II: OLD TESTAMENT

HRS / Wk :1   **CODE: U15VE4LVB02**
                                                              CREDIT : 1
                                                              MARKS : 100

OBJECTIVE:
- To enable the students to understand the desires of God through Prophetic revelation and to become sensitive to 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)

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

UNIT – IV: 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)
- Ezekiel (chapters 1,2,3,5,8,12 visions)
- Daniel (Daniel 1-6)

UNIT – V: 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)

REFERENCES:

1. Russell Fueller (1999) The Text book of the Twelve Minor Prophets. Wipf &Stock Publishers, UK.

   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/ BBA/ B.C.A - DEGREE COURSES
LIFE ORIENTED EDUCATION
CATECHISM – II: CHURCH AND SACRAMENTS

HRS / Wk : 1   **CODE : U15VE4LVC02**
                                                             CREDIT : 1
                                                             MARKS : 100

OBJECTIVES:
- To enable the students to understand the ways of Christian living with the Church
- To understand God's gift of the Holy Spirit.
- To understand the methods of building relationship with Jesus.
- To learn the life of Sacraments and Prayer
- To enrich our devotion to Mother Mary and Saints.

UNIT – I: MISSION OF THE CHURCH

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

UNIT – II: PARTICIPATORY CHURCH

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 characteristics 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.

UNIT – IV: SACRAMENTS

Sacraments – Initiation– Healing – Service (all the seven) – Emphasis on Confession, Confirmation and Holy Communion. Sacramental: holy "things" used –Their sanctity.

UNIT – V: MARY AND SAINTS

Mary as a young virgin- Disciple- Her role in the Catholic Church-Annual feasts- Pilgrimages-Devotion to Mary, Dogmas. Saints in the Church- Prominent Women in the old testament

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.
3. Documents of Vatican II – St. Paul's Publications, Bombay 1966.

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPALLI – 2
DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SEMESTER V
MAJOR CORE 7: JAVA PROGRAMMING

HOURS / WEEK: 5   **CODE: U17CS5MCT07**
CREDITS   4   **MARKS:100**

OBJECTIVE:
To provide a sound appreciation of the fundamentals, the syntax of the language, as well as
the powerful concepts and their applicability in real-world problems.

UNIT I

JAVA EVOLUTION : Java History – Java Features – How Java Differs from C and C++ -- Java
and Internet – Java and World Wide Web – Web Browsers – Hardware and Software Requirements
– Java Support Systems – Java Environment.
OVERVIEW OF JAVA LANGAGE : 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 - **TYPE CONVERSION IN EXPRESSION-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.

UNIT II
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 – Fields Declaration – Methods Declaration –
Creating Objects – Accessing Class Members – Constructors – Methods Overloading – Static
Members – Nesting of Methods – Inheritance: Extending a Class – Overriding Methods – Final
Variables and Methods – Final Classes – Finalizer Methods – Abstract Methods and Classes –
Methods with Varargs – Visibility Control.

UNIT III
INTERFACES: MULTIPLE INHERITANCE: Introduction – Defining Interfaces – Extending
Interfaces – Implementing Interfaces – Accessing Interface Variables.
PACKAGES : PUTTING CLASSES TOGETHER : Introduction – Java API Packages – Using
System Packages – Naming Conventions – Creating Packages – Accessing a Package – Using a
Package – Adding a Class to a Package – Hiding Classes – Static Import.

UNIT IV
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-Inter thread communication.

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

UNIT V

APPLET PROGRAMMING : Introduction – 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 Applets – Aligning the Display – More About Html Tags – Displaying Numerical Values – Getting Input from the User-
Event Handling-Introduction to AWT package-Introduction to Swings-**JAVA COLLECTIONS:** Overview of Interfaces-Overview of Classes-Overview of Algorithms.

