BACHELOR OF SCIENCE
IN
INFORMATION TECHNOLOGY

SYLLABUS 2018-19

(Outcome Based Education)

Dr. N.G.P. ARTS AND SCIENCE COLLEGE

(An Autonomous Institution, Affiliated to Bharathiar University, Coimbatore)
Approved by Government of Tamil Nadu and Accredited by NAAC with 'A' Grade (2nd Cycle)
Dr. N.G.P.- Kalapatti Road, Coimbatore-641048, Tamil Nadu, India
Web: www.drngpasc.ac.in | Email: info@drngpasc.ac.in | Phone: +91-422-2369100

BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY
REGULATIONS

ELIGIBILITY

Candidates for admission to the first year of the **Bachelor of Science (Information Technology)** Degree Programme shall be required to have passed in the Higher Secondary Examinations conducted by the Government of Tamil Nadu in the relevant subjects or an Examination accepted as equivalent thereto by the Academic Council. Subject to such other conditions as may be prescribed there to are permitted to appear and qualify with any one of the following subjects: Mathematics / Computer Science / Statistics / Business Mathematics and wherever the students have not studied Mathematics, the necessary Mathematics knowledge be imparted through Tutorial/ Bridge Course.

PROGRAMME EDUCATIONAL OBJECTIVES

The Curriculum is designed to attain the following learning goals which students shall accomplish by the time of their graduation:

1. Demonstrating a substantial understanding of concepts in key areas of Information Technology and its applications.
2. Analysis and synthesis involved in Computer System, Information System and Computer applications.
3. To develop a software and in its design and implementation for professional competence
4. To equip and train the students to meet the requirement of the IT Industries and Public Sectors.
5. To stimulate an interest in computing as an academic discipline with a view to encouraging progression to research and higher studies.

SCHEME OF EXAMINATIONS FOR UG PROGRAMME (CBCS PATTERN)

For Candidates admitted from the academic year 2018 – 2019

Course Code	Course	Hrs of Instruction	Exam Duration (Hrs)	Max Marks			Credit Points
				CA	CE	Total	
First Semester							
Part – I							
17UTL11T/ 17UHL11H/ 17UML11M/ 17UFL11F	Tamil-I/ Hindi-I/ Malayalam-I/ French – I	5	3	25	75	100	3
Part – II							
17UEG12F	English - I	5	3	25	75	100	3
Part – III							
17UIT13A	**Core - I** : C Programming	6	3	25	75	100	5
17UMT1AA	**Allied - 1** : Basic Mathematics	5	3	25	75	100	4
17UIT13P	**Core Practical - I** : Programming in C	4	3	40	60	100	2
17UIT13Q	**Core Practical - II** : Internet and Office Automation	3	3	20	30	50	2
Part – IV							
17UFC1FA	Environmental Studies *	2*	2	-	50	50	2
		30				600	21
Second Semester							
Part – I							
17UTL21T/ 17UHL21H/ 17UML21M/ 17UFL21F	Tamil-II/ Hindi-II/ Malayalam-II/ French – II	5	3	25	75	100	3
Part – II							
17UEG22F	English - II	5	3	25	75	100	3
Part – III							
17UIT23A	**Core - II** : C++ Programming	5	3	25	75	100	5
17UIT23B	**Core - III** : Digital Logic & Circuits	4	3	25	75	100	4
17UMT2AA	**Allied - II** : Computer Based Optimization Techniques	5	3	25	75	100	4

Dr.N.G.P Arts and Science College (Autonomous)

BoS Chairman/HoD
Department of Computer Technology
Dr. N. G. P. Arts and Science College
Coimbatore – 641 048

17UIT23P	**Core Practical - III** : Programming in C++	4	3	40	60	100	2
Part – IV							
17UFC2FA	Value Education : Human Rights *****	2	2	-	50	50	2
		30				**650**	**23**

Third Semester

	Part – III						
17UIT33A	**Core - IV** : Data Structures	5	3	25	75	100	5
17UIT33B	**Core - V** : Java Programming	5	3	25	75	100	5
17UIT3AA	**Allied – III** : Cyber Security	4	3	25	75	100	4
17UIT33P	**Core Practical - IV** : Programming in Java	4	3	30	45	75	2
17UIT3SA	**Skill Based Course - I** : Web Design and Applications	5	3	25	75	100	4
17UIT3SP	**Skill Based Practical - I** : HTML, XML and Java Scripts	3	3	20	30	50	2
Part-IV							
	NMEC-I	2	2	-	50	50	2
17UFC3FA/ 17UFC3FB/ 17UFC3FC/ 17UFC3FD/ 17UFC3FE	Basic Tamil/ Advanced Tamil / Yoga for Human Excellence / Women's Rights/Constitution of India	2	2	-	50	50	2
		30				**625**	**26**

Fourth Semester

	Part – III						
17UIT43A	**Core - VI** : System Software and Operating System	6	3	25	75	100	6
17UIT43B	**Core - VII** : Relational Database Management System	6	3	25	75	100	6
17UIT4AA	**Allied - IV**: Software Engineering and Testing	6	3	25	75	100	4

17UIT43P	**Core Practical - V** : Relational Database Management System	4	3	30	45	75	2
17UIT43Q	**Core Practical - VI:** Multimedia Lab	4	3	20	30	50	2
Part – IV							
	NMEC-II	2	2	-	50	50	2
17UFC4FA/ 17UFC4FB/ 17UFC4FC	Basic Tamil /Advanced Tamil / General Awareness	2	2	-	50	50	2
		30				525	24
Fifth Semester							
Part – III							
17UIT53A	**Core - VIII**: Data Communication and Networks	6	3	25	75	100	6
17UIT53B	**Core - IX**: DOT NET Programming	6	3	25	75	100	6
	Elective - I :	6	3	25	75	100	4
17UIT53P	**Core Practical - VII** : Programming in Dot Net	4	3	30	45	75	2
17UIT5SA	**Skill Based Course - II** : Open Source Tools	5	3	25	75	100	4
17UIT5SP	**Skill Based Practical – II** : Programming in Open Source Tools	3	3	20	30	50	2
Part-IV							
17UIT53T	**Industrial Training**	Grade A to C					
		30				525	24
Sixth Semester							
Part – III							
17UIT63A	**Core - X**: PHP and MySQL	6	3	25	75	100	6
	ELECTIVE - II :	6	3	25	75	100	4
	ELECTIVE - III :	6	3	25	75	100	4
17UIT63P	**Core Practical - VIII** : Programming in PHP and MySQL	4	3	30	45	75	2

17UIT63Q	**Core Practical - IX** : Programming in Python	4	3	20	30	50	2
17UIT63V	**Core XI** : Project and Viva Voce	4	3	40	60	100	2
Part-V							
17UEX65A	Extension Activity@	-	-	50	-	50	2
		30				**575**	**22**
					Grand Total	**3500**	**140**

* Self-Study Course

ELECTIVE – I

(Student shall select any one of the following courses as Elective-I in fifth semester)

S.No.	Course Code	Name of the Course
1.	17UIT5EA	A. Cloud Computing
2.	17UIT5EB	B. AI and Robotics
3.	17UIT5EC	C. Multimedia

ELECTIVE - II

(Student shall select any one of the following courses as Elective-II in sixth semester)

S.No.	Course Code	Name of the Course
1.	17UIT6EA	A. Cryptography And Network Security
2.	17UIT6EB	B. Mobile Computing
3.	17UIT6EC	C. Wireless Communications And Networks

ELECTIVE - III

(Student shall select any one of the following courses as Elective-III in sixth semester)

S.No.	Course Code	Name of the Course
1.	17UIT6ED	D. Big Data Analytics
2.	17UIT6EE	E. Data Mining
3.	17UIT6EF	F. Enterprise Information System

NON MAJOR ELECTIVE COURSES

- The department offers the following two courses as Non Major Elective Courses for other than the computer studies related students.

- Student shall select any one of the following courses as Non Major Elective Courses during their III and IV semester

S. No	Semester	Course Code	Course
1.	III	17UNM34J	NMEC-I : PC Hardware
2.	IV	17UNM44J	NMEC-II : Photoshop and Flash

Total Credit Distribution

Subjects	Credits	Total		Credits	Cumulative Total
Part I: Tamil	3	02 x 100 =	200	06	12
Part II: English	3	02 x 100 =	200	06	
Part III:					
Core	6	05 x 100 =	500	30	114
Core	5	04x100 =	400	20	
Core	4	01x100 =	100	04	
Core Practical	2	02 x 100 =	200	04	
Core Practical	2	04x 75 =	300	08	
Core Practical	2	03 x 50 =	150	06	
Project	2	01 x 100 =	100	02	
Allied Theory	4	04 x 100 =	400	16	
Elective	4	03 x 100 =	300	12	
Skill Based Course (Theory)	4	02 x 100 =	200	08	

Skill Based Course (Practical)	2	02 x 50 =	100	04	
Part IV:					
Value Education	2	01 x 50 =	50	02	
Environmental Studies	2	01 x 50 =	50	02	12
Foundation Course	2	02 x 50 =	100	04	
NMEC	2	02 x 50 =	100	04	
Part V:					
Extension Activity	2	01 x 50 =	50	02	02
Total			**3500**	**140**	**140**

FOR PROGRAMME COMPLETION

Students have to complete the following:

1. Part I, II, III, IV and V as mentioned in the scheme.

2. Industrial training: Course code 17UIT53T.

   - Student must undergo Industrial training for 15 days during Summer Vacation in IV Semester.

   - Internal and external   Examiner will evaluate the report in V Semester. Based on the performance, Grade will be awarded as follows:

     A- 75marks and above

     B- 60-74 marks

     C- 40-59 marks

     Below 40 marks – Re Appear

Note: Earning Extra credits is not mandatory for course completion

Extra credits

S. No.	Subject	Credit	Total credits
1	BEC/ Self study courses	1	1
2	Hindi / French/ Other foreign Language approved by certified Institutions	1	1
3	Type Writing / Short Hand Course	1	1
4	Diploma/certificate/CPT/ ACS foundation Course	1	1
5	Representation – Academic/Sports /Social Activities/ Extra Curricular / Co-Curricular activities at University/ District/ State/ National/ International	1	1
Total			**5**

Rules:

The students can earn extra credits only if they complete the above during the course period (I to V semester) and based on the following criteria. Proof of Completion must be submitted in the office of the Controller of Examinations before the commencement of the VI Semester. (Earning Extra credits are not mandatory for Course completion)

1. Student can choose BEC course/ Self study course to earn one credit. They have to Enroll and complete any one of the course during their course period before fifth semester (I semester to V semester).

Self study paper offered by Information Technology Department

S. No.	Semester	Course Code	Course Name
1.	III semester	17UITSS1	**Ethical Hacking**
2.		17UITSS2	**Green Information Technology**

2. Student can choose Hindi/ French/ Other foreign Language approved by certified Institutions to earn one credit. The certificate(Hindi) must be obtained

from **Dakshina Bharat Hindi Prachar Sabha** and He/ she has to enroll and complete during their course period (**first to fifth semester)**

3. Student can choose Type writing /short hand course to earn one extra credit. He/she has to enroll and complete the course during their course period to obtain certificate through **Tamil Nadu Board of Technical Education**

4. Student can choose Diploma/certificate/CPT/ACS Foundation to earn one extra credit. Student who choose Diploma/ Certificate course have to enroll any diploma/certificate course offered by Bharathiar University through our Institution. Student who choose CPT/ ACS/CMA have to enroll and complete the foundation level during the course period.

5. Award Winners in Academic/ Representation in Sports /Social Activities/ Extra Curricular/ Co-Curricular Activities at University/ District/ State/ National/ International level can earn one extra credit.

DEPARTMENT OF INFORMATION TECHNOLOGY

PROGRAMME OUTCOMES

On the successful completion of the programme, the following are the expected outcomes

PO Number	PO Statements
PO1	Understand the fundamental concepts of Information Technology.
PO2	Gain knowledge on programming language to constructs application and packages.
PO3	Improve programming knowledge to solve real-world problems using Information Technology.
PO4	Develop necessary skills to design digital system
PO5	Enhance problem solving, analytical, communication, team work and potential to develop software and network management.
PO6	Acquire knowledge on computer hardware concepts and its functionality.

17UTL11T	தமிழ் - தாள் -1	SEMESTER - I

குறிக்கோள்:

- மொழிப்பாடங்களின் வாயிலாக தமிழரின் பண்பாடு, பகுத்தறிவு, கலை மற்றும் மரபு ஆகியவற்றை அறிந்து மாணவர்களின் படைப்பாக்கத்திறன்களை ஊக்குவித்தல்

பயனடைவுக்கல்வியின் விளைவாக ஏற்படும் பயன்பாடுகள்:

பாடத்திட்டப் பகுப்பு முறை	பாடத்திட்டத்தின் குறிக்கோள்	அறிவுத்திறன் வெளிப்படும் அளவு முறை
CO$_1$	வாழ்க்கைத் திறன்கள் (Life Skills) - மாணவனின் செயலாக்கத்திறனைத் தாய்மொழி வாயிலாக ஊக்குவித்தல்	K$_1$, K$_2$, K$_3$
CO$_2$	மதிப்புக்கல்வி (Attitude and Value educations)	K$_2$, K$_4$
CO$_3$	பாட இணைச்செயல்பாடுகள் (Co-curricular activities)	K$_2$, K$_3$, K$_4$
CO$_4$	சூழலியல் ஆக்கம் (Ecology)	K$_4$
CO$_5$	மொழி அறிவு (Tamil knowledge)	K$_5$, K$_6$

K$_1$-Remembering, K$_2$-Understanding, K$_3$-Applying, K$_4$-Analysing, K$_5$-Evaluating, K$_6$-Creating

Mapping with Programme outcomes

COs /POs	PO1	PO2	PO3	PO4	PO5
CO1	S	M	M	M	M
CO2	S	M	M	M	M
CO3	S	M	M	M	M
CO4	S	M	M	M	M
CO5	S	M	M	M	M

S – Strong, M – Medium, L – Low

17UTL11T	தமிழ் - தாள் -1	SEMESTER - I

Total Credits: 3
Hours per week: 5

கவிதை – சிறுகதை – இலக்கிய வரலாறு– இலக்கணம்

அலகு -1 கவிதைகள் - நாட்டுப்பற்று

1. பாரததேசம்   – பாரதியார்

2. புத்தகசாலை,புதிய உலகு செய்வோம்– பாரதிதாசன்

3. ஒற்றுமையே உயிர்நிலை – கவிமணி

4. அவனும் அவளும் – நாமக்கல் கவிஞர்

அலகு – 2 சமூகமும், இயற்கையும்

1. ஒப்பில்லாத சமுதாயம்– அப்துல் ரகுமான்

2. காகிதப்பூக்கள் - நா.காமராசன்

3. கரிக்கிறது தாய்ப்பால்- ஆரூர் தமிழ்நாடன்

4. மரங்கள்– மு.மேத்தா

5. ஹைகூ கவிதைகள் (10 கவிதைகள்)

அலகு – 3 பெண்ணியம்

1. தற்காத்தல் – பொன்மணி வைரமுத்து

2. மாங்கல்ய மரமும் தொட்டில் மரமும் – ஆண்டாள் பிரியாதர்சினி

3. அம்மா – செல்வநாயகி

4. நீரில் அலையும் முகம் வெண்ணிலா.அ -

அலகு 4 -சிறுகதைகள்

1. பொன்னகரம் புதுமைப்பித்தன் –

2. விடியுமா? – கு.ரா.ப.

3. குருபீடம்   – ஜெயகாந்தன்

4. காய்ச்சமரம் ராஜநாராயணன்.கி –

5. புதியபாலம்   – நா பார்த்தசாரதி .

6. பூ –.....மேலாண்மை பொன்னுசாமி

7. வேட்கை- சூர்யகாந்தன்

அலகு- 5 இலக்கிய வரலாறு, இலக்கணம்

1. தமிழ்க் கவிதையின் தோற்றமும் வளர்ச்சியும் (மரபு,புதுக்கவிதைகள்)

2. தமிழ்ச் சிறுகதையின் தோற்றமும் வளர்ச்சியும்

3. வல்லினம் மிகும், மிகா இடங்கள்

4. ர,ற ; ல, ழ, ள ; ண, ந,ன, வேறுபாடு

பார்வை நூல்கள்:

1.செய்யுள் திரட்டு – தமிழ்த்துறை வெளியீடு

2.இலக்கிய வரலாறு - பேராசிரியர் முனைவர் பாக்யமேரி

17UHL11H	HINDI-I	SEMESTER - I

Preamble:

- To develop the writing ability and develop reading skill.
- To learn various concepts and techniques for criticizing literature, to learn the techniques for expansion of ideas and translation process.

Course Outcomes:

On the successful completion of the course, students will be able to

CO Number	CO Statements	Knowledge Level
CO1	Learn the fundamentals of novels and stories	K1
CO2	Understand the principles of translation work	K2
CO3	Apply the knowledge writing critical views on fiction	K3
CO4	Build creative ability	K3
CO5	Expose the power of creative reading	K2

K1-Remembering, K2- Understanding, K3- Applying

Mapping with Programme Outcomes

COS/POS	PO1	PO2	PO3	PO4	PO5
CO1	S	M	M	M	S
CO2	S	M	M	M	S
CO3	S	M	S	M	S
CO4	S	M	S	M	S
CO5	S	M	S	M	S

S – Strong, M – Medium, L – Low

17UHL11H	HINDI-I	SEMESTER - I

Total Credits: 3
Hours Per Week: 5

CONTENTS

UNIT – I

गद्य – नूतन गद्य संग्रह (जय प्रकाश)

पाठ 1- रजिया

पाठ 2- मक्रील

पाठ 3- बहता पानी निर्मला

पाठ 4- राष्ट्र पता महात्मा गाँधी

प्रकाशक: सु मत्र प्रकाशन

204 लीला अपार्ट्मेंट्स, 15 हेस्टिंग्स रोड'

अशोक नगर इलाहाबाद-211001

UNIT – II

कहानी कुंज- डाँ वी.पी. 'अ मताभ'   (पाठ 1-4)

प्रकाशक: गो वन्द प्रकाशन

सदर बाजार, मथुरा

उत्तर प्रदेश-281001

UNIT – III

व्याकरण : श्ब्द वचार (संज्ञा, सर्वनाम, कारक, वशेशण)

पुस्तक: व्याकरण प्रदिप – रामदेव

प्रकाशक: हिन्दी भवन 36

टेगोर नगर

इलाहाबाद-211024

UNIT - IV

अनुवाद अभ्यास-III (केवल अंग्रेजी से हिन्दी में)

(पाठ 1 to 10)

प्रकाशक: द क्षण भारत प्रचार सभा चेनैई -17

17UML11M	MALAYALAM-I	SEMESTER-I

Preamble:

- To develop the writing ability and develop reading skill.
- To learn various concepts and techniques for criticizing literature, to learn the techniques for expansion of ideas and translation process.