TEXT BOOK:

1. E.Balagurusamy, **"Programming with JAVA"**, 5th Edition, Tata McGraw-Hill Publishing Company Limited, New Delhi.

     UNIT I   **:**   CHAPTERS 2, 3, 5.13 & 6
     UNIT II   **:**   CHAPTERS 7, 8
     UNIT III :   CHAPTERS 10,11
     UNIT IV :   CHAPTERS 12, 13
     UNIT V :   CHAPTERS 14,17

REFERENCE BOOKS:

1. Herbert Schildt, **"Java The Complete Reference"**, 7th edition, Tata McGraw-Hill Publications Pvt. Ltd., New Delhi

2. Y.Daniel Liang, **"Introduction to Java Programming"** , 10th edition, Pearson Education Ltd

3. David J.Eck, **"Programming :Introduction to programming using Java"**, 6th edition, Createspace Publications

4. Joshua Bloch, **"Effective Java"**, 2nd edition, Addison Wesley Publications.

5. Kathy Sierra, Bert Bates, **"Head First Java"**, 2nd edition, O'Reilly Publications.

HOLY CROSS COLLEGE (AUTONOMOUS) , TIRUCHIRAPALLI - 2.
DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SEMESTER - V
MAJOR CORE 8: SOFTWARE ENGINEERING CONCEPTS

HOURS/ WEEK : 5   **CODE:U17CS5MCT08**
CREDITS   4   **MARKS:100**

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

UNIT I
INTRODUCTION TO SOFTWARE ENGINEERING: Evolving role of software – Software
– The changing nature of software.
SOFTWARE ENGINEERING: A layered technology – A process framework – CMMI-
Process Pattern – Process Assessment – Personal and Team Process Models.
PROCESS MODELS: Prescriptive models-The waterfall model - Incremental Process Models -
Evolutionary Process Models – Specialized Process Models.

UNIT II
REQUIREMENTS ENGINEERING: Abridge to Design and Construction- Requirements
Engineering task – Initiating the requirement engineering process – Eliciting requirements .
BUILDING THE ANALYSIS MODEL: Requirement analysis – Analysis Modeling
approaches - Data Modeling concepts - Object Oriented Analysis - Flow Oriented Modeling -
Creating a behavioral model.

UNIT III
DESIGN ENGINEERING: Design within the context of software engineering - Design process
and Design quality - Design Concepts - Design Model - Pattern based software design.
CREATING AN ARCHITECTURAL DESIGN: Architectural styles and patterns - Mapping
data flow into a software architecture.

UNIT IV
MODELING COMPONENT LEVEL DESIGN : What is a component - Designing Class
Based components – Conducting Component level design.
PERFORMING USER INTERFACE DESIGN: The golden rules – User-Interface analysis
and Design-Interface analysis - Interface Design steps.

UNIT V
TESTING STRATEGIES: Test strategies for Conventional Software – Test Strategies for
Object-Oriented Software - Validation testing – System testing - The art of debugging.
TESTING TACTICS: Software testing fundamentals - Black Box and White Box testing-Basis
path testing- Control Structure testing - Black Box testing- object oriented testing methods.
QUALITY MANAGEMENT: Quality concepts - Software Quality Assurance - Software
Reviews -Formal Technical Reviews - Software Reliability.

TEXT BOOK

1.Pressman Roger .S, "**Software Engineering-A Practitioner's Approach**", 2005, 5th Edition, Tata McGraw Hill Publishing Company Ltd., New Delhi.

    UNIT I
    Chapter1 (1.1 to 1.3), Chapter2 (2.1 to 2.6), Chapter3 (3.1 to 3.5)
    UNIT II
    Chapter7 (7.1 to 7.4), Chapter8 (8.1 to 8.4, 8.6, 8.8)
    UNIT III
    Chapter9 (9.1 to 9.5), Chapter10 (10.3 and 10.6)
    UNIT IV
    Chapter11 (11.1 to 11.3), Chapter12 (12.1 to 12.4)
    UNIT V
    Chapter13 (13.3 to 13.7), Chapter14 (14.1 to 14.7), Chapter26 (26.1 to 26.4, 26.7)

REFERENCE BOOKS

1. Carlo Ghezzi, Mehdi Jazayeri and Dimo Mandrioli, "**Fundamentals of Software Engineering**", 2001, Prentice-Hall of India Private Ltd., New Delhi.