Course Outcomes:

On the successful completion of the course, students will be able to

CO Number	CO Statements	Knowledge Level
CO1	Learn the fundamentals of novels and stories	K1
CO2	Understand the principles of translation work	K2
CO3	Apply the knowledge writing critical views on fiction	K3
CO4	Build creative ability	K3
CO5	Expose the power of creative reading	K2

K1-Remembering, K2- Understanding, K3- Applying

Mapping with Programme Outcomes

COS/POS	PO1	PO2	PO3	PO4	PO5
CO1	S	M	M	M	S
CO2	S	M	M	M	S
CO3	S	M	S	M	S
CO4	S	M	S	M	S
CO5	S	M	S	M	S

S – Strong, M – Medium, L - Low

17UML11M	MALAYALAM-I	SEMESTER-I

Total Credits: 3

Hours Per Week: 5

CONTENTS
Paper I Prose, Composition & Translation

This paper will have the following five units:

1. **UNIT I &II** - Novel
2. **UNIT III & IV** - Short story
3. **UNIT V** - Composition & Translation

TEXT BOOKS:

1. Unit I &II -Naalukettu – M.T. Vasudevan Nair (D.C. Books, Kottayam, Kerala)

2. Unit III & IV - Manikkianum Mattu Prathana Kathakalum – Lalithampika Antharjanam (D.C.Books, Kottayam, Kerala)

3. Unit V- Expansion of ideas, General Essay and Translation of a simple passage from English about **100** words) to Malayalam

REFERENCE BOOKS:

1. Kavitha Sahithya Charitram –Dr. M.Leelavathi (Kerala Sahithya Academy, Trichur)

2. Malayala Novel sahithya Charitram –K.M.Tharakan(N.B.S. Kottayam)

3. Malayala Nataka Sahithya Charitram-G.Sankarapillai(D.C.Books, Kottayam)

4. Cherukatha Innale Innu –M.Achuyuthan(D.C. Books, Kottayam)

5. Sahithya Charitram Prasthanangalilude-Dr. K.M. George,(Chief Editor)

   (D.C. Books, Kottayam)

17UFL11F	FRENCH- I	SEMESTER- I

Preamble

➢ To Acquire Competence in General Communication Skills – Oral + Written – Comprehension & Expression

➢ To Introduce the Culture, life style and the civilization aspects of the French people as well as of France

➢ To help the students to acquire Competency in translating simple French sentences into English and vice versa

Course Outcomes:

On the successful completion of the course, students will be able to

CO Number	CO Statements	Knowledge Level
CO1	Learn the Basic verbs, numbers and accents	K1
CO2	To learn the adjectives and the classroom environment in France	K2
CO3	Learn the Plural, Articles and the Hobbies	K3
CO4	To learn the Cultural Activity in France	K3
CO5	To learn the Sentiments, life style of the French people and the usage of the conditional tense	K2

K1-Remembering, K2- Understanding, K3- Applying

Mapping with Programme Outcomes

COS/POS	PO1	PO2	PO3	PO4	PO5
CO1	S	M	M	M	S
CO2	S	M	M	M	S
CO3	S	M	S	M	S
CO4	S	M	S	M	S
CO5	S	M	S	M	S

S – Strong, M – Medium, L – Low

17UFL11F	FRENCH- I	SEMESTER- I

Total Credit: 3
Hours per week: 5

Compétence Culturelle	Compétence De communication	Compétence grammaticale
UNITÉ 1 – Ici, en France		
• Moi et les Autres • La France Express	• INTERACTION: s'identifier • RÉCEPTION ECRITE: Comprendre une annonce d'aeroport • RÉCEPTION ORALE: comprendre l'ecrit de la rue (Panneaux, plaques, rues...) • PRODUCTION ÉCRITE: écrire un SMS	• Le présent des verbes: Je suis, je reste,J'arrive • Le lieu: (je suis) à… (je suis) ici • L'infinitif
UNITÉ 2 – Ici, en classe		
• Moi et le francais • Le francais dane le monde	• INTERACTION: Se présenter • RÉCEPTION ORALE: Comprendre des consignes Orales • RÉCEPTION ÉCRITE: Comprendre une fiche D''inscription • PRODUCTION ÉCRITE: écrire un texte à 'impératif	• Tu/vous • Le present des Verbes en-er et de être:je, tu,vous • La forme Impérative (tu ,vous) Des verbes en-er
UNITÉ 3 - Samedi		
• Le fil du temps	• INTERACTION: S'informer • RÉCEPTION ORALE: Comprendre une annonce • RÉCEPTION ÉCRITE: Comprendre un article (titres et illustrations)	• Les articles Défines:le,la,les • A,de+le,la,les: Au,aux,du,des,à l', de l' • Être(présent)l'heure • Ll faut+nom Ll faut+infinitive

	• PRODUCTION ÉCRITE: écrire des slogans	• Pharses verbe+complément, Complément+verbe

UNITÉ 4 - Dimanche

• Les activités Culturelles des Français	• INTERACTION: Acheter,demander des Informations • RECEPTION ORALE: Comprendre les Titres du journal à la radio • RÉCEPTION ÉCRITE: Comprendre les Informations • PRODUCTION ÉCRITE: Inventer des noms de journaux	• Faire, present • Avior, present • Ll y a • Le présent des verbes en-er: Regarder • Combien? • Quand? • Complément de nom: Tremblement de terre, les noms de pays…. • Du,des,de la(reprise U2) • Les adjectifs possessifs: Mon,ta,son, Ma,ta,sa Mes,tes,ses

UNITÉ 5 – Dommage!

• Un baby-boom en 2000 et 2001 • L'amour, toujours	• INTERACTION: exprimer la tristesse, la peur, conseiller,encourager • RÉCEPTION ORALE: Comprendre une émission De radio • RÉCEPTION ÉCRITE: Comprendre un sondage • PRODUCTION ÉCRITE: écrire des blogs	• Est-ce que • Le present des verbes pouvoir,Vouloir • Le conditionnel des Verbs pouvoir, Vouloir • Ne…pas

TEXT BOOK:

1. *Marcella Di Giura Jean-Claude Beacco,* **Alors I.** Goyal Publishers Pvt Ltd 86,University Block Jawahar Nagar (Kamla Nagar),New Delhi .

17UEG12F	English – I	SEMESTER - I

PREAMBLE:

- To expose students to language competency through literary works and to obtain development in various genres of English Literature and the skills of the language

COURSE OUTCOMES:

On successful completion of the course, students will be able to

CO Number	CO Statement	Knowledge Level
CO1	Analyze the genre of prose through the works of Martin Luther King, M. K. Gandhi and Jesse Owens	K 4
CO2	Interpret Poetry through the poems of Tagore, George Herbert and John Milton	K 2
CO3	Analyze the techniques of Short Story writing through the works of R. K. Narayan, Guy De Manupassant and Bonnie Chamberlain.	K 4
CO4	Interpret the techniques of One Act Play through the play by Ramu Ramanathan	K 2
CO5	Explain the fundamentals of basic Grammar through Functional English	K 2

MAPPING WITH PROGRAMME OUTCOME

COS/POS	PO1	PO2	PO3	PO4	PO5
CO1	M	S	S	S	S
CO2	S	M	S	S	S
CO3	S	M	S	S	S
CO4	S	S	S	S	S
CO5	S	S	S	S	M

S-S - Strong, M – Medium, L – Low

17UEG12F	English – I	SEMESTER - I

Total Credits: 3
Hours per week: 5

CONTENTS

UNIT I – PROSE

I Have a Dream – Martin Luther King Jr.

At School – M.K. Gandhi

My Greatest Olympic Prize – Jesse Owens

UNIT II – POETRY

Where the Mind is without Fear – Rabindranath Tagore

Pulley – George Herbert

On His Blindness – John Milton

UNIT III – SHORT STORY

The Gateman's Gift – R.K. Narayan

The Necklace – Guy De Maupassant

The Face of Judas Iscariot – Bonnie Chamberlain

UNIT IV – ONE ACT PLAY

The Boy Who Stopped Smiling – Ramu Ramanthan

UNIT V – FUNCTIONAL GRAMMAR AND COMPOSITION

Sentences ,   Verbs – Tenses and Voice

Concord,   Letter – Writing

Dialogue Writing

TEXT BOOK:

1. Board of Editors. *Stream – A Course book to enhance Language and Life Skills*. New Century Book House, Chennai, 2016.

REFRENCE BOOK:

Wren and Martin, *High School English Grammar and Composition,* S. Chand Publishing, New Delhi, 2006.

17UIT13A	CORE-I: C PROGRAMMING	SEMESTER - I

PREAMBLE

- To help students develop the logic, ability to solve the problems efficiently using C programming.
- To learn various concepts and techniques for problem solving and will implement those ideas using C programs.

COURSE OUTCOMES

On successful completion of course, students will be able to

CO Number	CO Statements	Knowledge Level
CO1	Define the basic fundamentals of C Programming.	K1
CO2	Explain the principles of Control Structures and Arrays.	K2
CO3	Apply the knowledge of strings and functions.	K3
CO4	Build programs using structure, union and pointers.	K3
CO5	Demonstrate the concept of file management and Error handling.	K2

MAPPING WITH PROGRAMME OUTCOMES

POS/COS	PO1	PO2	PO3	PO4	PO5	PO6
CO1	S	M	M	S	M	L
CO2	S	M	S	M	S	S
CO3	S	S	M	S	M	S
CO4	M	M	M	S	L	L
CO5	S	M	S	S	M	L

(S-Strong, M-Medium, L-Low)

17UIT13A	**CORE-I: C PROGRAMMING**	**SEMESTER - I**

Total Credits: 5
Hours Per Week: 6

CONTENTS

UNIT – I

Overview of C: History of C – Importance of C – Basic structure of C programs. Constants, variables and data types: Character set – C Tokens – Keywords and identifiers – Constants – Variables – Declaration of storage classes – Assigning values to variables Defining symbolic constants. Operators and expression – Evaluation of expressions – Precedence of arithmetic operators – Type conversions in expressions – Operator precedence and associatively – Mathematical functions. Managing input and output operations: Reading and writing a character – Formatted input and output.

UNIT – II

Decision making and branching: Simple IF, IF-ELSE, Nesting of IF-ELSE, ELSE-IF ladder, Switch statements – GOTO statements. Decision making and looping: WHILE statement – DO statement – FOR statement – Jumps in loops. Arrays: Definition & Declaration – One dimensional – Two dimensional – Multi dimensional arrays.

UNIT – III

Character arrays and strings: Introduction – Declaring and initializing string variables – Reading strings from terminal – Writing strings to screen – String handling functions. User Defined functions: Introduction – Needs & Elements of User Defined function –Definition – Return values and their types – Function calls – Function declaration – Category of functions – Nesting of functions – Recursion – Passing arrays and Strings to functions – The scope, lifetime & Visibility of Variables .

UNIT – IV

Structures and Unions: Introduction – Defining a structure – Declaring structure variables – Accessing structure members – Structure initialization – Arrays of structures – Arrays within structures – Structures within structures – Structures and functions – Unions – Bit fields. Pointers: Introduction – Understanding pointers – Accessing the address of a variable – Initializing of pointer variables. Pointers and arrays – Pointers and character strings – Pointers as function arguments.

UNIT – V

File Management: Introduction – Defining and opening a file –Closing a file – Input/output operation on files – Error handling during I/O operations – Random access files – Command line arguments.

TEXT BOOK

1. *E. Balagurusamy* , **Programming in ANSI C**, Tata McGraw Hall, New Delhi, 7th Edition, 2007.

REFERENCE BOOKS

1. *Herbert Schildt*, **C: The Complete Reference**, Mc Graw Hill, New Delhi, 4th Edition, 2003.

2. *B.L.Juneja*, **Programming in C**, Cengage Learning India, 1st Edition, 2011.

17UMT1AA	ALLIED-I: BASIC MATHEMATICS	SEMESTER - I

PREAMBLE
- Understand the basic concepts of Mathematics.
- To know about the applications of Statistical and Numerical Techniques of Mathematics.

COURSE OUTCOMES

On successful completion of course, students will be able to

CO Number	CO Statement	Knowledge Level
CO 1	Learn about Numerical Differentiation	K1
CO 2	Learn about Numerical Integration	K1
CO 3	Apply Statistical Techniques for data collection	K2
CO 4	Solve the problems related to Measures of central tendency	K2
CO 5	Solve the problems related to System of Simultaneous Linear Algebraic Equation	K3

MAPPING WITH PROGRAMME OUTCOMES

POS/COS	PO1	PO2	PO3	PO4	PO5	PO6
CO1	S	M	M	S	M	L
CO2	S	M	S	M	S	L
CO3	S	S	S	S	M	L
CO4	M	M	S	S	L	L
CO5	S	M	M	S	M	L

(S-Strong, M-Medium, L-Low)

17UMT1AA	ALLIED-I: BASIC MATHEMATICS	SEMESTER - I

Total credits: 4
Hours per Week: 5

CONTENTS

UNIT -I

System of Simultaneous Linear algebraic Equation: Gauss elimination - Gauss Jacobi Gauss Jordon - Gauss Seidal methods.

UNIT -II

Numerical Differentiations : Newton's forward Difference - Backward Difference -Stirling's formula.

UNIT-III

Numerical Integration :Trapezoidal Rule & Simpson's rule - Numerical solutions of ordinary differential Equations : Taylor series for first order derivative.

UNIT-IV

Statistics: Meaning - Definition – Collection of data - Classification and Tabulation – Diagrammatic Representation and Graphical Representation.

UNIT-V

Measures of Central Tendency : Mean – Median – Mode - Measures of dispersion :Range – Standard deviation.

TEXT BOOKS:

1. *Kandasamy,P.and Thilagavathi ,K.* **Numerical Methods .**S.Chand and Company Ltd., New Delhi, 2004.   (Unit I , II &III)
2. *R.S.N.Pillai,V.Bagavathi.*, **STATISTICS.** S.Chand and Company Pvt. Ltd, 2002. (Unit IV & V).

REFERENCE BOOKS:

1. *Gupta, S.P. and Gupta, M.P .,* **Business Statistics ,** Sultan Chand and Sons, 2002.
2. *Venkataraman , M.K.* **Numerical Methods in Science & Engineering**, NPC, Revised Edition, 2004.

17UIT13P	CORE PRACTICAL- I: PROGRAMMING IN C	SEMESTER - I

Total Credits: 2
Hours Per Week: 4

PREAMBLE

- To impart knowledge on C programming.

LIST OF PRACTICALS

1. Program to use do and while loop.

2. Program to use for loop.

3. Program to perform magic square of order n, where n > 3 and n is odd.

4. Program to use operators.

5. Program to sort using arrays.

6. Program to use string commands with pointers.

7. Program to use string command with arrays.

8. Program to use recursive function.

9. Program to use structure and array of structures.

10. Program to use function with pointers.

11. Program to use file manipulation commands.

12. Program to use command line argument.

17UIT13Q	CORE PRACTICAL- II: INTERNET AND OFFICE AUTOMATION	SEMESTER - I

Total Credits: 2
Hours Per Week: 3

PREAMBLE

- To learn basic computer skills with Microsoft Word, Microsoft Excel, Microsoft

- PowerPoint and Microsoft Access

- To know the usage of Internet

LIST OF PRACTICALS

1. Creating a resume and format using MS WORD.

2. Creating a class time table using MS WORD

3. Program to prepare mail merge for parent meeting using MS WORD

4. Program to prepare Student mark sheet using MS EXCEL

5. Creating a chart for result analysis using MS EXCEL

6. Program to prepare a mark list for following conditions using data filter and data sort in MS EXCEL
   a) Prepare mark list in ascending order.
   b) Average is greater than or equal to 60.
   c) Average is between 50 and 60.
   d) Average is below 40

7. Designing an organizational chart for Arts and Science College using POWER POINT

8. Creating a power point presentation to advertise a product using Slide Transition and Custom animation

9. Creating a database to student's Mark sheet using MS Access

10. Creating a data base to employee pay roll using MS Access

11. Creating an E-MAIL ID

12 Program to use Mail ID and SEND information with Signature

13. Program to use Mail ID and send information through attached file.

17UFC1FA	ENVIRONMENTAL STUDIES	SEMESTER - I

Total Credits: 2

Hours per week: 2

CONTENTS

UNIT- I

The Multi Disciplinary Nature of Environmental Studies: Definition, scope and importance-Need for public awareness-Natural resources-Natural resources and associated problems-Role of an individual in conservation of natural resources-Equitable use of resources for sustainable lifestyle.

UNIT- II

Eco System: Concept of an eco system-structure and function of eco system-Producers, consumers and decomposers-Energy flow in the eco system-Ecological succession-Food chain, food webs and ecological pyramids-Forest ecosystem-Grassland eco system-Desert eco system-Aquatic eco system.

UNIT- III

Bio Diversity and its Conservation Introduction Definition: Genetic, Species and Eco System Diversity-Bio Geographical Classification Of India: Value of bio diversity: conceptive use, productive use, social, ethical and option values-bio diversity at global, national and local levels-India as a mega diversity nation, hot spots-threats: habitat loss, poaching of wild life-man wild life conflicts-endangered and endemic species of India, conservation of bio diversity.

UNIT- IV

Environmental Pollution: Definition-causes, effects and control measures of air, water, soil, noise, thermal pollution-soil waste management: causes, effects and control measures of urban and industrial wastes-prevention of pollution-pollution case studies-disaster management: floods, earthquake, cyclone and landslides.

UNIT- V

Social Issues and the Environment: Sustainable development-urban problems related to energy-water conservation, rain water harvesting, watershed management-resettlement and rehabilitation of people ;its problems and concerns-environmental ethics: issues and possible solutions-climate change, global warming, ozone layer, depletion, acid rain, nuclear accidents and holo caust-consumerism and waste products-environmental protection act-air, water act-wild life protection act-forest conservation act-issues involved in enforcement of environmental legislation-public awareness-human population and the environment.

TEXT BOOK:

1. *Kumaraswamy. K, A. Alagappa Moses and M. Vasanthy. 2001,* **Environmental Studies.** Thanjavur- National Offset Printers.

17UTL21T	தமிழ் - தாள் - 2	SEMESTER - II

குறிக்கோள்:

- மொழிப்பாடங்களின் வாயிலாக தமிழரின் பண்பாடு, பகுத்தறிவு, கலை மற்றும் மரபு ஆகியவற்றை அறிந்து மாணவர்களின் படைப்பாக்கத்திறன்களை ஊக்குவித்தல்

பயனடைவுக்கல்வியின் விளைவாக ஏற்படும் பயன்பாடுகள்:

பாடத்திட்டப் பகுப்பு முறை	பாடத்திட்டத்தின் குறிக்கோள்	அறிவுத்திறன் வெளிப்படும் அளவு முறை
CO_1	வாழ்க்கைத் திறன்கள் (Life Skills) - மாணவனின் செயலாக்கத்திறனைத் தாய்மொழி வாயிலாக ஊக்குவித்தல்	K_1, K_2, K_3
CO_2	மதிப்புக்கல்வி (Attitude and Value educations)	K_2, K_4
CO_3	பாட இணைச்செயல்பாடுகள் (Co-curricular activities)	K_2, K_3, K_4
CO_4	சூழலியல் ஆக்கம் (Ecology)	K_4
CO_5	மொழி அறிவு (Tamil knowledge)	K_5, K_6

K_1-Remembering, K_2-Understanding, K_3-Applying, K_4-Analysing, K_5-Evaluating, K_6-Creating

Mapping with Programme outcomes

COs /POs	PO1	PO2	PO3	PO4	PO5
CO1	S	M	M	M	M
CO2	S	M	M	M	M
CO3	S	M	M	M	M
CO4	S	M	M	M	M
CO5	S	M	M	M	M

S – Strong, M – Medium, L – Low

| 17UTL21T | தமிழ் 2- தாள் - | SEMESTER - II |

Total Credits: 3
Hours per week: 5

செய்யுள் – உரைநடை – இலக்கிய வரலாறும் இலக்கணமும்

அலகு – 1

    1.திருக்குறள் - அ. கூடா நட்பு (அ.எண் 83)

ஆ.கள்ளுண்ணாமை (அ.எண் 93)

இ. குறிப்பறிதல் (அ.எண் 110)

ஈ. காதல் சிறப்புரைத்தல் (அ.எண் 113)

    2.மூதுரை –ஒளவையார் (10 பாடல்கள்- 6,7,9,10,14,16,17,23,26,30)

அலகு – 2

    1.புரட்சிக்கவி – பாரதிதாசன்

அலகு – 3 உரைநடை

1. சங்க நெறிகள் மாணிக்கம்.சுப.வ -
2. கர்ணனும் கும்பகர்ணனும் சேதுப்பி.பி.ரா -ள்ளை
3. அறிவியலும் கலையும்வரதராசன்.மு -

அலகு – 4 உரைநடை

1. வாழ்வியல் இயக்கம் – குன்றக்குடி அடிகளார்
2. பெரியார் உணர்த்தும் சுயமரியாதையும் சமதர்மமும் ஆனைமுத்து.வே -
3. போதைப்பொருள் – அமுதன்

அலகு - 5 இலக்கிய வரலாறும் இலக்கணமும் (பாடத்திட்டம் தழுவியது)

1. பதினெண்கீழ்க்கணக்கு நூல்கள்
2. தமிழ் உரைநடையின் தோற்றமும் வளர்ச்சியும்
3. வழு, வழுவமைதி,வழாநிலை
4. பிறமொழிச் சொற்களைத் தமிழில் மொழிபெயர்த்தல்

பார்வை நூல்கள்:

1.செய்யுள் திரட்டு – தமிழ்த்துறை வெளியீடு

2.இலக்கிய வரலாறு - பேராசிரியர் முனைவர் பாக்யமேரி

17UHL21H	HINDI-II	SEMESTER - II

Preamble:
- To develop the writing ability and develop reading skill.
- To learn various concepts and techniques for criticizing literature, to learn the techniques for expansion of ideas and translation process.