2. Ian Sommarvilla, "**Software Engineering**", 2004, Pearson Education Publishing Ltd., New Delhi.

3. Jawadekar Waman.S, "**Software Engineering Principles and Practice**", 2004, Tata McGraw Hill Publishing Company Ltd., New Delhi.

4. Richard Fairley, "**Software Engineering Concepts**", 2000, Tata McGraw Hill International Publishing Company Ltd., New Delhi.

5. Shari Lawrence Pfleeger, "**Software Engineering Theory and Practice**", 2001, Pearson Education Publishing Ltd., New Delhi.

HOURS/WEEK: 5   **CODE: U15CS5MCT09**
CREDITS   4   **MARKS: 100**

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

HOURS/WEEK : 5   **CODE: U15CS5MCP10**
CREDITS   4   **MARKS: 100**

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

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPPALLI -2.
DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SEMESTER- V
MAJOR ELECTIVE 2: SHELL PROGRAMMING - LAB

CODE: U17CS5MEP02   **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.

CODE: U15CS5MET05   **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".

CODE: U15CS5MET06   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.

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPPALLI -2
DEPARTMENT OF COMPUTER SCIENCE.
B.Sc./B.COM./B.A./B.B.A
SEMESTER V
NON MAJOR ELECTIVE 1: MULTIMEDIA LAB – PHOTOSHOP

HOURS/WEEK: 2   **CODE: U15CS5NMP01**
CREDITS   2   **MARKS: 100**

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: COMPETITIVE EXAMINATION SKILLS
HOURS / WEEK: 2
CODE: U15CS5SBT04   **CREDITS : 2**   **MARKS: 100**

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. / BBA/ B.C.A. DEGREE COURSE
LIFE ORIENTED EDUCATION
ETHICS – III: FAMILY AND CAREER DEVELOPMENT

HRS / Wk : 1   **CODE: U15VE6LVE03**
                                                    CREDIT : 1
                                                    MARKS : 100

OBJECTIVES:

- To help the students acquire skills, knowledge and talents to lead a meaningful life.
- To make the students learn skills of nurturing family and children.
- To make the students aware of emotional intelligence and choose their career.

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: PARENTHOOD

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", Vaigarai Pathipagam.
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.C.A – DEGREE COURSES
LIFE ORIENTED EDUCATION
BIBLE STUDIES – III: ESSENCE OF CHRISTIAN LIVING

HRS / Wk : 1   **CODE: U15VE6LVB03**
                                                                                    CREDIT : 1
                                                                                    MARKS : 100

OBJECTIVE:

- To prepare the students to practice Christian principles in family, church and society as 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: MARRIAGE 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)

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

UNIT – V: MISSIONARIES DOWN THE LANE

- William Carrie (Calcutta)
- Pandithar Rama Bai (Karnataka)
- Amy Carcheal (Dohnavur)
- Dr. Ida Scuddar (Vellore)
- Devasagayam (Nagercoil)
- St. John De Britto (Oriyur)
- Graham Staines & Family (Odisha)
- St. Mother Teresa (Calcutta)

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/BBA./B.C.A - DEGREE COURSES
LIFE ORIENTED EDUCATION
CATECHISM – III: LITURGY AND CHRISTIAN LIFE

HRS / Wk : 1   **CODE:U15VE6LVC03**
                                                               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 enable the students to become living witnesses 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. – The 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 –Laws of the Church 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 of 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.

3. Documents of Vatican II – St. Paul's Publications, Bombay 1966.

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

HOURS/WEEK : 6   **CODE: U17CS6MCT11**

CREDITS   : 5   **MARKS: 100**

OBJECTIVE
To provide an introduction to Computer Networks, its importance and uses.
To understand the different layers and learn about the rapid growth of wireless networking in many forms of Computer Networks.