Course Outcomes:

On the successful completion of the course, students will be able to

CO Number	CO Statements	Knowledge Level
CO1	Learn the fundamentals of novels and stories	K1
CO2	Understand the principles of translation work	K2
CO3	Apply the knowledge writing critical views on fiction	K3
CO4	Build creative ability	K3
CO5	Expose the power of creative reading	K2

K1-Remembering, K2- Understanding, K3- Applying

Mapping with Programme Outcomes

COS/POS	PO1	PO2	PO3	PO4	PO5
CO1	S	M	M	M	S
CO2	S	M	M	M	S
CO3	S	M	S	M	S
CO4	S	M	S	M	S
CO5	S	M	S	M	S

S – Strong, M – Medium, L – Low

17UHL21H	HINDI-II	SEMESTER - II

Total Credits: 3

Hours Per Week: 5

CONTENTS

UNIT – I

आधुनिक पद्य – शबरी (श्री नरेश मेहता)

प्रकाशक: लोकभारती प्रकाशन

पहली मंजिल, दरबारी बिल्डिंग,

महात्मा गाँधी मार्ग, इलाहाबाद-211001

UNIT – II

उपन्यास   : सेवासदन-प्रेमचन्द

प्रकाशक: सु मत्र प्रकाशन

204 लीला अपार्ट्मेंट्स, 15 हेस्टिंग्स रोड'

अशोक नगर इलाहाबाद-211001

UNIT – III

अनुवाद अभ्यास-III (केवल हिन्दी से अंग्रेजी में)

(पाठ 1 to 10)

प्रकाशक: द क्षण भारत प्रचार सभा चेनैई -17

UNIT - IV

पत्र लेखन: (औपचारिक या अनौपचारिक)

17UML21M	MALAYALAM-II	SEMESTER-II

Preamble:

- To develop the writing ability and develop reading skill.
- To learn various concepts and techniques for criticizing literature, to learn the techniques for expansion of ideas and translation process.

Course Outcomes:

On the successful completion of the course, students will be able to

CO Number	CO Statements	Knowledge Level
CO1	Learn the fundamentals of novels and stories	K1
CO2	Understand the principles of translation work	K2
CO3	Apply the knowledge writing critical views on fiction	K3
CO4	Build creative ability	K3
CO5	Expose the power of creative reading	K2

K1-Remembering, K2- Understanding, K3- Applying

Mapping with Programme Outcomes

COS/POS	PO1	PO2	PO3	PO4	PO5
CO1	S	M	M	M	S
CO2	S	M	M	M	S
CO3	S	M	S	M	S
CO4	S	M	S	M	S
CO5	S	M	S	M	S

S – Strong, M – Medium, L - Low

17UML21M	**MALAYALAM-II**	**SEMESTER- II**

Total Credit: 3

Hours per week: 5

PAPER II PROSE: NON-FICTION

This Paper will have the following five units:

UNIT I & II

>   Biography

UNIT III, IV & V

>   Travelogue

TEXT BOOKS:

1. Unit III, IV & V Kappirikalude Nattil **–** *S.K. Pottakkadu* (D.C. Books, Kottayam)

2. Kannerum Kinavum **–** *V.T. Bhatathirippadu* Autobiography (D.C. Books, Kottayam)

REFERENCE BOOKS:

1. **Jeevacharitrasahithyam** *– Dr. K.M. George*(N.B.S. Kottayam)

2. **Jeevacharitrasahithyam Malayalathil** - *Dr. Naduvattom Gopalakrishnan* (Kerala Bhasha Institute, Trivandrum)

3. **Athmakathasahithyam Malayalathil** – *Dr. Vijayalam Jayakumar* (N.B.S. Kottayam)

4. **Sancharasahithyam Malayalathil** - *Prof. Ramesh Chandran. V*, (Kerala Bhasha Institute, Trivandrum)

17UFL21F	FRENCH- II	SEMESTER- II

Preamble

- To Acquire Competence in General Communication Skills – Oral + Written – Comprehension & Expression
- To Introduce the Culture, life style and the civilization aspects of the French people as well as of France
- To help the students to acquire Competency in translating simple French sentences into English and vice versa

Course Outcomes:

On the successful completion of the course, students will be able to

CO Number	CO Statements	Knowledge Level
CO1	Learn the Basic verbs, numbers and accents	K1
CO2	To learn the adjectives and the classroom environment in France	K2
CO3	Learn the Plural, Articles and the Hobbies	K3
CO4	To learn the Cultural Activity in France	K3
CO5	To learn the Sentiments, life style of the French people and the usage of the conditional tense	K2

K1-Remembering, K2- Understanding, K3- Applying

Mapping with Programme Outcomes

COS/POS	PO1	PO2	PO3	PO4	PO5
CO1	S	M	M	M	S
CO2	S	M	M	M	S
CO3	S	M	S	M	S
CO4	S	M	S	M	S
CO5	S	M	S	M	S

S – Strong, M – Medium, L – Low

17UFL21F	FRENCH-II	SEMESTER- II

Total Credit: 3
Hours per week: 5

Compétence Culturelle	Compétence De communication	Compétence grammaticale
UNITÉ 1 – Super!		
• L'égalité homme/femme	• INTERACTION: Exprimer des sentiments, exprimer la joie, le plaisir, le bonheur • RÉCEPTION ORALE: Comprendre un jeu radiophonique • RÉCEPTION ÉCRITE: Comprendre des announces • PRODUCTION ÉCRITE: Écrire des cartes postales	• Les noms de professions masculine/feminine • Le verb finir et less Verbes du groupe en-ir • Le present de l'impératif • Savoir(present) • Le participe passé: Fini, aimé, arrive, dit,écrit • Quel(s), quelle(s)..: Interrogatifet Exclamatif • À + infinitive • Les articles: n,une,des
UNITÉ 2 – Quoi?		
• Le 20 siécle: Petits progrés Grand progrés	• INTERACTION: Decrire quelque chose, une personne • RECEPTION ORALE: Comprendre un message publicitaire • RÉCEPTION ÉCRITE: Comprendre un dépliant touristique • PRODUCTION ÉCRITE: Écrire des petites annonces	• On • Plus, moins • Le verbe aller: • Present, impératif • Aller + infinitife • Le pluriel en –x
UNITÉ 3 – Et aprés		
• Nouvelles du jour	• INTERACTION: Raconteur,situer un récit dans le temps	• L'imparfait:: quel-Ques forms pour introduire le récit:Il faisait, il y avait, il

	• RÉCEPTION ORALE: Comprendre une description • RÉCEPTION ÉCRITE: Comprendre un test • PRODUCTION ÉCRITE: écrire des cartes postales	Était • Un peu, beaucoup, trop,Assez • Trés • Le verbe venir: Présent, impératif • En Suisse, au Maroc, aux Etats-Unis
UNITÉ 4– Mais oui!		
• La génération des 20-30 ans	• INTERACTION: Donner son opinion, Expliquer pourquoi • RÉCEPTION ORALE: Comprendre des informations à la radio • RÉCEPTION ÉCRITE: Comprendre un texte informatif • PRODUCTION ÉCRITE: éncrire un mél de protestation	• Répondre, prendre: Présent, impératif, part Passé • Parce que pourquoi • Tout/tous, toute/s Tous/toutes les… (répétition action)
UNITÉ 5– Mais non!		
• De la ville à la campagne	• INTERACTION: Débat:: exprimer l'accord, exprimer le Désaccord • RECEPTION ORALE: Comprendre un message sur un répondeur téléphonique • RÉCEPTION ÉCRITE: Comprendre un témoignage • PRODUCTION ECRITE: Rediger des petites Announces immobilieres	• Le verbe devoir: Present et participe passé • Le verbe vivre, present • Aller + infinitive • Venir+ infinitive • Etre pour/contre

TEXT BOOK:

1. Marcella Di Giura Jean-Claude Beacco, **Alors I.** Goyal Publishers Pvt Ltd 86, University Block Jawahar Nagar (Kamla Nagar) New Delhi .

17UEG22F	English – II	SEMESTER - II

PREAMBLE:

- To expose students to language competency through literary works and to obtain development in various genres of English Literature and the skills of the language

COURSE OUTCOMES:

On successful completion of the course, students will be able to

CO Number	CO Statement	Knowledge Level
CO1	Develop the knowledge of prose through the works of Martin Luther King, M. K. Gandhi and Jesse Owens	K 3
CO2	Interpret Poetry through the poems of Tagore, George Herbert and John Milton	K 2
CO3	Identify the techniques of Short Story writing through the works of R. K. Narayan, Guy De Manupassant and Bonnie Chamberlain.	K 3
CO4	Interpret the techniques of One Act Play through the play by Ramu Ramanathan	K 2
CO5	Explain the fundamentals of basic Grammar through Functional English	K 2

MAPPING WITH PROGRAMME OUTCOME

COS/POS	PO1	PO2	PO3	PO4	PO5
CO1	M	S	S	S	S
CO2	S	M	S	S	S
CO3	S	M	S	S	S
CO4	S	S	S	S	S
CO5	S	S	S	S	M

S – Strong, M – Medium, L – Low

17UEG22F	ENGLISH – II	SEMESTER - II

Total Credits: 3
Hours per week: 5

CONTENTS

UNIT I – PROSE

Words of Wisdom – Chetan Bhagat

Acceptance Speech – Noble Peace Prize – Mother Teresa

My Early Days – Dr. A.P.J.Abdul Kalam

UNIT II – POETRY

In the Bazaars of Hyderabad – Sarojini Naidu

Telephonic Conversation – Wole Soyinka

Mending Wall – Robert Frost

UNIT III – SHORT STORY

The Old Man at the Bridge – Ernest Hemingway

The Model Millionaire – Oscar Wilde

White Washing the Fence – Mark Twain

UNIT IV – ONE ACT PLAY

Soul Gone Home – Langston Hughes

UNIT V – FUNCTIONAL GRAMMAR AND COMPOSITION

Relative Pronoun

Degrees of Comparison

Reported Speech

Correction of Sentences

Business Correspondence

Memo, Reports, Proposals, Resume & CV Writing

TEXT BOOK:

1. Board of Editors. 2016. *Stream – A Course book to enhance Language and Life Skills*.

Chennai: New Century Book House.

REFRENCE BOOK:

Wren and Martin, *High School English Grammar and Composition* S. Chand

Publishing 2006, New Delhi.

17UIT23A	CORE-II: C++ PROGRAMMING	SEMESTER -II

PREAMBLE

- To help the students to gain concepts of oops
- To develop the applications using C++ Programming and able to solve the problems efficiently using oops concepts

COURSE OUTCOMES

On the successful completion of course, students will be able to

CO Number	CO Statements	Knowledge Level
CO1	Classifying procedural and oops languages	K2
CO2	Demonstrating classes and objects	K3
CO3	Illustrating the concepts of overloading and inheritance	K4
CO4	Significance of derived data types in oops	K2
CO5	Explaining the importance of files in C++	K2

MAPPING WITH PROGRAMME OUTCOMES

POS/COS	PO1	PO2	PO3	PO4	PO5	PO6
CO1	S	M	S	S	S	L
CO2	M	M	M	S	S	M
CO3	S	S	M	S	M	L
CO4	S	M	S	M	S	M
CO5	S	M	M	M	M	L

(S-Strong, M-Medium, L-Low)

17UIT23A	CORE-II: C++ PROGRAMMING	SEMESTER –II

Total Credits: 5
Hours Per Week: 5

CONTENTS

UNIT - I

Introduction to C++ - Key concepts of Object-Oriented Programming – Advantages – Object Oriented Languages.

I/O in C++: Streams in C++-Predefined Streams-Buffering – Stream Classes-Formatted and Unformatted data- Unformatted Console I/O Operation – Type casting with cout statements- C++ Declarations.

Control Structures: - Decision Making and Statements: If.. Else, jump, goto, break, continue, Switch case statements. Loops in C++: For, While, Do.

UNIT - II

Functions in C++: Parts of Function – Passing Arguments - Inline functions – Function overloading.

Classes and Objects: Classes in C++- Declaring Objects – Defining Member Functions – Static Member variables and functions – array of objects –friend functions – Overloading member functions.

Constructor and Destructor: Constructor and Destructor **-** Characteristics –Application with constructors-Overloading Constructor-Destructors.

UNIT - III

Operator Overloading: The Keyword Operator- Overloading unary, binary operators – Overloading Friend functions – type conversion.

Inheritance: Types of Inheritance – Single, Multilevel, Multiple, Hierarchical, Hybrid, Multi path inheritance – Virtual base Classes – Abstract Classes.

UNIT - IV

Pointers – Declaration – Pointer to Class, Object – this pointer – Pointers to derived classes and Base classes.

Arrays: Characteristics – Initialization of arrays using functions-Memory models – new and delete operators – dynamic object.

Virtual Functions: Rules for Virtual Functions -Pure Virtual Functions.

UNIT - V

String – Declaring and Initializing string objects – String Attributes.

Files – File stream classes – file modes – Sequential Read / Write operations-Error Handling Functions-**Exception Handling**.

TEXT BOOK

1. *Ashok N. Kamthane*, **Object-Oriented Programming with ANSI and Turbo C++**, Pearson Education Publication, 2nd Edition,2013.

REFERENCE BOOKS

1. *E. Balagurusamy,* **Object-Oriented Programming With C++**, Tata Mc-Graw Hill Publication, 2005.
2. *Yashvant. P. Kanetkar*, **Let us C++**, BPB, New Delhi, 2007.

17UIT23B	CORE- III: DIGITAL LOGIC & CIRCUITS	SEMESTER - II

PREAMBLE

- To help the students grasp the fundamentals of design as a basic creative activity.
- Basic building blocks that is the digital circuits has been discussed.
- To perform conversion between one base to another base and to gain knowledge about number system.

COURSE OUTCOMES
On the successful completion of course, students will be able to

CO Number	CO Statements	Knowledge Level
CO1	Solving the conversion of number system	K2
CO2	Develop the various integrated circuits using logical gates	K3
CO3	Simplify the concepts of K-Map and Boolean algebra	K4
CO4	Demonstrate the combinational circuits	K2
CO5	Classify various Flip Flops and Counters	K2

MAPPING WITH PROGRAMME OUTCOMES

POS/COS	PO1	PO2	PO3	PO4	PO5	PO6
CO1	S	M	S	S	S	S
CO2	M	S	S	S	S	M
CO3	S	M	M	M	M	S
CO4	S	M	S	M	S	M
CO5	S	S	M	M	M	S

(S-Strong, M-Medium, L-Low)

17UIT23B	CORE- III: DIGITAL LOGIC & CIRCUITS	SEMESTER - II

Total Credits: 4
Hours Per Week: 4

CONTENTS

UNIT –I

Number Systems: Decimal Number System – Binary Number System – Conversion of decimal to binary and binary to decimal conversions. Complements: 1's complement and 2's complement Number representation. Binary addition, Binary subtraction, Binary addition and subtraction using Complement Systems.

UNIT – II

Logic Gates: Gates Classifications: Basic Gates (AND, OR, NOT), Universal Gates (NAND, NOR), Exclusive Gates (XOR, XNOR) (except circuit diagrams) –Logic Symbols, Logic Operators, Logical expression and truth table of Basic, Universal and Exclusive gates. Conversion of Universal Gates to Basic Gates.

UNIT – III

Boolean Algebra & Simplifications: Boolean Theorems (Rules & Verification with sample values only) –reduction of expression using Sum of product Simplification – reduction of expression using Product of Sum Simplification – The K- Map method: 2 variable maps, 3-varibale map and 4-variable map.

UNIT – IV

Arithmetic Circuits & Combination Circuits: Half adder – Full adder – Half Subtractor – Full –Parallel binary adder, decimal adder (BCD adder) - Encoder – Multiplexers – De-Multiplexers (Block Diagram, Truth Table, Circuit Diagram of above devices).

UNIT – V

Storage elements & Counters: Flip – Flops types: RS, Clocked RS, Positive Edge triggered- RS, D-Flip Flop, T-Flip Flop, JK-Flip Flop (Block Diagram, Truth Table, Circuit Diagram and Working Methodology). Counter: Ripple Counter, Modulo N Counter – Shift registers- types: PIPO (Parallel- in-Parallel-out), PISO (Parallel-in-Serial-out), SISO (Serial - in-Serial- out), and SIPO (Serial- in-Parallel-out).

TEXT BOOK
1. *R K Gaur*, **Digital Electronics and Microcomputers**, Dhanpat Rai Publications (P) Ltd, 3rd Edition, 2012.

REFERENCE BOOK
1. *Morris Mano*, **Computer System Architecture**, 3rd edition, PHI, 2016.

17UMT2AA	ALLIED-II : COMPUTER BASED OPTIMIZATION TECHNIQUES	SEMESTER- II

PREAMBLE
- Understand various mathematical applications in industries.
- Decision making for real time Problems.

Course Outcomes

On the successful completion of the course, student will be able to

CO Number	CO Statement	Knowledge Level
CO1	Learn about Linear Programming Problem	K1
CO2	Learn about Elements of Queuing System	K1
CO3	Apply game theory to analyze different situations of each player	K2
CO4	Apply Mathematical Techniques to find solution in the real life situations	K2
CO5	Solve the problems related to Network Analysis	K3
CO6	Solve the problems related to Transportation and Assignment	K3

MAPPING WITH PROGRAMME OUTCOMES

POS/COS	PO1	PO2	PO3	PO4	PO5	PO6
CO1	S	M	S	M	S	L
CO2	M	S	S	M	M	M
CO3	S	M	M	M	M	M
CO4	S	M	S	M	S	M
CO5	S	S	M	M	M	L
CO6	S	M	S	M	L	L

(S-Strong, M-Medium, L-Low)

17UMT2AA	**ALLIED-II : COMPUTER BASED OPTIMIZATION TECHNIQUES**	**SEMESTER- II**

Total Credits: 4
Hours Per Week: 5

CONTENTS

UNIT-I

Linear Programming -Mathematical formulations of linear Programming - Graphical method - Simplex method.

UNIT -II

Transportation problem - Assignment problem - Traveling Salesman Problem.

UNIT-III

Game Theory -Concept of Pure and Mixed Strategies -Solving 2 x 2 matrixes with and without saddle point -n x 2 -2 x m games.

UNIT-IV (Derivations not included)

Queuing Theory : Introduction – Queuing system – Characteristics of Queuing system – symbols and Notation – Classifications of queues – Problems in (M/M/1) : (∞/FIFO).

UNIT-V

PERT & CPM -Network representation -Backward pass -Forward pass - Computation -PERT Network -Probability factor .

TEXT BOOK

1. *Manmohan, Gupta, P.K and Kanthiswarup.*, **Operations Research.** S. Chand & sons, 1997.

REFERENCE BOOKS

1. *Hamdy A Taha.*, **Operations Research.** Pearson Education. 7th edition, 2002.
2. *Gupta, P.K. and Hira, D.S.,* **Problems in Operations Research.** S. Chand Publication, 2004.

17UIT23P	CORE PRACTICAL- III: PROGRAMMING IN C++	SEMESTER - II

Total Credits: 2
Hours Per Week: 4

PREAMBLE

- To gain knowledge on C++ programming language.

LIST OF PRACTICALS

1. Program for number conversion.

2. Program to allocate memory using new operator for 10 integers. Read and display integers.

3. Program to use inline functions.

4. Program to use function overloading.

5. Program to declare class with private member variables. Declare member function as static. Read and display the values of member variable.

6. Program to use friend function in two classes.

7. Program to use Overload operator "+" to concatenate two strings, "= = "to compare two strings.

8. Program for creating class Employee with details and perform salary depending on the grade.

9. Program to illustrate the concept of virtual function.

10. Program to use string commands using Pointers.

11. Program to creating a File and to display the contents of that file with line numbers.

12. Program to merge two files into a single file.

17UFC2FA	**VALUE EDUCATION- HUMAN RIGHTS**	**SEMESTER - II**

Total Credits: 2

Hours per week: 2

CONTENTS

UNIT- I

Concept of Human Values, Value Education Towards Personal Development
Aim of education and value education; Evolution of value oriented education; Concept of Human values; types of values; Components of value education.

Personal Development: Self analysis and introspection; sensitization towards gender equality, physically challenged, intellectually challenged. Respect to - age, experience, maturity, family members, neighbours, co-workers.

Character Formation towards Positive Personality: Truthfulness, Constructivity, Sacrifice, Sincerity, Self Control, Altruism, Tolerance, Scientific Vision.

UNIT - II

Value Education Towards National and Global Development National and International Values: Constitutional or national values - Democracy, socialism, secularism, equality, justice, liberty, freedom and fraternity.

Social Values - Pity and probity, self control, universal brotherhood.

Professional Values - Knowledge thirst, sincerity in profession, regularity, punctuality and faith.

Religious Values - Tolerance, wisdom, character.

Aesthetic values - Love and appreciation of literature and fine arts and respect for the same.

National Integration and international understanding.

UNIT - III

Impact of Global Development on Ethics and Values: Conflict of cross-cultural influences, mass media, cross-border education, materialistic values, professional challenges and compromise.

Modern Challenges of Adolescent Emotions and behave or; Sex and spirituality: Comparison and competition; positive and negative thoughts.

Adolescent Emotions, arrogance, anger, sexual instability, selfishness, defiance.

UNIT – IV

Therapeutic Measures

Control of the mind through

a. Simplified physical exercise
b. Meditation – Objectives, types, effect on body, mind and soul
c. Yoga – Objectives, Types, Asanas
d. Activities:
   (i) Moralisation of Desires
   (ii) Neutralisation of Anger
   (iii) Eradication of Worries
   (iv) Benefits of Blessings

UNIT- V

Human Rights

1. Concept of Human Rights – Indian and International Perspectives
   a. Evolution of Human Rights
   b. Definitions under Indian and International documents

2. Broad classification of Human Rights and Relevant Constitutional Provisions.

   a. Right to Life, Liberty and Dignity
   b. Right to Equality
   c. Right against Exploitation
   d. Cultural and Educational Rights
   e. Economic Rights
   f. Political Rights

g. Social Rights

3. Human Rights of Women and Children
   a. Social Practice and Constitutional Safeguards
      (i) Female Foeticide and Infanticide
      (ii) Physical assault and harassment
      (iii) Domestic violence
      (iv) Conditions of Working Women

4. Institutions for Implementation
   a. Human Rights Commission
   b. Judiciary

5. Violations and Redressel
   a. Violation by State
   b. Violation by Individuals
   c. Nuclear Weapons and terrorism
   d. Safeguards.

REFERENCE BOOKS:

2. *Dey A. K*, 2002, **Environmental Chemistry.** New Delhi – Vile Dasaus Ltd.

3. *Gawande . E.N.* **Value Oriented Education.** Vision for better living. New Delhi, Saruptsons.

4. *Brain Trust Aliyar*, 2008, **Value Education for health, happiness and harmony.** Vethathiri publications, Erode.

5. *Ignacimuthu S. J. S,* 1999, **Values for life.** Bombay Better Yourself.

6. *Seetharam. R. (Ed),* 1998 **, Becoming a better Teacher** Madras Academic Staff College.

7. *Grose. D. N ,* 2005, **A text book of Value Education.** Dominant Publishers and Distributors, New Delhi.

8. *Shrimali K. L,* 1974, **A Search for Values in Education**. Vikas Publishers, Delhi.

9. *Yogesh Kumar Singh & Ruchika Nath* , 2005, **Value Education.** P. H Publishing Corporation, New Delhi.

10. *Venkataram & Sandhiya. N,* 2001, **Research in Value Education.** APH Publishing Corporation, New Delhi.

11. *Ruhela S. P.* **Human Value and Education.** Sterling publishers, New Delhi.

12. *Brain Trust Aliyar*, 2004, **Value Education for Health, Happiness and Harmony.** Vethathiri publications , Erode.

13. *Swami Vivekananda* , 2008, **Personality Development.** Advaita Ashrama, Kolkata.

14. *Swami Jagadatmananda*, **Learn to Live.** Sri Ramakrishna Math, Chennai.

17UIT33A	CORE- IV: DATA STRUCTURES	SEMESTER - III

PREAMBLE

- To learn fundamentals of linear and non-linear Data structures

- To understand and analyze algorithms

- To be familiar with searching and sorting

COURSE OUTCOMES

On the successful completion of course, students will be able to

CO Number	CO Statements	Knowledge Level
CO1	Define and analyze the structure of algorithms	K1
CO2	Explain the principles of linear and non-linear data structures	K2
CO3	Apply the knowledge of searching procedures.	K3
CO4	Build algorithms for graph representation.	K3
CO5	Demonstrate the concept of sorting techniques.	K2

MAPPING WITH PROGRAMME OUTCOMES

POS/COS	PO1	PO2	PO3	PO4	PO5	PO6
CO1	S	S	S	M	L	M
CO2	S	S	S	M	M	L
CO3	S	S	M	M	S	L
CO4	M	S	S	S	S	M
CO5	S	S	S	S	S	L

(S-Strong, M-Medium, L-Low)

17UIT33A	**CORE- IV: DATA STRUCTURES**	**SEMESTER - III**

Total Credits: 5
Hours Per Week: 5

CONTENTS

UNIT- I

Introduction: Introduction of Algorithms, Performance Analysis. Arrays and structures: Representation of Arrays, Array create, insert and delete of data elements - sparse Matrices Stacks and Queues: Stacks - Queues - Circular Queues - Evaluation of Expression -Infix to Postfix Conversion.

UNIT- II

Linked List: Singly Linked List: Insertion – Deletion – reverse the elements - Linked Stacks and Queues - Polynomial Addition – Circular Linked Lists - Doubly Linked List.

UNIT-III

Trees: Basic Terminology and Representation - Binary Trees - Binary Tree Representations - Binary Trees Traversals - Threaded Binary Trees - Binary Search Trees – Search , Insert , Delete - Efficient Binary Search trees: AVL trees

UNIT-IV

Graphs: Terminology and Representations – Traversals: Depth First Search, Breadth First Search – Minimum cost Spanning Trees- Shortest Paths and Transitive Closure

UNIT-V

Searching: Linear and Binary Search. Sorting: Bubble sort - Insertion Sort - Quick Sort - Merge Sort - Heap Sort - Hashing Techniques : Static Hashing : Hash Tables - Hashing Functions - Overflow Handling - Dynamic Hashing : Directories.

TEXT BOOK

1. Horowitz, Shani, Anderson – Freed, **Fundamentals of Data Structures in C**,2nd Edition, Universities Press, 2008.(Unit I – Unit V).

REFERENCE BOOKS

1. *Ellis Horowitz, Sartaj Shani*, **Data and File Structures**, Galgotia Publication,2010.

2. Malik.D.S., **Data structures using C++,** 1st Edition, Cengage learning,2003.

3.Vaugha H.Patil, **Data Structures Using C++**, 1st Edition, Oxford Higher Education, 2012.

17UIT33B	CORE- V: JAVA PROGRAMMING	SEMESTER - III

PREAMBLE

- To understand the Basic Object-oriented programming concepts

- To help the students grasp the fundamentals of design as a basic creative activity.

- To be familiar with java programming language.

COURSE OUTCOMES

On the successful completion of course, students will be able to

CO Number	CO Statements	Knowledge Level
CO1	Define the basic fundamentals of Java Programming.	K1
CO2	Learn about Object-oriented programming concepts	K2
CO3	Apply the knowledge in java packages	K3
CO4	Build programs for file handling.	K3
CO5	Demonstrate the concept of Applet and Event Handling.	K2

MAPPING WITH PROGRAMME OUTCOMES

POS/COS	PO1	PO2	PO3	PO4	PO5	PO6
CO1	S	S	S	M	M	L
CO2	S	S	S	M	M	L
CO3	S	S	M	M	M	M
CO4	M	S	S	S	S	L
CO5	M	S	S	S	M	L

(S-Strong, M-Medium, L-Low)

17UIT33B	CORE- V: JAVA PROGRAMMING	SEMESTER - III

Total Credits: 5
Hours Per Week: 5

CONTENTS

UNIT I

Introduction to Object-Oriented Programming – The Java language – Variable Declarations and Arrays – Operators in Java. Control Statements: Introduction – Selection Constructs – Iteration Constructs – Jump Constructs. Introduction to Classes: Instance variables – Class variables – Instance Methods – Constructors – Class Methods – Declaring Objects

UNIT II

Classes and Methods in Detail: Method Overloading – Constructor Overloading – This Reference – Using Objects in Method – Recursion – Access Modifiers – Inner Classes – Command Line Arguments. Inheritance: Basics of Inheritance – Super Class Variable and Subclass Object – The super reference – Constructor Chaining – Method Overriding – The final Keyword. Abstract Classes and Interfaces: The abstract Classes and Methods – Defining Interface – Implementing Interfaces – Extending Interface – Interface Reference. Exception Handling: Types of Exceptions-Uncaught Exceptions – Handling Exceptions – User Defined Exceptions

UNIT III

Multithreaded Programming: Concept of Threads – Thread Creation – Thread's Life Cycle – Thread Scheduling – Synchronization and Deadlock. Packages and Access Modifiers: Packages – An Introduction – The package Declaration – The import Statement – Illustration Package – The Java Language Packages. Handling Strings: Creating Strings – Operations on Strings – Character Extractor Methods – String Comparison Methods

UNIT IV

Input Output Classes: Input and Output Operations – Hierarchy of classes in java.io Package – File class – Input Stream and Output Stream-Random Access File Class.
Applets: Applet Basics – Applet Life Cycle – Running Applets – Methods of the Applet Class

UNIT V

Abstract Windowing Toolkit: AWT classes – Hierarchy of Classes – Control Fundamentals – Component Class – Basic Component Classes – Various Container Classes – Frame Window in an Applet – Menus. Layout Management and Event Handling: Layout Management Policies – Standard Layout Managers – Handling Events – Hierarchy of Event Classes – Event Delegation Model – Event Classes – Event Listener Interfaces – Adapter Classes

TEXT BOOK

1. *Instructional Software Research and Development (ISRD) Group*, **Introduction to Object Oriented Programming through Java**, Tata McGraw-Hill Publishing Company Limited, New Delhi, 2007.

REFERENCE BOOK

1. *E.BalaGurusamy*, **Programming with JAVA – A Primer**, Tata McGraw-Hill Publishing Company Limited, Third Edition, 2007.

2. *John R.Huberd, "Schaum's out;line of programming with JAVA",* Tata McGraw-Hill, 2nd Edition, 2007.

17UIT3AA	ALLIED-III: CYBER SECURITY	SEMESTER - III

PREAMBLE

- On successful completion of this subject the students should have Understand the basic knowledge of Cyber space and Cyber security.
- To know basic skills in the fundamental theories and practices of cyber security

COURSE OUTCOMES

On the successful completion of course, students will be able to

CO Number	CO Statements	Knowledge Level
CO1	Define the basic fundamentals of cyber laws and E-business models	K1
CO2	Learn about categories of malware code	K2
CO3	Apply the knowledge of Cyber bullies, Phishing and cyber shopping	K3
CO4	Classify the creeps, pirates and provide privacy	K3
CO5	Understand the security management methods to maintain security protection	K2

MAPPING WITH PROGRAMME OUTCOMES

POS/COS	PO1	PO2	PO3	PO4	PO5	PO6
CO1	S	M	M	S	L	M
CO2	S	M	S	M	S	S
CO3	S	S	M	S	M	S
CO4	M	S	M	S	L	L
CO5	S	M	S	S	M	L

(S-Strong, M-Medium, L-Low)

17UIT3AA	ALLIED-III: CYBER SECURITY	SEMESTER - III

Total Credits: 4
Hours Per Week: 4

CONTENTS

UNIT - I

Cyber law for cyber space: Defining cyber laws, Netizen- All about IT Law: A to Z of the IT Act,2000- Technology is the Key: Cryptography- Application of Cryptography- Business on the Net: E-Business Models-E-commerce and security-other online payment facilities.

Unit - II

Malware: Definition of Security hole, Security Patch, Viruses, Worms, Trojan Horses, Bot Networks, Social Engineering, Avoiding Malwares, Spyware, Adware, Keyboard Loggers, Rogue Software and Scareware, Ransomeware, Black Hat Search Engine Optimization, Current and Fulltime Threats, Hackers, Hacker's tools.

Unit - III

SPAM: E-Mail and SPAM, Spoofing, Spammer's tools, SPIM. Cyber Intrusions and Security: Cyberbullies, Online Reputation Attacks, Reputation Management, Protecting from Cyberbullies. Phishing: what is Phishing , Recognizing Phishing trip, Protection from Phisher's hook up. Cyber Shopping: online shopping Basics, Hijackers, Ensuring Safe Shopping, Security Tokens.

Unit - IV

Cookies: Making cookies work for you, tips for staying Safe and Social. Friends, Creeps and pirates: Meeting People Online- Liars, Creeps and Cyberstalkers, Internet Monitoring, Privacy on the information.

Unit - V

Network: How the network communicate, port of call, rings of fire. No more strings: What is wireless, locking down WLAN, public Hotspot, mobile devices. Security: Security essential, additional Niceties, backup products, security software vendors, keep your security software and awareness current.

TEXT BOOKS

1. *Vakul Sharma*, **Handbook of Cyber Laws**, Macmillan India Ltd. (Unit I),2008

2. **E-Book** - *Linda McCarthy, Denise Weldon - Siviy*, **Own Your Space**, Page Press, Compliments of Microsoft, 2010.(Unit II, III, IV, V),

REFERENCE BOOK

1. **ITU Global Cyber security Agenda (GCA), High-Level Experts Group (HLEG) Global Strategic Report**, ITU First Printing, 2008.

17UIT33P	**CORE PRACTICAL- IV: PROGRAMMING IN JAVA**	**SEMESTER - III**

Total Credits: 2
Hours Per Week: 4

PREAMBLE

The subject aims to build the concepts regarding:

- To include knowledge on implementation of algorithm and key concepts using Java.

LIST OF PRACTICALS

1. Program to use for loop statement.

2. Program to use branching statement.

3. Program to use Class and perform the functions to represent a bank Information Systems

4. Program to use to extract a portion of a character string and print the extracted string.

5. Program to use the concept of multiple inheritance using Interfaces.

6. Program to demonstrate the use of package.

7. Program to implement the concept of multithreading with the use of any three multiplication tables and assign three different priorities to them.

8. Program to Use Exception Handling Operations.

9. Program to draw several shapes in the created windows using Applet.

10. Program to create bar chart using Applet.

11. Program to open an existing file and append text to that file.

12. Program to demonstrate the random access file is created and used for both reading and writing data to it.

17UIT3SA	SKILL BASED COURSE- I: WEB DESIGN AND APPLICATIONS	SEMESTER - III

PREAMBLE

The subject aims to build the concepts regarding:

- Fundamentals of creating web page.
- Use of internet and E-Commerce.

COURSE OUTCOMES

On the successful completion of course, students will be able to

CO Number	CO Statements	Knowledge Level
CO1	Define the basic fundamentals of Web page.	K1
CO2	Explain the principles of WWW and designing	K2
CO3	Apply the knowledge of Search Engines.	K3
CO4	Build programs using advanced HTML.	K3
CO5	Demonstrate the concept of E-Commerce	K2

MAPPING WITH PROGRAMME OUTCOMES

POS/COS	PO1	PO2	PO3	PO4	PO5	PO6
CO1	S	S	S	M	M	L
CO2	S	S	S	S	S	L
CO3	S	M	S	S	S	M
CO4	S	S	S	S	S	L
CO5	S	M	S	S	S	M

(S-Strong, M-Medium, L-Low)

17UIT3SA	SKILL BASED COURSE - I: WEB DESIGN AND APPLICATIONS	SEMESTER - III

Total Credits: 4
Hours Per Week: 5

CONTENTS

UNIT - I

Introduction to Email: Advantages and Disadvantages - Message Components - Message Composition - Mailer Features - Email Inner Workings - MIME Types. Browsing and Publishing - Browser bare bones – Coast – to – Coast surfing.

The Internet: Introduction – The Internet defined – Internet history – The way the internet works –Business culture and the internet – Collaborative computing and the internet.

UNIT - II

The World Wide Web: Introduction - The web defined – Web browser details – Web writing styles – Web presentation outline, design, and management - directories, search engines and Meta search engines – search fundamentals – search strategies – how does a search engine works. Telnet and FTP: introduction – Telnet and Remote login – File transfer – Computer Viruses

UNIT - III

Introduction to HTML - Tags and Documents - Link documents using Anchor Tags - Images and Pictures – Lists - Tables - Headers and footers – HTML Forms - Frames & Framesets - Cascading style sheets

UNIT – IV

Fundamentals of the JavaScript language: Capabilities of JavaScript – Structure of JavaScript code – Data and Objects - Operators - Decision Making Structures - Loop Structures – JavaScript Functions - Using JavaScript functions with HTML Forms – Some Global methods and Event Handlers.

UNIT - V

Introducing XML – What is XML? – The Goals of XML – XML Structure and Syntax - Valid versus Well-formed XML – Document Type Definition - XML Namespaces - Linking with XML - XSL: XML with style.

TEXT BOOKS

1. *Raymond Greenlaw, Ellen Hepp,* **Fundamentals of the INTERNET and the World Wide Web**, Second Edition, Tata McGraw –Hill Edition, 2005.

2. *David R.Brooks*, **An Introduction to HTML and JavaScript for Scientists and Engineers**, Springer, 2008.

3. *William J.Pardi,* **XML in Action Web Technology** (IT Professional), Microsoft Press Redmond ,2000

17UIT3SP	**SKILL BASED PRACTICAL-I : HTML, XML AND JAVA SCRIPTS**	**SEMESTER - III**

Total Credits: 2
Hours Per Week: 3

PREAMBLE

The subject aims to build the concepts regarding:

- To gain knowledge on HTML, XML and JAVA Scripts.

LIST OF PRACTICALS:

1. Designing a Simple Web Pages using standard HTML tags like, HEAD, TITLE, and BODY

2 . Designing a HTML web pages, which make use of INPUT, META, SCRIPT, FORM, APPLET, BGSOUND, MAP

3. Program to Work with various attributes of standard HTML elements

4. Program to use Java Script's Window and document objects and their properties and to give the dynamic functionality to HTML web pages

 5. Program to use Java Script snippet which make use of Java Script's inbuilt as well as user defined objects like navigator, Date Array, Event, Number etc.

6 Program to use the form validation in various INPUT elements like Text Filed, Text Area, Password, Selection list etc.

7. Program to use XML web Documents which make use of XML Declaration, Element Declaration, Attribute   Deceleration

8. Program to use Internal DTD, External DTD, and Entity Declaration.

17UNM34J	NMEC-I : PC HARDWARE	SEMESTER - III

Total Credits: 2
Hours Per Week: 2

PREAMBLE

The subject aims to develop knowledge about

- Fundamentals of Computer Hardware Components

CONTENTS

UNIT-I

What is PC? - Evolution of PCs - Components of PC – Basic Computer Hardware Structure-Hardware and Software –Different Types of Computers - Features of Computer Systems: Features of Desktop Systems, Server Computers, Laptops, and Tablets.

UNIT-II

Motherboard: Features – Components – Form factor of Motherboard –Processor Support – IDE and SATA Connectors – Buses and Expansion Slots – Types. Processor: Features – Multiple Core Processors – Processor Specifications – Intel and AMD Processors – Problems and Solutions. CPU Overheating Issues - GPU.