UNIT I
INTRODUCTION: USES OF COMPUTER NETWORKS - NETWORK HARDWARE - NETWORK SOFTWARE - REFERENCE MODELS: The OSI Reference Model – The TCP/IP Reference Model - A comparison of the OSI and TCP/IP Reference Models.

UNIT II
THE PHYSICAL LAYER: GUIDED TRANSMISSION MEDIA - WIRELESS TRANSMISSION - 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: The Optimality Principle - Shortest Path Routing – Flooding - Distance Vector Routing - Link State Routing -Hierarchical Routing - Broadcast Routing, Multicast Routing. 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 of India PvT. Ltd., New Delhi.
   UNIT I : Chapters 1 (**1.1, 1.2, 1.3**, **1.4** (1.4.1 to 1.4.3)).
   UNIT II : Chapters **2** (2.2, 2.3, 2.5, 2.6)
   UNIT III : Chapters **3** (3.1 to 3.4)
   UNIT IV : Chapters **5** (**5.1**, **5.2**(5.2.1 to 5.2.8), **5.3**), **6.1** (6.1.1, 6.1.2), **6.2**
   UNIT V : Chapters **7** (7.1 to 7.3), **8** (8.1 to 8.3)

REFERENCE BOOKS

1. Comer Dougles E., Droms Ralph E., **Computer Networks and Internets**, 2004, Prentice Hall Publications Private Ltd., New Delhi.

2. William Stallings, **Data and Computer Communications**, 2003, Prentice Hall of India, New Delhi.

3. Forouzan Behrouz A., **Local Area Networks**, 2003, 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. Godbole Achyut S., **Data Communication and Networks**, 2002, Tata McGraw Hill Publishing Limited, New Delhi.

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPPALLI - 620 002.
DEPARTMENT OF COMPUTER SCIENCE
B.C.A. / B.Sc. Computer Science
SEMESTER - VI

MAJOR ELECTIVE 3/ MAJOR CORE 12 - PHP PROGRAMMING LAB

HOURS/WEEK : 6   **CODE: U17CA6MEP03 / U17CS6MCP12**
CREDITS   **5**   **MARKS: 100**

1. Write a PHP program to find the factorial of a number.

2. Write a PHP program using Conditional Statements.

3. Write a PHP program to find the maximum value in a given multi dimensional array.

4. Write a PHP program to find the GCD of two numbers using user-defined functions.

5. Design a simple web page to generate multiplication table for a given number using PHP.

6. Design a web page that should compute one's age on a given date using PHP.

7. Write a PHP program to download a file from the server.

8. Write a PHP program to store the current date and time in a COOKIE and display the 'Last Visited' date and time on the web page.

9. Write a PHP program to store page views count in SESSION, to increment the count on each refresh and to show the count on web page.

10. Write a PHP program to draw the human face.

11. Write a PHP program to design a simple calculator.

12. Design an authentication web page in PHP with MySQL to check username and password.

DEPARTMENT OF COMPUTER SCIENCE

B.C.A. / B.Sc. Computer Science

SEMESTER – VI

MAJOR CORE 13 – PHP PROGRAMMING

HOURS/WEEK : 6   **CODE: U17CA6MCT13 / U17CS6MCT13**
CREDITS   5   **MARKS: 100**

Objective

To understand the concepts of PHP and MySQL.

To exposure the MySQL configuration.

UNIT-I

Introduction: History of PHP – Language Basics: Lexical Structure – Data types –Variables–

PHP variable and value types – Using PHP Variables –

Expression and Operators – Flow Control statements

UNIT-II

Functions: Calling a function – Defining a function – Introduction to Strings – Comparing

Strings – Manipulating and Searching strings – Arrays: Types of Arrays – Array functions –

Storing data in Arrays.

UNIT-III

Form Handling – Form Validation – $_GET variable – $_ POST variable – $_REQUEST variable

– Creating the Form –Creating the Upload script – Using your File system: File paths and

permissions – Displaying directory contents – Working with fopen( ) and fclose( ).

UNIT-IV

Using Cookies: Introduction to Cookies – Setting Cookies – Using Cookie variables – Session

Basics: Session – Understanding Session variables – Managing User preferences with

Sessions – Graphics: Drawing functions – Creating and Drawing images.