UNIT-III

Computer Monitors: Features – CRT Monitors – Working of CRT Monitors – Specifications – Setting up Monitors – Common Problems and Solutions –LCD, LED Monitors and Touch Screens. Keyboard and Mouse : Types and Features of Keyboards – Keyboard Usage Guidelines – Common Problems and Solutions – Mouse Types – Working of Mouse – Features – Common Problems and Solutions.

UNIT-IV

Power Supply and UPS: Computer Power Supply units – Features of SMPS – Specification for SMPS –Common Problems and Solutions. Uninterrupted Power Supply - Working – Types – Common Problems and Solutions.

UNIT V

Memory and Storage: Features of Computer Memory – types – Working. Hard Disks: Features – Installing Hard Disks – Hard Disk Specification – Disk Burning Software. Assembling and Configuring Computers: Setting up the Cabinet.

TEXT BOOK

1. *K.L.James*, **Computer Hardware: Installation, Interfacing, Troubleshooting and Maintenance,** PHI Learning, 2013.

17UFC3FA	பகுதி : 4 –அடிப்படைத்தமிழ் தாள் 1 : (Basic Tamil)	SEMESTER- III

Total Credits: 2

Hours Per Week: 2

இளங்கலை 2017– 2018 ஆம் கல்வியாண்டு முதல் சேர்வோர்க்குரியது

(10 மற்றும் 12– ஆம் வகுப்பு வரை தமிழ் மொழிப்பாடம் பயிலாதவர்களுக்கு)

(பருவத் தேர்வு உண்டு)

அலகு : 1. தமிழ் மொழியின் அடிப்படைக் கூறுகள் .

அ: எழுத்துகள் (

- உயிர் எழுத்துக்கள்   குறில் -, நெடில் எழுத்துகள்

- மெய் எழுத்துக்கள் வல்லினம் -, மெல்லினம், இடையினம்

- உயிர்மெய் எழுத்துக்கள்

ஆ: சொற்களின் வகைகள் (பெயர்ச்சொல், வினைச்சொல் – விளக்கம்(.கா.எ)

அலகு : 2. குறிப்பு எழுதுதல்

- பெயர், முகவரி, பாடப்பிரிவு , கல்லூரியின் முகவரி
- தமிழ் மாதங்கள்(12), வாரநாட்கள்(7),
  எண்கள் (ஒன்று முதல் பத்து வரை), வடிவங்கள், வண்ணங்கள்
- ஊர்வன, பறப்பன, விலங்குகள், மனிதர்களின் உறவுப்பெயர்கள்
- இந்திய மாநிலங்கள், நதிகள், தேசத் தலைவர்கள் பற்றிய குறிப்புகள்

வினாத்தாள் அமைப்பு முறை - மொத்த மதிப்பெண்கள்50 -			
பகுதி –அ	சரியான விடையைத் தேர்வு செய்தல்	10x2=20	அனைத்து அலகுகளில் இருந்தும் வினாக்கள் அமைதல் வேண்டும்
பகுதி –ஆ	அரைப்பக்க அளவில் விடையளிக்க	5x15=3	
பகுதிஇ-	இரண்டு பக்க அளவில் விடையளிக்க	1x1=515	

17UFC3FB	பகுதி –2சிறப்புத் தமிழ் : தாள் :1 (Advanced Tamil)	SEMESTER- III

Total Credits: 2

Hours Per Week: 2

இளங்கலை 2017 – 2018 ஆம் கல்வியாண்டு முதல் சேர்வோர்க்குரியது

(10 மற்றும் 12 – ஆம் வகுப்புகளில் தமிழ் மொழிப்பாடம் பயின்றவர்களுக்கு உரியது)

(பருவத் தேர்வு உண்டு)

அலகு – 1: மரபுக் கவிதைகள்

  அ)பாரதியார் கவிதைகள்

- தமிழ்நாடு
- மனதில் உறுதி வேண்டும்
- வருகின்ற பாரதம் (8-5.எண்.பா)

  ஆ)பாரதிதாசன் கவிதைகள்(

- இன்பத்தமிழ்
- நீங்களே சொல்லுங்கள்
- உலக ஒற்றுமை
- வாளினை எடடா!
-

அலகு : 2 –புதுக்கவிதைகள்

- கம்பன் கவியரங்கக் கவிதை மேத்தா.மு -
- தமிழாகாசியானந்தன் - !நீ பேசுவது தமிழா !
- நட்புக் காலம் 10)கவிதைகள் அறிவுமதி கவிதைகள்
-

அலகு – 3 : இலக்கணம்

- வல்லினம் மிகும் மற்றும் மிகா இடங்கள்

- ர, ற, - ல, ழ, எ - ந, ண, ன வேறுபாடு அறிதல் -

-

அலகு – 4: கடிதங்கள் எழுதுதல்

- பாராட்டுக் கடிதம்
- நன்றிக் கடிதம்
- அழைப்புக் கடிதம்

- அலுவலக விண்ணப்பங்கள்

-

அலகு – 5: பாடம் தழுவிய வரலாறு

- பாரதியாரின் இலக்கியப் பணி
- பாரதிதாசனின் இலக்கியப்பணி
- மரபுக்கவிதை, புதுக்கவிதை - விளக்கம்

-

வினாத்தாள் அமைப்பு முறை - மொத்த மதிப்பெண்கள்- 50			
பகுதி –அ	சரியான விடையைத் தேர்வு செய்தல்	10x10=1	ஒவ்வொரு அலகிலும் இரண்டு வினாக்கள்
பகுதி –ஆ	அரைப்பக்க அளவில் விடையளிக்க	5x15=3	ஒவ்வொரு அலகிலும் ஒரு வினா
பகுதி –இ	இரண்டு பக்க அளவில் விடையளிக்க	5x25=5	ஒவ்வொரு அலகிலும் ஒரு வினா
குறிப்பு பகுதி :**ஆ** மற்றும் **இ**– க்கான வினாக்கள் **இது** அல்லது **அது** என்ற அடிப்படையில் அந்தந்த அலகுகளில் அமைதல் வேண்டும்			

17UFC3FC	YOGA FOR HUMAN EXCELLENCE	SEMESTER - III

Total Credits: 2

Hours Per Week: 2

CONTENTS

UNIT – I
Yoga and Physical Health
1.1 Physical Structure-Three bodies-Five limitations
1.2 Simplified physical Exercise – Hand Exercises – Leg Exercises – Breathing Exercises – Eye Exercises –Kapalapathi
1.3 Maharasanas 1-2 Massages - puncture-Relaxation
1.4 Yogasanas – Padmasana- Vajrasanas-Chakrasanas (side) – Viruchasanas –Yoga muthra – Patchimothasanas – Ustrasanas – Vakkarasanas – Salabasanas

UNIT - II
Art of Nurturing the life force and Mind
2.1 Maintaing the youthfulness –Postponing the ageing process
2.2 Sex and Spirituality – Significancew of sexual vital fluid – Married life Chastity
2.3 Ten stages of Mind
2.4 Mental frequency – Methods for concentration

UNIT - III
Sublimation
3.1 Purpose and Philosophy of life
3.2 Introspection – Analysis of Thought
3.3 Moralization of Desires
3.4 Neutralization of Anger

UNIT IV
Human Resources Development
4.1 Eradication of worries
4.2 Benefits of Blessings
4.3 Greatness of Friendship
4.4 Individual Peace and World Peace

UNIT V
Law of Nature
5.1 Unified force – Cause and Effect system
5.2 Purity of Thought and Deed and Genetic Centre
5.3 Love and Compassion
5.4 Cultural Education – Fivefold Culture

17UFC3FD	WOMEN'S RIGHTS	SEMESTER - III

Total Credits : 2

Hours Per Week : 2

UNIT I

Laws, Legal Systems and Change Definition - Constitutional law, CEDAW and International Human Rights – Laws and Norms – Laws and Social Context – Constitutional and Legal Framework.

UNIT II

Politics of land and gender in India Introduction – Faces of Poverty – Land as Productive Resources – Locating Identities – Women's Claims to Land – Right to Property - Case Studies.

UNIT III

Women's Rights: Access to Justice Introduction – Criminal Law – Crime Against Women – Domestic Violence – Dowry Related Harassment and Dowry Deaths – Molestation – Sexual Abuse and Rape – Loopholes in Practice – Law Enforcement Agency.

UNIT IV

Women's Rights Violence Against Women – Domestic Violence - The Protection of Women from Domestic Violence Act, 2005 - The Marriage Validation Act, 1982 - The Hindu Widow Re-marriage Act, 1856 - The Dowry Prohibition Act, 1961

UNIT V

Special Women Welfare Laws Sexual Harassment at Work Places – Rape and Indecent Representation – The Indecedent Representation (Prohibition) Act, 1986 - Immoral Trafficking – The Immoral Traffic

(Prevention) Act, 1956 - Acts Enacted for Women Development and Empowerment - Role of Rape Crisis Centers.

References

1. Nitya Rao "Good Women do not Inherit Land" Social Science Press and Orient Blackswan, 2008.

2. International Solidarity Network "Knowing Our Rights" An imprint of Kali for Women ,2006.

3. P.D.Kaushik "Women Rights" Bookwell Publication ,2007.

4. Aruna Goal "Violence Protective Measures for Women Development and Empowerment" Deep and Deep Publications Pvt, 2004.

5. Monica Chawla "Gender Justice" Deep and Deep Publications Pvt Ltd, 2006.

6. Preeti Mishra "Domestic Violence Against Women" Deep and Deep Publications Pvt, 2007.

7. ClairM.Renzetti, Jeffrey L.Edleson, Raquel Kennedy Bergen, Source Book on "Violence Against Women" Sage Publications , 2001.

17UFC3FE	CONSTITUTION OF INDIA	SEMESTER - III

Total Credits: 2

Hours Per Week: 2

CONTENTS

UNIT I

Making of Constitution - Constituent Assembly- Dr. Rajendra Prasath- Dr.B.R.Ambedkar - Salient features - Fundamental Rights.

UNIT II

Union Executive - President of India - Vice-President - Prime Minister

- Cabinet - Functions

UNIT III

Union Legislature - Rajiya Sabha - Lok Sabha - Functions and Powers

UNIT IV

Union Judiciary - Supreme Court - Functions - Rule of law

UNIT V

State - Executive - Legislature – Judiciary – Role of Tamilnadu -Public Service Commission.

REFERENCE BOOKS:

1. *Agharwal.R.C,* "**National Moment and Constitutional Development**" , New Delhi, 1977.
2. *Chapra B.R,* "**Constitution of India",** New Delhi, 1970.
3. *Rao B.V*, **"Modern Indian Constitution",** Hyderabad, 1975.
4. *Nani Palkhivala*, "**Constitution of India**", New Delhi, 1970.
5. *Krishna Iyer, V.R,* "**Law and Justice**", New Delhi, 2009.
6. Reference Manual from the Govt. of Tamilnadu

17UITSS1	SELF STUDY-1 : ETHICAL HACKING	SEMESTER III

Total Credits: 1

PREAMBLE

The subject aims to develop knowledge about:
- General computer organization and architecture, Ethical Hacking methodology
- Generalized exploit techniques ,Basic network concepts

CONTENTS

UNIT I

Introduction to Ethical Hacking- Hacking History-Ethical Hacking- Threats. TCP/IP Primer- TCP- IP- UDP- Packets- 3 Way Handshake. Foot printing-Gathering Information- Whois-Tracert and TTL.

UNIT II

Scanning-Ping Sweeps- Scanning Tools- Port Scanning- Enumeration- NetBIOS- Active Directory- SNMP Enumeration- DNS Zone Transfer. Hacking Windows- Privilege Escalation- Cracking Passwords- Data Execution Prevention.

UNIT III

Hacking Unix- Quest for Root- Vulnerability Mapping- Services. Network Devices and Hardware- Mid-Term- Discovery- Fingerprinting. Hacking Code- Buffer Overflows- Input Validation- Vulnerabilities-Exploits.

UNIT IV

Web Server Hacking and Web Application Vulnerabilities- IIS Attacks- Apache Attacks- Spidering. Firewalls, Intrusion Detection Systems, and Honey pots- Firewall Types and Configurations- Intrusion Detection Systems (IDS)- Honey pot Applications

UNIT V

Social Engineering- Social Engineering- Human-Based Social Engineering- Computer-Based Social Engineering- Identity Theft. Viruses, Worms, and Trojans- Viruses-Spyware- Spam bots- Worms.

TEXT BOOK

1. *Stuart McClure, Joel Scambray, and George Kurtz*, **Hacking Exposed: Network**
2. **Security Secrets and Solutions,** First Edition Publisher: McGraw-Hill, 2008

17UITSS2	**SELF STUDY-2 : GREEN INFORMATION TECHNOLOGY**	**SEMESTER III**

Total Credits: 1

PREAMBLE

The subject aims to develop knowledge about

- To reduce the energy use, waste, and other environmental impacts of Information Technology (IT) systems

CONTENTS

UNIT- I

The Importance of Green Information Technologies -Governance and Regulatory Issues Minimizing Power Usage – Cooling.

UNIT- II

Business Process Reengineering for Sustainability - Going Paperless - Recycling.

UNIT- III

Sustainable Hardware-Technology Company Case Studies - University and Other Case Studies.

UNIT- IV

Data Center Design and Redesign – Virtualization.

UNIT- V

Managing Your Green IT Transformation - The Future: Staying Green.

TEXT BOOK

1.*Toby J. Velete, Anthony T. Velete, Robert Elsenpeter* ,**Green IT – Reduce Your Information System's Environmental Impact While Adding to the Bottom Line**, First Edition Publisher: McGraw-Hill ,2008

17UIT43A	CORE- VI: SYSTEM SOFTWARE AND OPERATING SYSTEM	SEMESTER - IV

PREAMBLE

- To instill the concepts of the functionalities of various system software

- To inculcate the common functionality of operating system

COURSE OUTCOMES

On the successful completion of course, students will be able to

CO Number	CO Statements	Knowledge Level
CO1	To learn basic concepts of system software.	K1
CO2	To identify the fundamentals of operating system	K1
CO3	Explain the concepts of Scheduling and dead lock process.	K2
CO4	Demonstrate the concepts of process synchronization and Inter process communication	K3
CO5	Explain about memory management and file system	K2

MAPPING WITH PROGRAMME OUTCOMES

POS/COS	PO1	PO2	PO3	PO4	PO5
CO1	S	M	M	M	S
CO2	S	M	M	M	S
CO3	S	M	M	M	S
CO4	S	S	S	M	S
CO5	S	M	M	M	S

(S-Strong, M-Medium, L-Low)

17UIT43A	CORE- VI: SYSTEM SOFTWARE AND OPERATING SYSTEM	SEMESTER - IV

Total Credits: 6
Hours Per Week: 6

CONTENTS

UNIT I

Assembler: Elements of assembly Language programming-A simple assembly scheme-Pass structure of assemblers-Design of Two Pass assembler. Macros and macro processor: Macro Definition and call-Micro Expansions-Nested macro calls. Compilers and Interpreters: Aspects of compilation-Memory allocation-Compilation of expressions –Compilation of control structures-Code optimization-Interpreters.

UNIT II

Evolution of OS Functions: OS Functions-Evolution of OS functions-Batch processing systems-Multiprogramming systems-Time sharing systems-Real time operating systems-OS structure. Processes: Process definition – Process Control- Interacting Processes-Implementation of Interacting Processes-Threads.

UNIT III

Scheduling: Scheduling policies-Job scheduling-Process Scheduling -Process management in Unix-Scheduling in multiprocessor OS. Deadlocks: Definition-Resource status modeling-Handling deadlocks-Deadlock detection and resolution-deadlock Avoidance-Mixed approach to deadlock handling.

UNIT IV

Process Synchronization: Implementing control synchronization-Critical sections-Classical process synchronization problems-Evolution of Language features for process synchronization-Semaphores-Critical regions-Conditional critical regions-Monitors. Inter-process Communication: Inter-process messages-Implementation issues-Mailboxes.

UNIT V

Memory Management: Memory allocation preliminaries-Contiguous memory allocation-Non contiguous memory allocation-Virtual memory using paging-Virtual memory using segmentation. File Systems: Directory Structures-File production-

Allocation of Disk space-Implementing file access-File sharing-File system reliability-Unix File System.

TEXT BOOK

1. *D M Dhamdhere*, **Systems Programming and Operating Systems**, Tata McGraw-Hill Publishing, 2nd Revised Edition,2011.

REFERENCE BOOKS

1. Leland L. Beck, **System Software-An Introduction To Systems Programming**, Pearson Education Publishers, Third Edition. 2003.
2. *H.M. Deitel*. **Operating Systems**, Pearson Education Publication, Third Edition. 2003.
3. *Achyut S. Godbole.* **Operating Systems**, Tata McGraw Hill Publications, 2002.

17UIT43B	CORE -VII: RELATIONAL DATABASE MANAGEMENT SYSTEM	SEMESTER - IV

PREAMBLE

Aim to build the concepts regarding:

- To have knowledge about database and manipulation of database.

- To understand the database management system.

- To learn techniques and concepts of the database language (SQL).

COURSE OUTCOMES

On the successful completion of course, students will be able to

CO Number	CO Statements	Knowledge Level
CO1	Understand the concepts and terms of the database systems.	K1
CO2	Basics and facts of Oracle9i.	K2
CO3	Acquire knowledge of PL/SQL.	K3
CO4	Develop and organize simple database	K3
CO5	Demonstrate database manipulation using SQL	K2

MAPPING WITH PROGRAMME OUTCOMES

POS/COS	PO1	PO2	PO3	PO4	PO5
CO1	S	S	S	M	M
CO2	S	M	S	S	S
CO3	S	S	L	S	S
CO4	S	S	S	M	S
CO5	S	M	S	S	L

(S-Strong, M-Medium, L-Low)

17UIT43B	CORE -VII: RELATIONAL DATABASE MANAGEMENT SYSTEM	SEMESTER - IV

Total Credits:6
Hours Per Week: 6

CONTENTS

UNIT-I

Database Concepts: A Relational approach: Database – Relationships – DBMS – Relational Data Model – Integrity Rules – Theoretical Relational Languages. Database Design: Data Modeling and Normalization: Data Modeling – Dependency – Database Design – Normal forms – Dependency Diagrams – De -normalization – Another Example of Normalization.

UNIT-II

Oracle9i: Oracle9i an introduction – SQL.Oracle Tables: DDL: Naming Rules and conventions – Data Types – Constraints – Creating Oracle Table – Displaying Table Information – Altering an Existing Table – Dropping, Renaming, Truncating Table – Table Types – Spooling – Error codes.

UNIT-III

Data Management and Retrieval: DML – adding a new Row/Record – Customized Prompts – Updating and Deleting an Existing Rows/Records – retrieving Data from Table – Arithmetic Operations – restricting Data with WHERE clause – Sorting – Revisiting Substitution Variables – DEFINE command – CASE structure. Functions and Grouping: Built-in functions –Grouping Data. Multiple Tables: Joins and Set operations: Join – Set operations.

UNIT-IV

PL/SQL: History – Fundamentals – Block Structure – Comments – Data Types – Other Data Types – Declaration – Assignment operation – Bind variables – Substitution Variables – Printing – Arithmetic Operators. Control Structures and Embedded SQL: Control Structures – Nested Blocks – SQL in PL/SQL – Data Manipulation – Transaction Control statements. PL/SQL Cursors and Exceptions: Cursors – Implicit & Explicit Cursors and Attributes –   Cursor FOR loops – SELECT…FOR UPDATE – WHERE CURRENT OF clause – Exceptions – Types of Exceptions.

UNIT-V

PL/SQL Composite Data Types: Records – Tables – arrays. Named Blocks: Procedures – Functions – Packages –Triggers.

TEXT BOOK

1.Nilesh Shah, **Database Systems Using ORACLE**, 2nd edition, PHI, 2011.

REFERENCE BOOKS

1. Arun Majumdar & Pritimoy Bhattacharya, **Database Management Systems**, TMH, 2007.

2. Kevin Loney, George Koch, and the Experts at TUSC, **Oracle 9i: The Complete Reference**, TMH, (2002 Copy Right).

17UIT4AA	ALLIED - IV: SOFTWARE ENGINEERING AND TESTING	SEMESTER - IV

PREAMBLE

- To know the characteristics of software, software evolution and software models.
- To concentrate on software engineering concepts along with some of the methodologies of testing.
- To learn the various phases in software design and the different types of software testing techniques.

COURSE OUTCOMES

On the successful completion of course, students will be able to

CO Number	CO Statements	Knowledge Level
CO1	Recall the software engineering process models	K1
CO2	Outline the software requirements engineering and design engineering	K2
CO3	Make use of the fundamental principles of software testing	K3
CO4	Experiment with different methodologies of testing	K3
CO5	Organize and plan the test management process	K3

MAPPING WITH PROGRAMME OUTCOMES

POS/COS	PO1	PO2	PO3	PO4	PO5
CO1	M	S	M	S	S
CO2	S	S	S	M	S
CO3	M	M	M	L	M
CO4	M	M	M	M	S
CO5	S	S	S	S	M

(S-Strong, M-Medium, L-Low)

17UIT4AA	ALLIED -IV: SOFTWARE ENGINEERING AND TESTING	SEMESTER - IV

Total Credits: 4
Hours Per Week: 6

CONTENTS

UNIT - I

The evolving role of software – Software characteristics – Software Engineering: A layered technology. Process Models: The Waterfall model, Incremental process model, Evolutionary process models, specialized process models.

UNIT - II

Requirements Engineering: Tasks, initiating - Analysis Model: Requirement analysis, Scenario based modeling, Flow oriented modeling, and Class based modeling. Design Engineering: Design within the context of software, Design process and design quality, Design concepts, Design model. Architectural Design: Software architecture, Mapping data flow into software architecture.

UNIT - III

Software Testing Fundamentals: Introduction-Software Testing Perspective Effective Software Testing -Types of Testing - Principles of Software Testing - Testing and Debugging. Static Testing: Introduction - Principles of Static Testing - Static Testing Perspective - Manual Techniques - Static Vs Dynamic Testing. White Box Testing: What is White Box Testing- Static Testing- Structural Testing- Challenges in White Box Testing.

Unit – IV

Black Box Testing: What is Black Box Testing – Why Black Box Testing - When and How to do Black Box Testing - Integration Testing: What is Integration Testing - Integration Testing as a Type of Testing - Integration Testing as a Phase of Testing - Defect Bash. System and Acceptance Testing: System Testing Overview - Why is System Testing done - Functional Vs Non Functional Testing - Functional System Testing - Non Functional Testing - Acceptance Testing - Summary of Testing Phases.

Unit – V

Performance Testing: Introduction- Factors Governing Performance Testing - Methodology for Performance Testing - Tools for Performance Testing - Process for Performance Testing. Regression Testing: What is Regression Testing - Types of

Regression Testing - When and How to do Regression Testing - Testing Management - Introduction – Test Planning -Test Management-Test Process - Test Reporting- Case Studies

TEXT BOOKS

1. *Roger S Pressman*, **Software Engineering – A Practitioner's Approach**, [Sixth Edition, Fifth Reprint], McGraw Hill, [Unit I & II], 2012.

2. *Srinivasan Desikan and Gopalaswamy Ramesh*, **Software Testing: Principles and Practices** *Pearson* Publications, Fifteenth Edition. [Unit III & IV, V], 2012.

REFERENCE BOOKS

1. *Richard Fairley*, **Software Engineering Concepts**, [Twenty Third Reprint], Tata McGraw Hill, 2011.

2. *William.E.Perry*, **Effective Methods for Software Testing**, [Third Edition], Willey India, 2008.

3. *K. Mustafa, R.A. Khan*, **Software Testing Concepts and Practices**, Narosa Publishing House Pvt. Ltd. Edition Reprint 2009.

17UIT43P	**CORE PRACTICAL- V: RELATIONAL DATABASE MANAGEMENT SYSTEM**	**SEMESTER - IV**

Total Credits: 2
Hours Per Week: 4

PREAMBLE

The subject aims to build the concepts regarding

- To gain knowledge on ORACLE Database.

LIST OF PRACTICALS:

1. Creating a table and perform various queries using any one Comparison, Logical, Set, Sorting and Grouping operators.
2. Creating a table which demonstrate the use of primary key and foreign key and Generate Reports
3. Create the following table *(PK - Primary Key, FK – Foreign Key)* cat_head, route_head, place_head, route_detail, ticket_detail, ticket_head with the mapping given below: cat_head route_head *(cat_code PK) (cat_code FK)* route_head route_detail *(route_id PK) (route_id FK)* ticket_head ticket_detail *(tick_no PK) (tick_no FK)* place_head route_detail *(place_id PK) (place_id FK)* (i) Alter the table ticket_header to add a check constraint on ticket_no to accept values between 1 and 500 (ii) Alter table route_header to add a column with data type as long.
4. (a) Insert values to above tables (b) Display only those routes that originate in madras and terminate at cochin (c) Display only distinct category code from the table route_header in descending manner. (d) Update the table route_header to set the distance between madras and coimbatore as 500
5. a. Select rows from ticket_details such that ticket number greater than any ticket_number in Ticket_header. B. Select rows from route_header such that the route_id are greater than all route_id in route_detail Where place id is ─100‖ . c. Create view tick from ticket_header with Ticket_no, Origin, Destination, route_id
6. Generate a report from the table ticket_detail for the particular ticket_no
7. a. Write a PL/SQL block to update the bus_station to be ─ERODE‖ where place_id is '01' or ‗05' [place_header] b. Write a PL/SQL block to satisfy the following condition by accepting the route_id as user input. If the distance is less than 500 than update the fare to be 200 .

8. a. Write a Database trigter before insert for each row on the table route_detail not allowing transaction on Saturday / Sunday b. Write a Database trigger before delete for each row not allowing deletion and give the appropriate message on the table route_details

9. Creating PL/SQL Block to update the rate field by 20% more than the current rate in inventory table which has the following fields: Prono, ProName and Rate. After updating the table a new field (Alter) called for Number of item and place for values for the new field without using PL/SQL block.

10. Creating PL/SQL Block using cursor handling methods.

11. Creating a database trigger to implement on master and transaction tables.

12. Creating PL/SQL to use Exception Handling.

17UIT43Q	CORE PRACTICAL- VI: MULTIMEDIA LAB	SEMESTER - IV

Total Credits: 2
Hours Per Week: 4

PREAMBLE

- To promote design and animation skills in Photoshop.

LIST OF PRACTICALS:

1. Image extraction and Merging of images.

2. Create a bouquet using Photoshop.

3. Animate Plane Flying in the Clouds using Photoshop.

4. Bouncing a ball using Photoshop.

5. Create Plastic Surgery for the eyes, nose and mouth using Photoshop.

6. Create See-through text and water reflection images using Photoshop.

7. Create a Web Page using Photoshop.

8. Convert Black and White Photo to Color Photo and remove red eyes using Photoshop.

9. Create a banner for the department.

10. Create a poster for an inter department competitions

17UNM44J	PART – IV : NMEC -II: PHOTOSHOP AND FLASH	SEMESTER - IV

Total Credits: 2
Hours Per Week: 2

PREAMBLE

The subject aims to know the tools regarding

- Fundamentals of Adobe Photoshop and Flash

CONTENTS

UNIT-I

Introduction to Photoshop - Selection Tools - Color Theory - Foreground and Background Colors - Creating Shapes.

UNIT-II

Introduction to Web Design - Creating the Single Page - Layer Comps - Slicing - Exporting the Web Page.

UNIT-III

Introduction to Typography - Type Tool - Making Poster - Gradient - Custom Shaped and Selection.

UNIT-IV

Introduction to Adobe Flash - Interface Overview - Key Frames - Web Banners - Creating Button - Tools - Actions

UNIT-V

Motion Tween - Shape Tween - Classic Tween - Sound Effects - Character Animation - Clickable Actions - Exporting to Different Formats.

TEXT BOOKS

1. *Andrew Faulkner, Conrad Chavez,* **Adobe Photoshop CC Classroom in a Book,** 2015
2. *Russell Chun,* **Adobe Flash Professional CC Classroom in a Book**, 2014

17UIT53A	CORE -VIII: DATA COMMUNICATION AND NETWORKS	SEMESTER - V

PREAMBLE

The subject aims to build the concepts regarding:

- To instill the knowledge on network communication.

- To inculcate the knowledge on internet working concepts.

COURSEOUTCOMES

On the successful completion of course, students will be able to

CO Number	CO Statements	Knowledge Level
CO1	Define and analyze the communication and networking concepts.	K1
CO2	Explain the principles of transmission media	K2
CO3	Apply the knowledge of Routing Algorithms	K3
CO4	Build the concept of Internetworking	K3
CO5	Demonstrate the applications of Protocols	K2

MAPPING WITH PROGRAMME OUTCOMES

POS/COS	PO1	PO2	PO3	PO4	PO5	PO6
CO1	S	M	M	S	M	S
CO2	S	M	S	S	S	M
CO3	S	S	S	S	S	S
CO4	S	L	S	M	S	S
CO5	S	M	M	S	S	S

(S-Strong, M-Medium, L-Low)

17UIT53A	CORE -VIII: DATA COMMUNICATION AND NETWORKS	SEMESTER - V

Total Credits: 6
Hours Per Week: 6

CONTENTS

UNIT- I

Introduction to Data Communications and Networking – Information Encoding – Analog and Digital Transmission Methods.

UNIT-II

Modes of Data Transmission and Multiplexing -**Transmission Errors**: Introduction – Error Classification -Types of error- Error Detection and Correction

Transmission Media: Guided Media, Unguided Media – **Network Topologies:** Mesh, Star, Tree, Ring, Bus – Switching: Circuit switching, Message switching, Packet switching.

UNIT- III

Routing Algorithms: Routers and Routing – Factors affecting Routing Algorithms – Routing Algorithms-Network Protocols and OSI Model- Integrated Services Digital Network (ISDN).

UNIT- IV

Internetworking Concepts: Introduction – The Problems in Internetworking - Internetworking Devices- Introduction to TCP / IP, IP, ARP, RARP, ICMP

UNIT- V

TCP: Features of TCP, Relationship between TCP and IP, Ports and Sockets, TCP connections, What makes TCP Reliable, TCP Packet Format – **User Datagram Protocol (UDP):** UDP Packet, Difference between UDP and TCP – Domain Name System (DNS) – Electronic Mail (Email) – File Transfer Protocol (FTP) .

TEXT BOOK

1. *Achyut S.Godbole*, **Data Communications and Networks**, Tata McGraw Hill Publications, 2007.

REFERENCE BOOKS

1. *Behrouz A. Forouzan*, **Data Communications and Networking,** second edition update, Tata McGraw-Hill Publication, 19th reprint, 2007.

2. Andrew S. Tanenbaum, **Computer Networks**, Prentice Hall of India, 3rd Edition, 2000.

17UIT53B	CORE- IX: DOT NET ROGRAMMING	SEMESTER - V

PREAMBLE

- Understand to design to guide the development of Net Architecture.
- It enables an unprecedented level of software Integration.
- To provide a consistent object- oriented Programming Environment.

COURSE OUTCOMES

On the successful completion of the course, student will be able to

CO Number	CO Statement	Knowledge Level
CO 1	Understanding the building standalone Applications.	K1
CO 2	Apply the design principles in distributed data-driven Applications	K2
CO 3	Able to create design in web-based distributed applications using C#, ASP.NET	K3
CO 4	Understand XML parser in .NET and create web Service-based components.	K3
CO 5	Solve the problems in real time using C# Applications	K4

Mapping with Programme Outcomes

COS/POS	PO 1	PO 2	PO 3	PO 4	PO 5	PO6
CO 1	S	S	S	M	L	M
CO 2	M	M	S	L	L	M
CO 3	M	M	S	S	S	M
CO 4	S	M	S	M	S	L
CO 5	M	M	S	S	S	M

(S-Strong, M-Medium, L-Low)

17UIT53B	CORE- IX: DOT NET PROGRAMMING	SEMESTER - V

Total Credits: 6

Hours Per Week: 6

CONTENTS

UNIT I

Getting set up: ASP.NET, Session up, environment, and overview. Programming basics: basics, program flow, coding techniques, designing applications, ASP.NET configuration, scope, Introduction about Application and Session object.

UNIT II

Validation controls – Data list web server controls – Programming Asp.NET with VB.NET – Web forms and ASP.NET.

UNIT III

ASP.NET objects and components: scripting object model, components and controls, project example, more active components. Web services and ASP.NET: web service development, WSDL and SOAP, web services background. ASP.NET and SQL server: using SQL server, using databases in ASP.NET.

UNIT IV

C# Framework – overview of c#: simple program, namespaces, main returning value, passing string objects, command line arguments, mathematical functions, compile time errors, structure. Literals, Variables and data types. Operators and Expressions.

UNIT V

Decision Making and branching, Decision Making and looping, handling arrays. Button control, textbox, combo box, Tree view control, Menu editor ,Constructors and Member functions, Exception handling.

TEXT BOOKS

1. *Dave Mercer*, **ASP.NET – A Beginner's Guide**, Third Edition, TATA McGraw Hill Education India Private Limited, 2002
2. *Greg Buczek*, **ASP.NET Developer's Guide**, Tata McGraw Hill Edition, 2001
3. *E. Balagurusamy*, **Programming in C# - A Primer**, Third Edition, TATA McGraw Hill Education India Private Limited, 2010

REFERENCE BOOK

1. *Andrew Stellaman & Jennifer Greene*, **A Brain – Friendly Guide Head First C#**, O'REILLY, 2008

17UIT5EA	ELECTIVE I: CLOUD COMPUTING	SEMESTER - V

PREAMBLE

The subject aims to build the concepts regarding:

- To learn the different types of cloud computing services.
- To make a cloud computing application unique, managing and working with cloud security.

COURSEOUTCOMES

On the successful completion of course, students will be able to

CO Number	CO Statements	Knowledge Level
CO1	Define the basics of Cloud Computing	K1
CO2	Explain the concepts of Cloud Services	K2
CO3	Understand the Concept of Cloud Security	K2
CO4	Distinguish the concept of Cloud Storage	K3
CO5	Apply the knowledge of Cloud Computing	K3

MAPPING WITH PROGRAMME OUTCOMES

POS/COS	PO1	PO2	PO3	PO4	PO5	PO6
CO1	S	M	L	M	L	M
CO2	S	S	S	M	L	L
CO3	S	L	L	L	M	L
CO4	S	L	M	L	M	L
CO5	M	M	S	M	M	L

(S-Strong, M-Medium, L-Low)

17UIT5EA	ELECTIVE I: CLOUD COMPUTING	SEMESTER - V

Total Credits: 4
Hours Per Week: 6

CONTENTS

UNIT - I

Defining Cloud Computing: Definition - Cloud Types - Characteristics of Cloud Computing - Role of Open standards - Cloud Architecture: Cloud Computing Stack: Composiblity.

UNIT - II

Infrastructure - Platforms - Virtual Appliances - Communication protocols - Applications – Connecting to the cloud - Cloud Services: Infrastructure as a Service - Platform as a Service - Software as a Service

UNIT - III

Identity as a Service - Compliance as a Service - Platforms: Load balancing and visualization–Understanding Hypervisors - Cloud Security: Securing the Cloud.

UNIT - IV

Securing the data - Moving applications to the cloud - Cloud Storage: Definition – Provisioning –Cloud storage - Cloud Backup solutions - Cloud storage Interoperability

UNIT - V

Moving applications to the Cloud - Case Study: Google Web Services, Amazon Web Services - Microsoft Cloud Services.

TEXT BOOK:

1. *Barrie Sosinsky*, **Cloud Computing Bible**, Wiley India Pvt. Ltd, 2011.

REFERENCE BOOKS:

1. *Roger Jennings,***Cloud Computing with Windows Azure Platform**, Wiley India Pvt. Ltd, 2009.

2. *Miller Michael*, **Cloud Computing: Web-Based Applications That Change the Way You Work and Collaborate Online**, Que Publishing, 2008.

17UIT5EB	ELECTIVE I: AI AND ROBOTICS	SEMESTER - V

PREAMBLE

The subject aims to build the concepts regarding:

- Heuristic, Hill Climbing, Planning, etc.

- Introduction to robotics and their applications.

COURSEOUTCOMES

On the successful completion of course, students will be able to

CO Number	CO Statements	Knowledge Level
CO1	To know the basic & foundations of AI	K1
CO2	Explain different search techniques	K2
CO3	Understand the knowledge representation issues in AI	K2
CO4	Acquire knowledge on Robotic system	K1
CO5	Gain knowledge on the architecture & application of Robotic system	K2

MAPPING WITH PROGRAMME OUTCOMES

POS/COS	PO1	PO2	PO3	PO4	PO5	PO6
CO1	S	M	L	L	M	L
CO2	S	M	M	L	M	L
CO3	S	L	L	L	M	L
CO4	S	L	M	L	M	L
CO5	M	M	S	M	M	L

(S-Strong, M-Medium, L-Low)

17UIT5EB	ELECTIVE I: AI AND ROBOTICS	SEMESTER - V

Total Credits: 4
Hours Per Week: 6

CONTENTS

UNIT - I

The AI Problems – AI technique – Criteria for success – Define the Problem as a state space search – Production System – Characteristics – Problem Characteristics.

UNIT - II

Heuristic Search Techniques: Generate and Test – Hill climbing –Best First Search – Problem Reduction – Constraints Satisfactions – Means End Analysis.

UNIT - III

Knowledge Representation Issues: Approaches to knowledge Representation – The Frame Problem – Computable Functions & Predicates – Resolution – Procedural versus Declarative Knowledge.

UNIT - IV

Fundamentals of Robotics: Introduction, classification of Robots, History of Robots, Advantages and Disadvantages of Robot, Robot components, Robot degree of freedom, Robot joints and coordinates, Robot workspace, Robot reach, Robot languages.

UNIT - V

Sensors: Introduction to internal and external sensors of the robot, Position sensors, Velocity sensors, Acceleration sensors, SONAR and IR sensors, Touch and tactile sensors. **Applications of Robots:** Applications of robots, selection of robots, economic factors and justification for robotic application; safety requirements.

TEXT BOOKS

1. *Elaine Rich and Kevin Knight*, **Artificial Intelligence**, [Second Edition], Tata McGraw Hill, 1991. [Unit I, II, III].

2. *Craig J J,***Introduction to Robotics**, **Mechanics and Control**, Pearson Education, New Delhi,2004.

3. *Saeed B Niku*, **Introduction to robotics,** Pearson Education, New Delhi, 2003.

17UIT5EC	ELECTIVE I: MULTIMEDIA	SEMESTER - V

PREAMBLE

The subject aims to build the concepts regarding:

- Introduction of Multimedia Content, Multimedia Literature.

- Concepts of Sound, Images and Graphics.

- Data Compression, Networking Systems and Multimedia Applications.

CO Number	CO Statements	Knowledge Level
CO1	Define and analyze the branch overlapping and structure	K1
CO2	Explain the concepts of Computer Image Processing	K2
CO3	Apply the knowledge of compression techniques.	K3
CO4	Build the network architectures.	K3
CO5	Demonstrate the applications of multimedia	K2

MAPPING WITH PROGRAMME OUTCOMES

POS/COS	PO1	PO2	PO3	PO4	PO5	PO6
CO1	M	S	S	S	M	L
CO2	S	S	S	S	S	M
CO3	M	S	S	S	M	M
CO4	S	S	S	S	S	L
CO5	S	S	S	S	S	M

(S-Strong, M-Medium, L-Low)

17UIT5EC	ELECTIVE I: MULTIMEDIA	SEMESTER - V

Total Credits: 4
Hours Per Week: 6

CONTENTS

UNIT - I

Introduction – Branch Overlapping Aspects of Multimedia Content – Global Structure – Multimedia Literature. Multimedia – Media and Data Streams – Medium.