UNIT-V

Installing and Configuring MySQL – Establishing a connection and poking around –

Creating a database table – Inserting data into the table – Selecting and displaying data3.

TEXT BOOK

1.Julie Meloni and Matt Telles, *PHP 6*, Course Technology, CENGAGE Learning, India
Edition, 2008.

> **UNIT I :** Chapters - 3, 5
> **UNIT II:** Chapter 6
> **UNIT III:** Chapters – 9,10
> **UNIT IV:** Chapters 16, 17
> **UNIT V:** Chapters 1,11,12,13,14

REFERENCE BOOKS

1. Kevin Tatroe, Peter MacIntyre and RasmusLerdorf, "Programming PHP", O'REILLY Media,

2. Mario Lurig," PHP Reference: Beginner to Intermediate PHP5" , Originally published, April 2008.

3. Steven Holzner, "The Complete Reference", Originally published, January 2007.

4. Ed Lecky-Thompson, Steven D. Nowicki, and Thomas Myer, ".Professional PHP6",

5. W. Jason Gilmore, **"**Beginning PHP and MySQL: From Novice To Professional".

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

HOURS/WEEK : 5   **CODE:U17CS6MET03**
CREDITS   5   **MARKS: 100**

OBJECTIVE:
This course introduces the concept of Computer Graphics.
To impart Knowledge about Two-Dimensional Viewing Concepts

UNIT I
OVERVIEW OF GRAPHICS SYSTEMS: Video display devices: Refresh cathode-ray tubes -
Raster-Scan Displays - Random-Scan Displays - Color CRT Monitors - Direct-View Storage
Tubes - Flat-Panel Displays - Three-Dimensional Viewing Devices - Stereoscopic and Virtual-
Reality Systems - Raster-Scan Systems: Video Controller - Raster-Scan Display Processor -
Random-Scan Systems - Graphics Monitors and Workstations - Input Devices: Keyboards-Mouse
- Trackball and space ball - Joysticks - Data Glove - Digitizers - Image Scanners - Touch Panels -
Light Pens - Voice Systems- Hard Copy Devices.

UNIT II
OUTPUT PRIMITIVES: Points and Lines - Line-Drawing Algorithms: DDA Algorithm-
Bresenham's Line Algorithm - Loading the Frame Buffer - Line Function - Circle-Generating
Algorithms: Properties of Circles - Midpoint Circle Algorithm - Curve Functions – Fill-Area
Functions – Character Generation.

UNIT III
ATTRIBUTES OF OUTPUT PRIMITIVES: Line Attributes: Line Type - Line width - Pen
and Brush Options - Line color - Curve Attributes - Color and Grayscale Levels: Color Tables-
Grayscale - Area-Fill Attributes: Fill Styles - Pattern Fill - Soft Fill - Character Attributes: Text
Attributes - Marker Attributes - Bundled Attributes: Bundled Line Attributes - Bundled Area-Fill
Attributes - Bundled Text Attributes - Bundled Marker Attributes -Inquiry Functions.

UNIT IV
TWO - DIMENSIONAL GEOMETRIC TRANSFORMATIONS: Basic Transformations:
Translation – Rotation -- scaling – Matrix Representations and Homogeneous Coordinates -
Composite Transformations: Translations – Rotations -- Scaling. Other Transformations:
Reflection -- Shear - Affine Transformations - Transformation functions - Raster Methods for
transformations. **TWO – DIMENSIONAL VIEWING :** Window to View port Coordinate
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: Parallel projection -- Perspective Projection -- Depth Cueing -- Visible Line and Surface – Identification -- Surface Rendering -- Exploded and Cutaway Views -- Three-dimensional and Stereoscopic views -- Three-Dimensional Graphics Packages.
TWO – DIMENSIONAL VIEWING : Viewing Coordinates : Specifying the View Plane-- Transformation from World to Viewing Coordinates -- Projections: Parallel projection -- Perspective Projection.