UNIT - II

Sound/Audio: Basic Sound Concepts – Music –Speech, Images and Graphics: Basic Concepts – Computer Image Processing – Video and Animation: Basic Concepts – Television – Computer Based Animation.

UNIT - III

Data Compression : Storage Space – Coding Requirements – JPEG – MPEG – DVI, Optical Storage Media , Computer Technology – Multimedia Operating System.

UNIT - IV

Networking System: Layers, Protocols and Services, Networks, Metropolitan Area Networks, WAN, Multimedia Communication System.

UNIT - V

User Interfaces, Synchronization, and Abstraction for Programming: Abstraction Levels – Libraries – System Software – Toolkit – Higher Programming Languages Multimedia Application: Introduction – Media Population – Media Compos ion – Media Communication – Trends.

TEXT BOOK:

1. *Ralf Steinmetz & Klara Nahrstedt*, **Multimedia Computing, Communication & Applications**, Pearson Education, *2002.*

REFERENCE BOOK:

1. *Tay Vaughan*, **MULTIMEDIA: Making it Work**, Seventh Edition*, TMH*, *2011*

17UIT53P	CORE PRACTICAL- VII:PROGRAMMING IN DOT NET	SEMESTER - V

Total Credits: 2
Hours Per Week: 4

PREAMBLE

- To enable the students to acquire basic knowledge in Dot net Programming.

- The .net framework is one of the tools provided by the .net platform.

- It provides an Environment for building, deploying and running web services and other applications like Console applications; Windows based applications, Web sites.

LIST OF PRACTICALS

1. Write a simple program to display current date and time using delegates and events.
2. Implement a program using Auto post back property.
3. Design a calendar
4. Demonstrate a program using SQL connectivity.
5. Create a C#. Net program to add a string to combo box with value of textbox when user clicks the control.
6. Implement a program using tree view control.
7. Demonstrate a program using constructors and Member functions.
8. Create an application in C# .Net to demonstrate any 4 events.
9. Create an application in C# .Net for File menu and Edit menu.
10. Design a simple calculator.
11. Validate sample information using validation controls.
12. Design a notepad application using menu editor.

17UIT5SA	SKILL BASED COURSE-II : OPEN SOURCE TOOLS	SEMESTER - V

PREAMBLE

The subject aims to build the concepts regarding:

- Basics of the Linux Operating System

- Knowledge on Unix networking programming

- Concepts of Perl programming and databases

COURSEOUTCOMES

On the successful completion of course, students will be able to

CO Number	CO Statements	Knowledge Level
CO1	To outline the basic concepts of the Linux Operating System	K1
CO2	To classify the different editors and recognize security in Linux	K2
CO3	To interpret network programming concepts	K3
CO4	To point out the importance of Perl Programming	K3
CO5	To set up file management and working with MYSQL	K2

MAPPING WITH PROGRAMME OUTCOMES

POS/COS	PO1	PO2	PO3	PO4	PO5	PO6
CO1	M	S	S	S	M	L
CO2	S	S	S	S	S	L
CO3	M	S	S	S	M	M
CO4	S	S	S	M	S	L
CO5	S	S	S	S	S	S

(S-Strong, M-Medium, L-Low)

17UIT5SA	**SKILL BASED COURSE-II :** **OPEN SOURCE TOOLS**	**SEMESTER - V**

Total Credits: 4
Hours Per Week: 5

CONTENTS

UNIT - I

Introduction to Linux Operating System: Introduction-The Linux Operating System: The History of Linux - Linux Architecture - Linux compared to Unix - Features and utilities in Linux - Shells available in Linux - Beginning a Linux Session - Ending a Linux Session. Managing Files and Directories: Introduction - Directory commands in Linux - File Commands in Linux.

UNIT - II

Editors: Creating Files using the Vi editor: Text editors - The Vi editor – The emacs editor – The Joe Editor. Managing Documents: Locating Files in Linux – Standard Files – Redirection – Filters - Pipes. Securing Files in Linux: File Access Permissions - Viewing File Access Permissions - Changing File Access Permissions - Some basic Unix commands.

UNIT - III

UNIX Network Programming-Introduction to TCP/IP: Introduction –The Transport Layer TCP and UDP. **Elementary sockets**: Sockets Introduction, Elementary TCP sockets – I/O multiplexing – Socket options.

UNIT - IV

Perl Programming: Perl - Introduction, Perl Basics: - Syntax, Variables, Strings, Numbers, Operators, and Arrays: - Using Arrays, Manipulating Arrays, Associative Arrays, and Chop, Length, and Sub string. Hashes, Arguments, Logic, Looping, Files, Pattern Matching, Environment Variables, Using cgi-lib for Forms.

UNIT - V

File Management PERL: - File Handling, Reading from Files, Appending Files, Writing to Files, File Checking, Reading Directories. **Databases PERL:** - DBI Module, DBI Connect, DBI Query, MySQL Module, MySQL Connect, MySQL SelectDB, MySQL Query.

TEXT BOOKS

1. *NIIT* , Operating System Linux, Prentice Hall Publications, 2003

2. *Michael Stutz,***Linux CookBook,** [Second Edition], SPD Pvt.ltd.,2004

3. *Tom Christinasen & Nathan Torkington, O'Relliy,***Perl CookBook**, SPD Pvt.ltd.,2006

REFERENCE BOOKS

1. *Ellen sivever, Aarom weber, Stephen Figgins, Robers Love and Arnold RobbinsO'Reilly,* **Linux In a Nutshell – A desktop Quick Reference**, [Fifth Edition],*2005.*

2. *Martin C. Brown,* ***Perl: The Complete Reference*** *Second Edition, Tata McGraw-Hill Publications,2008.*

17UIT5SP	SKILL BASED PRACTICAL-II: PROGRAMMING IN OPEN SOURCE TOOLS	SEMESTER - V

Total Credits: 2
Hours Per Week:3

PREAMBLE

The subject aims to build the concepts regarding:

- To gain knowledge in Linux and Unix environment.
- To gain knowledge in working with Perl.

LIST OF PRACTICALS

1. Perform directory related commands in linux.
2. Perform basic file handling commands in linux.
3. Program to work with vi editor.
4. Write a socket program to connect client with server in unix environment.
5. Program to use string manipulation in perl.
6. Write a perl program to add and remove the elements in an array.
7. Program to use environment variables in perl.
8. Write a perl program to perform pattern matching.
9. Program to read and write a data from the file and to the file using perl.
10. Program to display all the files in a particular directory.

17UIT63A	CORE- X: PHP AND MYSQL	SEMESTER - VI

PREAMBLE

The subject aims to build the concepts regarding:

- To implement the concepts of web applications using PHP

- To know about PHP in a detailed manner

- To know the basics of the database MYSQL

COURSEOUTCOMES

On the successful completion of course, students will be able to

CO Number	CO Statements	Knowledge Level
CO1	To state the basic concepts of PHP programming.	K1
CO2	To infer and build knowledge about the string, array and functions	K2
CO3	To apply the web programming knowledge	K3
CO4	To examine the application related to browser Accessing and File Handling.	K3
CO5	To synthesize how to work with MYSQL	K2

MAPPING WITH PROGRAMME OUTCOMES

POS/COS	PO1	PO2	PO3	PO4	PO5	PO6
CO1	M	S	S	S	M	L
CO2	S	S	S	S	S	M
CO3	M	S	S	S	M	M
CO4	S	S	S	S	S	L
CO5	S	S	S	S	S	M

(S-Strong, M-Medium, L-Low)

17UIT63A	CORE- X: PHP AND MYSQL	SEMESTER - VI

Total Credits: 6
Hours Per Week: 6

CONTENTS

UNIT- I

Essential PHP: Enter PHP - Creating your development environment- creating and running first PHP-mixing HTML and PHP - printing some text - adding comments to PHP code - working with variables - creating variable variables - creating constants - internal data types – Operators - Control Structure Statements- Branching and Looping.

UNIT- II

Strings and Array: The string functions, converting to and from strings - formatting text strings - building yourself some arrays - modifying the data in arrays - deleting array elements Creating Functions - Creating function in PHP, Passing functions some data - introducing variable scope in PHP - Accessing global data, working with static variables - PHP conditional functions - PHP variable functions - nesting functions - creating include files - returning errors from functions.

UNIT- III

Reading Data in Web Pages - Setting up web pages to communicate with PHP- handling text fields- handling text areas - handling check boxes - handling radio buttons - handling list boxes -handling password controls - handling hidden controls - handling image maps - handling file uploads - handling buttons.

UNIT – IV

PHP Browser : Handling Power – using PHP server variable, using HTTP Headers- getting browser type, redirecting browsers with HTTP headers- Dumpling a form's data all once- Handling form data with custom array- performing data validation- checking the user entered data, requiring numbers- requiring text- persisting user data.

File handling :fopen, feof, fgetc, file_get_contents, reading a file into an array with file, file_exists, filesize, fread, fscanf,, parse_ini_file, getting file info with stat, fseek, copy, unlink, fwrite, reading and writing binary files, fwrite, file_put_contents, locking files.

UNIT – V

Working with databases: What is database, creating a MySql database- creating a new table- putting data into the new database - accessing the database in PHP- updating databases- inserting into database- deleting records- creating new table- creating new database- sorting your data.

TEXT BOOK

1. *Steven Holzner*, **Complete Reference PHP**, Tata Mc Graw Hill, 2008.

REFERENCE BOOKS

1. *Steve Suehring, Tim Converse, Joyce Park*. **PHP6 MySQL (Bible**), 2009.
2. *Vikram Vaswani*. **The Complete Reference of MySql**, Tata McGraw Hill Publications, 2004.

17UIT6EA	ELECTIVE- II: CRYPTOGRAPHY AND NETWORK SECURITY	SEMESTER - VI

PREAMBLE

The subject aims to build the concepts regarding:

- Computer Security Concepts, Architecture and its Mechanisms.
- Role of an Operating System and basic terminologies of networks.
- IP Security and Firewalls.

COURSEOUTCOMES

On the successful completion of course, students will be able to

CO Number	CO Statements	Knowledge Level
CO1	Define and analyze the security concepts in networks	K1
CO2	Explain the principles and types of cryptography	K2
CO3	Apply the knowledge of functions and algorithms in cryptography.	K3
CO4	Demonstrate the concept of layer level security	K2
CO5	Build the applications of cryptography	K3

MAPPING WITH PROGRAMME OUTCOMES

POS/COS	PO1	PO2	PO3	PO4	PO5	PO6
CO1	S	M	M	S	M	S
CO2	S	M	S	S	S	M
CO3	S	S	S	S	S	S
CO4	S	L	S	M	S	S
CO5	S	M	M	S	S	S

(S-Strong, M-Medium, L-Low)

17UIT6EA	ELECTIVE- II: CRYPTOGRAPHY AND NETWORK SECURITY	SEMESTER - VI

Total Credits:4
Hours Per Week: 6

CONTENTS

UNIT - I

Introduction: Overview-Computer security concepts- The OSI security architecture-Security Attacks- Security services - Security mechanisms. - A model for network security.

UNIT - II

Symmetric And Asymmetric Ciphers -Classical Encryption Techniques: Symmetric cipher model – transposition techniques – Rotor machines. Block ciphers and the data encryption standard:Block cipher principles – the data encryption standard (DES) – the strength of DES. Public key cryptography**:** Principles of Public key cryptosystems – the RSA algorithms.

UNIT - III

Cryptographic Data Integrity **-**Cryptographic Hash Function: Applications of Cryptographic Hash Function – Two simple hash functions – Requirements and Security. Message Authentication Codes (MACs): Message Authentication functions – Requirements for MACs – Security of MACs. Digital Signatures: Digital signatures – Digital Signatures standard

UNIT - IV

Network and Internet Security -Transport Level Security: Secure Socket Layer – HTTPS – Secure Shell (SSH).Wireless Network Security: IEEE 802.11 Wireless LAN overview-Wireless Application Protocol Overview-WAP End to End Security.

UNIT - V

IP Security and Firewalls - IP Security: IP Security Overview – IP Security Policy. Firewalls: The need for firewalls – firewall characteristics – types of firewalls.

TEXT BOOK

1. *William Stallings*,**Cryptography and Network Security**, Pearson, Fifth Edition, 2011.

REFERENCE BOOK

1. *Behrouza Forouzan*, **Data Communications and Networking**, Tata McGraw Hill, Fourth Edition, Eleventh Reprint, 2008

17UIT6EB	ELECTIVE- II: MOBILE COMPUTING	SEMESTER - VI

PREAMBLE

The subject aims to build the concepts regarding:

- To learn the basic concepts, aware of the GSM, SMS, GPRS Architecture.

- To gain the Knowledge of CDMA and 3G Technology.

CO Number	CO Statements	Knowledge Level
CO1	Describe the concepts of mobile computing	K1
CO2	Express mobile computing through telephone	K2
CO3	Illustration of Global System for mobile communications	K3
CO4	Apply the knowledge of General Packet Radio Service and WAP	K3
CO5	Demonstrate the CDMA, 3G and WLAN techniques	K3

MAPPING WITH PROGRAMME OUTCOMES

POS/COS	PO1	PO2	PO3	PO4	PO5	PO6
CO1	S	M	M	M	M	M
CO2	M	M	M	S	S	M
CO3	S	S	S	S	S	S
CO4	S	M	S	S	S	S
CO5	S	M	M	S	S	S

(S-Strong, M-Medium, L-Low)

17UIT6EB	ELECTIVE- II: MOBILE COMPUTING	SEMESTER - VI

Total Credits: 4
Hours Per Week: 6

CONTENTS

UNIT - I

Introduction: Mobility of Bits and Bytes –Wireless The Beginning – Mobile Computing – Dialogue Control – Networks – Middleware and Gateways – Application and services- Developing Mobile computer Applications – security in mobile computing – Standards Why is it necessary – Standard bodies. M**obile Computing Architecture:** History of computers and Internet – Architecture for mobile computing – Three-tier architecture – Design considerations for mobile computing – Mobile computing through Internet – Making exiting applications mobile enabled .

UNIT - II

Mobile Computing through Telephony: Evaluation of telephony – Multiple access procedures – Mobile computing through telephone – IVR Application – Voice XML – TAPI.

UNIT - III

Emerging Technologies: Blue Tooth – RFID – WiMAX – Mobile IP – IPv6 – Java Card. **GSM** : Global System for mobile communications – GSM Architecture – GSM Entities – Call routing in GSM – PLMN Interfaces – GSM Addresses and Identifiers – Network Aspects in GSM – GSM Frequency allocations – Authentications and Security. SMS

UNIT - IV

GPRS – GPRS and packet data network – GPRS network architecture –GPRS network operations – Data services in GPRS – Application for GPRS- Limitations – Billing and Charging. **WAP:** MMS – GPRS Applications

UNIT - V

CDMA and 3G: Spread spectrum technology – Is 95 – CDMA vs. GSM – Wireless Data – Third generation networks – Applications on 3G **WIRELESS LAN:** Wireless LAN advantages – IEEE 802.11 standards – Architecture – Mobile in Wireless LAN – Deploying wireless LAN – Mobile adhoc networks and sensor networks – Wireless LAN Security – Wi-Fi vs. 3G.

TEXT BOOK

1. *Asoke.K Talukder, RoopaRYavagal,***Mobile Computing**, TMH, 2009.

REFERENCE BOOKS

1. *Raj Kamal*, **Mobile Computing**, Oxford Higher Education, Second Edition, 2012.

2. *Jochen Schillar,* **Mobile Communications,** Second Edition, Pearson Education, *2008.*

17UIT6EC	ELECTIVE- II: WIRELESS COMMUNICATIONS AND NETWORKS	SEMESTER - VI

PREAMBLE

The subject aims to build the concepts regarding:

- Basics of Wireless Communication.

- To gain knowledge on cellular networking

COURSEOUTCOMES

On the successful completion of course, students will be able to

CO Number	CO Statements	Knowledge Level
CO1	Define and analyze the concepts of wireless communication.	K1
CO2	Explain the principles of mobile wireless communication system	K2
CO3	Build the concept of designing cellular system.	K3
CO4	Apply the knowledge of multiple access techniques	K3
CO5	Demonstrate wireless data services	K2

MAPPING WITH PROGRAMME OUTCOMES

POS/COS	PO1	PO2	PO3	PO4	PO5	PO6
CO1	S	M	M	S	M	S
CO2	S	M	S	S	S	M
CO3	S	S	S	S	S	S
CO4	S	M	S	M	S	S
CO5	S	M	M	S	S	S

(S-Strong, M-Medium, L-Low)

17UIT6EC	**ELECTIVE- II: WIRELESS COMMUNICATIONS AND NETWORKS**	**SEMESTER - VI**

Total Credits: 4
Hours Per Week: 6

CONTENTS

UNIT – I

Introduction to wireless communication systems: Evaluation of mobile radio communications, examples of wireless communication systems, paging systems, cordless telephone systems, Compression of various wireless systems.

UNIT – II

Mobile wireless communication systems: second generation cellular networks, third generation wireless networks, wireless in local loop, Wireless local area networks, Bluetooth and personal area networks.

UNIT – III

Cellular system design fundamentals: spectrum allocation, basic cellular system, frequency reuse, channel assignment strategies, handoff strategies, interference and system capacity, trucking and grade off service, improving coverage and capacity, cell splitting.

UNIT - IV

Multiple access technique for wireless communications: introduction to multiple accesses, FDMA, TDMA, spread spectrum multiple access, SDMA, packet radio, capacity of cellular systems.

UNIT - V

Wireless Networking: Difference between wireless and fixed telephone networks, development of wireless networks, fixed network transmission hierarchy, traffic routing in wireless networks, wireless data services, common channel signaling.

TEXT BOOKS
1. Theodore, S. Rappaport , Wireless Communications, Principles, Practice, , PHI, 2nd Edition 2002.
2. William Stallings,Wireless Communication and Networking, PHI, 2003.

17UIT6ED	ELECTIVE- III: BIG DATA ANALYTICS	SEMESTER - VI

PREAMBLE

The subject aims to build the concepts regarding:

- To learn the recent technologies available in the market dealing with big data

COURSEOUTCOMES

On the successful completion of course, students will be able to

CO Number	CO Statements	Knowledge Level
CO1	Define and analyze the characteristics of Big data	K1
CO2	Apply the knowledge of Hadoop tools and techniques	K3
CO3	Explain the concepts of big data in cloud.	K2
CO4	Build the data science work flow and tools.	K3
CO5	Demonstrate the applications of big data analytics	K2

MAPPING WITH PROGRAMME OUTCOMES

POS/COS	PO1	PO2	PO3	PO4	PO5	PO6
CO1	S	M	M	S	S	S
CO2	S	S	S	M	S	S
CO3	S	M	S	M	S	S
CO4	S	S	M	S	S	S
CO5	S	S	S	M	S	S

(S-Strong, M-Medium, L-Low)

17UIT6ED	ELECTIVE- III: BIG DATA ANALYTICS	SEMESTER - VI

Total Credits: 4
Hours Per Week: 6

CONTENTS

UNIT - I

Big Data: Characteristics of Big Data- The volume of Data- the Variety- the Velocity of Data-Data in the Warehouse and Data in Hadoop.Why Data is Important? – When to consider a Big Data Solution- Big Data Use cases: Patterns for Big Data Deployment- IT for IT Log Analytics.

UNIT - II

Big Data: From the Technology Perspective-All about Hadoop: The Big Data Lingo Chapter-The history of Hadoop- Components of Hadoop- Application Development in Hadoop-Getting your data into Hadoop- Other Hadoop Components.

UNIT - III

Just Hadoop- Integrated Hadoop System- Analytical Databases with Hadoop Connectivity- Hadoop-Centered Companies. Big Data in the Cloud: IaaS And Private Clouds-Platform Solutions-Big Data Cloud platforms compared.

UNIT - IV

The NoSQL Movement: Size, Response, Availability-Changing Data and Cheap Launches-The sacred Cows-other features. The Future of Big Data: More Powerful and expressive tools for Analysis- Streaming Data Processing- Rise of Data Marketplaces-Development of Data Science Workflows and Tools- Increased Understanding of and Demand for Visualization.