TEXT BOOK
1.Donald Hearn & M.Pauline Baker 'COMPUTER GRAPHICS' , 2006,Prentice Hall of India, New Delhi.
Unit I : Chapter-2 (2.1-2.6)
Unit II : Chapter-3 (3.1-3.5,3.9,3.12,3.14)
Unit III : Chapter-4 (4.1- 4.7)
Unit IV : Chapters 5(5.1 - 5.8), 6(6.3, 6.5-6.7,6.8)
Unit V : Chapters 9(9.1 – 9.2), 12(12.2 - 12.3)

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. David Hillman, **Multimedia Technology and Applications** ,2003,Galgotia Publications Private Ltd, New Delhi.

5. Judith Jeffcoale, **Multimedia in Practice Technology and Applications** , 2003,Prentice Hall of India Private Ltd, 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: U15CS6MET08　　　　　　　　　　**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

HOURS/WEEK : 2   **CODE: U15CS6NMP02**
CREDITS   2   **MARKS: 100**

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.

HOLY CROSS COLLEGE (AUTONOMOUS), TIRUCHIRAPPALLI -2.
DEPARTMENT OF COMPUTER SCIENCE
B.Sc. COMPUTER SCIENCE
SEMESTER VI
SKILL BASED ELECTVE 5

WEB APPLICATION DEVELOPMENT TOOLS – LAB

HOURS/WEEK : 2   **CODE: U17CS6SBP05**
CREDITS   : 2   **MARKS:100**

HTML5

1. Develop a web page for a Restaurant's Menu Card using tables.
2. Design a web page for your College displaying various courses using Lists and Frames.
3. Design an Online Application form for your College.

CSS 3
 1. To illustrate CSS Border Style Properties
 2. To illustrate CSS Border Image Properties.
 3. To illustrate CSS Selector Properties.

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 create an arithmetic calculator using function.
 3. Write a script to check the given string is palindrome or not.

VB SCRIPT

1. Write a program to display the week days.
2. Write a program to generate Date and Time in different format.
3. Write a program to Validate Age and Numeric Value.

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

HOURS/WEEK : 2   **CODE: U15DS6SBT06**
CREDITS   2   **MARKS: 100**

OBJECTIVE
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. / BBA/ B.C.A. DEGREE COURSE
LIFE ORIENTED EDUCATION
ETHICS – III: FAMILY AND CAREER DEVELOPMENT

HRS / Wk : 1   **CODE: U15VE6LVE03**
                                                                          CREDIT : 1
                                                                          MARKS : 100

OBJECTIVES:

- To help the students acquire skills, knowledge and talents to lead a meaningful life.
- To make the students learn skills of nurturing family and children.
- To make the students aware of emotional intelligence and choose their career.

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: PARENTHOOD

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", Vaigarai Pathipagam.
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.C.A – DEGREE COURSES
LIFE ORIENTED EDUCATION
BIBLE STUDIES – III: ESSENCE OF CHRISTIAN LIVING

HRS / Wk : 1   **CODE: U15VE6LVB03**
                                                                    CREDIT : 1
                                                                    MARKS : 100

OBJECTIVE:

- To prepare the students to practice Christian principles in family, church and society as 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: MARRIAGE 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)

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

UNIT – V: MISSIONARIES DOWN THE LANE

- William Carrie (Calcutta)
- Pandithar Rama Bai (Karnataka)
- Amy Carcheal (Dohnavur)
- Dr. Ida Scuddar (Vellore)
- Devasagayam (Nagercoil)
- St. John De Britto (Oriyur)
- Graham Staines & Family (Odisha)
- St. Mother Teresa (Calcutta)

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/BBA./B.C.A - DEGREE COURSES
LIFE ORIENTED EDUCATION
CATECHISM – III: LITURGY AND CHRISTIAN LIFE

HRS / Wk : 1   **CODE:U15VE6LVC03**
                                                          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 enable the students to become living witnesses 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. – The 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 –Laws of the Church 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 of 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.

3. Documents of Vatican II – St. Paul's Publications, Bombay 1966.