UNIT - V

Big Data Analytics in Banking Sector, Manufacturing, Telecommunication and E-commerce.

TEXT BOOKS

1. *Chris Eaton,Dirk Deroos,Tom Deutsch, George Lapis and PaulZikopoulos,***Understanding Big Data, Analytics for Enterprise Class Hadoop and Streaming Data**, Tata Mc Graw Hill, 2012. (EBook) (Unit-I and II)

2. *O'Reilly Radar Team ,***Planning for Big Data**, O'Reilly, 2012.(eBook) (Unit III and IV)

17UIT6EE	ELECTIVE- III: DATA MINING	SEMESTER - VI

PREAMBLE

The subject aims to build the concepts regarding:

- To gain knowledge on data mining and Warehousing.
- To learn the mathematical and algorithmic details of various data association techniques to discover patterns in underlying data (namely mining data).

COURSEOUTCOMES

On the successful completion of course, students will be able to

CO Number	CO Statements	Knowledge Level
CO1	Define and analyze data mining algorithms	K1
CO2	Explain the principles of classification techniques	K2
CO3	Apply the knowledge of clustering Algorithms	K3
CO4	Build the concept of web data mining and search engines	K3
CO5	Demonstrate the concepts of data warehousing	K2

MAPPING WITH PROGRAMME OUTCOMES

POS/COS	PO1	PO2	PO3	PO4	PO5	PO6
CO1	S	M	M	S	M	M
CO2	S	M	S	S	S	L
CO3	S	S	S	S	S	M
CO4	S	L	S	M	S	M
CO5	S	M	M	S	S	M

(S-Strong, M-Medium, L-Low)

17UIT6EE	ELECTIVE- III: DATA MINING	SEMESTER - VI

Total Credits: 4
Hours Per Week: 6

CONTENTS

UNIT – I

Introduction: Data mining application –- the future of data mining – data mining software - **Association rules mining: Introduction-** data mining techniques and algorithms - K-Nearest Neighbor – Decision Trees –Association Rules – Neural Networks – Genetic Algorithms –basics- task and a naive algorithm- apriori algorithm – improve the efficient of the apriori algorithm – mining frequent pattern without candidate generation (FP-growth) – performance evaluation of algorithms.

UNIT - II

Classification: Introduction – decision tree – over fitting and pruning - DT rules—naïve bayes method- estimation predictive accuracy of classification methods – other evaluation criteria for classification method – classification software

UNIT - III

Cluster analysis: cluster analysis – types of data – computing distances-types of cluster analysis methods - partitioned methods – hierarchical methods – density based methods – dealing with large databases – quality and validity of cluster analysis methods – cluster analysis software. KDD Process – Data Selection – Cleaning – Enrichment – Coding.

UNIT - IV

Web data mining: Introduction- web terminology and characteristics- locality and hierarchy in the web- web content mining-web usage mining- web structure mining – web mining software - **Search engines:** Search engines functionality- search engines architecture – ranking of web pages. OLAP Tools-Data mining case studies.

UNIT - V

Data warehousing: Introduction – Operational data sources- data warehousing Data Warehouse – Need – Designing Decision Support Systems – Guidelines for data warehousing implementation – Data warehousing metadata – Integration with Data Mining – Client / Server and Data Warehousing –Multiprocessing Machine – Cost Justification

TEXT BOOKS

1. *Gupta.G.K,***Introduction to Data mining with case studies**, PHI Private limited, New Delhi, 2008.

2. *Pieter Adrians, Dolf Zantinge,***Data Mining**, Addison Wesley, 2007.

3. *Alex Berson, Stephen J. Smith*, **Data Warehousing, Data Mining & OLAP**, Tenth Reprint, Tata McGraw-Hill Edition, 2007.

REFERENCE BOOKS

1. *Margaret H. Dunham*, **Data mining introductory and advanced topics**, Sixth Impression, Pearson education, 2009.

2. *Prabhu.C.S.R,***Data warehousing concepts, techniques, products and an application**, Second Edition, PHI, *2008.*

17UIT6EF	**ELECTIVE- III: ENTERPRISE INFORMATION SYSTEM**	**SEMESTER - VI**

PREAMBLE

The subject aims to build the concepts regarding:

- Major concepts on Supply Chain Management, ERP and CRM.

COURSEOUTCOMES

On the successful completion of course, students will be able to

CO Number	CO Statements	Knowledge Level
CO1	Describe the concepts of Re-engineering	K1
CO2	Express the skills of Supply chain management	K2
CO3	Build the concept of ERP, Material Requirement Planning , Manufacturing Resource Planning and Money Resource Planning	K3
CO4	Illustration of ERP implementation	K3
CO5	Demonstrate the Customer Relationship Management	K3

MAPPING WITH PROGRAMME OUTCOMES

POS/COS	PO1	PO2	PO3	PO4	PO5	PO6
CO1	S	M	M	S	M	S
CO2	S	M	S	S	S	M
CO3	S	S	S	S	S	S
CO4	S	M	S	M	S	S
CO5	S	M	M	S	S	S

(S-Strong, M-Medium, L-Low)

17UIT6EF	ELECTIVE- III: ENTERPRISE INFORMATION SYSTEM	SEMESTER - VI

Total Credits: 4
Hours Per Week: 6

CONTENTS

UNIT - I

Business Process Re-Engineering: Innovative or Perish – Waves of Innovation – What a Difference a Century Can Make? – Value Innovation & BPR – Change Management "BPR" Philosophy – Models of "BPR".

UNIT - II

Supply Chain Management: Introduction to SCM – Evolution of Supply Chain Management – E-Business & Drivers of E-Business – Concept of Supply Chain Management – Understanding the SCM.

UNIT - III

Supply Chain Management:SCM Frame Work – EDI, IOS, ECSS – E-Sourcing and Out-sourcing. ENTERPRISE RESOURCE PLANNING**:** Introduction to ERP – Evolution of ERP – Materials Requirement Planning (MRP) – Manufacturing Resource Planning System (MRP II) and Money Resource Planning (MRP III).

UNIT - IV

Enterprise Resource Planning: ERP Packages – SAP – Relationship of ERP with other components of EIS – ERP implementation ERP Packages – SAP – Relationship of ERP with other components of EIS – ERP implementation – Personnel involved in ERP implementation.

UNIT - V

Customer Relationship Management: Introduction to customer Relationship Management (CRM) – Evolution of CRM – Understanding CRM – Framework of CRM – Models of CRM – CRM Technology – Integration with other Enterprise Wide System – CRM in Practice.

TEXT BOOK

1. *Balasubramaniyan.K, Usha Priya.S, Hema.K,***Enterprise Wide Information Systems**, Second Edition, 2002.

REFERENCE BOOK

1. *William, Sawyer, Hetisn,***Using Information Technology**, [Third Edition], TMH, *2009.*

17UIT63P	CORE PRACTICAL- VIII: PROGRAMMING IN PHP AND MYSQL	SEMESTER - VI

Total Credits: 2
Hours Per Week: 4

PREAMBLE

The subject aims to build the concepts regarding:

- To impart knowledge on PHP, MYSQL

LIST OF PRACTICALS

1. Program to send an HTML formatted Email in PHP.

2. Program to do different types of Sorting in PHP.

3. Program to do String Manipulation in PHP.

4. Program to get color code from the user which displays the color name.

5. Program to do calculator functions

6. Program to upload a file in PHP.

7. Program to login authentication using PHP and MySQL.

8. Creating an application using PHP and MySQL.

9. Creating an application using PHP and MYSQL, and generate the reports

10. Creating an application with DML QURIES.

11. Program to demonstrate how a web page can communicate with a web server while a user type characters in an input field

12. Download a small project module and convert into our Requirement

Example website

1. www.phpclasses.com

2. www.codeguru.com

17UIT63Q	CORE PRACTICAL- IX: PROGRAMMING IN PYTHON	SEMESTER - VI

Total Credits: 2
Hours Per Week: 4

PREAMBLE

The subject aims to build the concepts regarding:

- To impart knowledge on Python

LIST OF PRACTICALS

1. Write a program to swap the values of two variables

2. Write a program to implement different categories of operators in python programming

3. Write a program to demonstrate while loop and for loop

4. Write a program to print the prime numbers for a user provided range using if else.

5. Write a program to print the current date and time

6. Write a program to implement recursion for factorial of a number that demonstrates the user defined function and return statement

7. Write a python program to demonstrate tuples functions and operations

8. Write a python program to demonstrate dictionary functions and operations

9. Write a program that defines a class named rectangle that takes the parameters length and breadth. The class rectangle should also contain a method for computing its perimeter

10. Write a program that defines a class named employee. Define two subclasses: Engineer and Manager. Every class should have a method named print Designation() that prints Engineer for Engineer class and Manager for Manager class.

17UIT63V	CORE- XI: PROJECT AND VIVA VOCE	SEMESTER - VI

Total Credits: 2

Hours Per Week: 4

PREAMBLE

The subject aims to build the concepts regarding:

- Enables the students to enhance their research skills for software development.

- The project is oriented towards developing the skills, knowledge and attitude needed to make an effective start as a member of the computer / IT profession.

Course Inputs:

- Project is an integral and important component in the last semester (6th semester) and passing the UG Degree. Project is mandatory for all students.
- Project is basically meant for the implementation of the various technologies learned during the five semesters in the real life scenario.

Following guidelines are hereby enlisted for all the students based on the necessity and

Importance of the project

Each student in the UG final year shall compulsorily undergo Project Work in the 6th semester. Projects shall be done individually. Project work shall be done only in the lab provided by the college. Three Project Reviews shall be conducted in which the progress of project work shall be strictly evaluated by respective Project Guides and Project Coordinator. Viva-Voce shall be conducted only in the presence of Industrialists or academicians. Out of the Total of 100 marks, 40% of mark shall be allocated for CIA and 60% for ESE VIVA VOCE

Basic framework

The stages in Project Work are given below:

- The student has to select a project in a related field of Computer Science / Computer Application / Information Technology / Computer Technology.
- Students should do the project in the College.
- We allotted project hours during that semester and students can do their own project or collect data from the organization and get approval from the organization.

- After obtaining the approval from project guide, the student has to carry out the project work.
- Student has to maintain the project work diary. The Project Work carried out should be in accordance with the approved project proposal.
- All communication must be in writing. No verbal communication will be accepted.
- Student should adhere to the timings for submission of various reports as mentioned in the guidelines. No excuse will be entertained in any case.
- Student should prepare a Project Report at the end of his/her work, which his /her supervisor would certify and approve for submission (the Project Report should conform to the Standard Format laid down for Project Report).

The student should submit the Project Report to the college

Guide for the Project:
- Project guide will be allotted by the department to each student.
- Student must report to his/her project guide regularly.

The student can also have a guide who could be the person under whose supervision the student is doing the project in the industry

Selection of Project:
- The selection of the project can be done in consultation with the project guide.
- Group of the students are not allowed to do a single project at a time.

It is possible that a group of students are doing different modules of the same project. In such cases, the student is required to do 3-5 modules of the large project.

Submission of project proposal
- Students are expected to submit an initial project proposal or broad outlines of the project area to the respective guide, who will then forward it to the head of the department.
- All students must submit a synopsis/abstract, preferably, of about 1-2 pages, as project proposal. The content should be as brief as is sufficient enough to explain the objective and implementation of the project.
- If Student get data from the organization, the student should get Confirmation Letter from the organization is required along with the project proposal.

Submission of project report
- The student will submit his/her project report in the prescribed format.

- Project Report will be submitted in triplicate (Hard Bound Copies) with the proper certification by the organization concerned in the specified format and color. None of copies of the project report will be returned to the student.
- The project reports along with a CD should be submitted to the HOD/Supervisor/ Controller of examinations, twenty days prior to the final semester examination.

A certificate from the supervisor should also be enclosed in the Project Report as provided in the format for project report.

Fields for Project:

- **GUI Tools (Front End)** - Visual Basic, Power Builder, X-Windows (X/lib, X/motif, X/Intrinsic), Oracle Developer 2000,VC++, Builder
- **RDBMS(Back End) -** Oracle, Ingres, Sybase, Progress, SQL Plus, Versant, MY SQL, SQL Server, DB2
- **Languages -** C, C++, Java, VC++, C#
- **Scripting Languages -** PERL, SHELL Scripts (Unix), TcL/TK, PHP
- **.NET Platform -** Dialog APL, VB.Net, C#.Net, Visual C#.Net, Net, ASP.Net, Delphi
- **Middle Ware (Component) Technologies -** COM/DCOM, Active-X, EJB, WINCE, MSMQ, BEA, MessageQ, MTS, CICS
- **Unix Internals -** Device Drivers, RPC, Threads, Socket programming
- **Architectural Concepts -** CORBA, TUXEDO, MQ SERIES
- **Internet Technologies -** DHTML, Java script, VB Script, Perl & CGI script, HTML, Java, Active X, RMI, CORBA, SWING, JSP, ASP, XML, EJB, Java Beans, Servlets, Visual Age for JAVA, UML, VRML, WML, Vignette, EDA, Broad vision, Ariba, iPlanet, ATG, Big Talk, CSS, XSL, Oracle ASP server, AWT, J2EE, LDAP, ColdFusion, Haskell 98
- **Wireless Technologies -** Blue Tooth, 3G, ISDN, EDGE
- **Real time Operating System/ Embedded Skills -** QNX, LINUX, OSEK, DSP, VRTX, RTXC, Nucleus
- **Operating Systems -** WINDOWS 2000/ME, WINDOWS NT, WINDOWS XP, UNIX, LINUX, IRIX, SUN SOLARIS, HP/UX, PSOS, VxWorks, AS400, AIX, DOS
- **Application Areas -** Financial/ Insurance/ Manufacturing/ Multimedia/ Computer Graphics/ Instructional Design/ Database Management System/ Internet/ Intranet / Computer Networking-Communication Software development/ E-Commerce/ ERP/ MRP/ TCP-IP programming/ Routing protocols programming/ Socket programming.

NOTE:

i. Projects should not be developed using the packages like Dbase III plus, FoxPro, Visual FoxPro and MS-Access. Also, projects should not be developed using the combination of Visual Basic as the front end and MS-Access as the back end.

Students can also develop applications using tools/languages/software not listed above, if they are part of latest technologies

Phases of Training Period

* At the time of Review – I, students should present Title, Synopsis/Abstract of the project and module description.
* Students should present the Mid Term Report at the time of Review – II.
* Students should present the implementation and testing Report at the time of Review – III
* Students should submit the complete Project Report at the time of Model Viva-Voce.

An external Viva-Voce will be conducted for all the students

Format of Project:

* The whole project report should be nicely composed and presented.
* The dimension of the project report should be in A4 size only.
* Page Specification : (Written paper and source code)
  Left margin - 3.0 cms/1.18 inches
  Right margin- 2.0 cms/0.78 inches
  Top margin 2.54 cms/1 inch
  Bottom margin 2.54 cms/1 inch
* The project report should be typed in good word processor and should avoid spellings and grammatical mistakes.
* The impression on the typed copies should be black in color.
  Normal Body Text: Font Size: 12, Times New Roman, 1.5 linesSpacing, Justified.
  Paragraph Heading Font Size: 14, Times New Roman, Left Aligned. 12 points above & below spacing.

Chapter Heading Font Size: 16, Times New Roman, Centre Aligned, 30 points above and below spacing.

  Coding Font size: 10, Courier New, Normal
* Students should use only one side of paper for printing.
* Page numbers - All text pages as well as Program source code listing should be numbered at the bottom center of the page.

Cover Page - Attractive and appealing cover page containing the Project Title, program details, Student & Guide details, month of submission etc.

Color - Cover Page color is Silver Gray

Letter of Authentication - To be submitted by students declaring that the Project Report is the original work of student and no reward had been attained for same project ever before. Students are advised not to **COPY** the project report from other students. Authorization from Organization where such Project have been implementedwith certificate showing the student name, register number and project name.

Certificate from Project Guide - Certificate from the Project Guide certifying the project work done under his/her guidance along with course, student, and project details is complete in all respects.

Draft of Project Report

The size of the project report can be approximately 100 pages, which include the following details:

Certificate of the project guide

Certificate of the Organization

Acknowledgement

Synopsis / Abstract

Table of Contents

      1 Introduction

          1.1 About Organization

          1.2 Problem Definition

          1.3 System Configuration

               1.3.1 Hardware configuration

               1.3.2　Software configuration

      2 System Study

          2.1 Existing System with limitations

          2.2Proposed System with objectives

          2.3 Module description

      3 System Design & Development

          3.1 System Flow Diagrams / Control Flow Diagrams

          3.2 E-R Diagrams / Use Case Diagrams

          3.3 Data Flow Diagram / Activity Diagrams

          3.4 Input Design

          3.5 File / Database Design

          3.6 Output design (includes Report Design)

3.7 User Interface Design (if Needed)

4 System Testing

Unit Testing

Integration testing

5 System Implementation and Maintenance

System Security Measures

6 Conclusion

Scope for Future Prospects

Bibliography and Web References

Appendices

Forms (input screen shots)

Sample Source Code

Output Screen shots

Reports

- Along with it, if the student feels to add on any other topics as per the demand of the project or want to include the functionalities as per the SDLC (Software Development Life Cycle) or the Software Engineering model used, that can be done and included in the Project Report.

  The project report must include all the components as per the SDLC. It is highly recommended to follow the approaches of Software Engineering methodology

Arrangement of Contents

- Cover Page & Title Page
- Bonafide Certificate from College /Organization
- Synopsis / Abstract
- Table of Contents
- Chapters
- List of Tables
- List of Figures
- List of Symbols, Abbreviations and Nomenclature
- Appendices
- References

The table and figures shall be introduced in the appropriate places.

PREPARATION FORMAT:

- **Cover Page & Title Page** – The Cover page & Title page of the project report should be according to the specification.
- **Bonafide Certificate & Declaration –** The Bonafide Certificate and declaration shall be with double line spacing using Font Style Times New Roman and Font Size 14**.**
- **Abstract –** Abstract should be one page synopsis of the project report typed with double line spacing, Font Style Times New Roman and Font Size 14.
- **Table of Contents –** The table of contents should list all material following it, as well as any material which precedes it. The title page and Bonafide Certificate will not find a place among the items listed in the Table of Contents but the page numbers of which are in lower case Roman letters. One and a half spacing should be adopted for typing the matter under this head. The Table of Content of project should be as specified above.
- **List of Tables –** The list should use exactly the same captions as they appear above the tables in the text. One and a half spacing should be adopted for typing the matter under this head.
- **List of Figures –** The list should use exactly the same captions as they appear below the figures in the text. One and a half spacing should be adopted for typing the matter under this head.
- **List of Symbols, Abbreviations and Nomenclature** – One and a half spacing should be adopted for typing the matter under this head. Standard symbols, abbreviations etc. should be used.
- **Chapters –** The chapters may be broadly divided into 3 parts. Introductory chapter, Chapters developing the main theme of the project work and Conclusion.

  The main text will be divided into several chapters and each chapter may be further divided into several divisions and sub-divisions.
  - ❖ Each chapter should be given an appropriate title.
  - ❖ Tables and figures in a chapter should be placed in the immediate vicinity of the reference where they are cited.

Footnotes should be used sparingly. They should be typed with single space and placed directly underneath in the very same page, which refers to the material they annotate.

- **Appendices** – Appendices are provided to give supplementary information, which is included in the main text as they may serve as a distraction and cloud the central theme.
  - ❖ Appendices should be numbered using Arabic numerals.
  - ❖ Appendices, Tables and References appearing in appendices should be numbered and referred to an appropriate place just as in the case of chapters.
  - ❖ Appendices shall carry the title of the work reported and the same title shall be made in the contents page also.
- **List of References** –The listing of references should be typed 4 spaces below the heading "REFERENCES" in alphabetical order in single spacing and left justified. The reference material should be listed in the alphabetical order of the first author. The name of the author/authors should be immediately followed by the year and other details.

A typical illustrative list given below relates to the citation example quoted above.

REFERENCE BOOKS

1. *Roger S Pressman,***Software Engineering – A Practitioner's Approach**,   Sixth edition, Fifth Reprint], Tata McGraw-Hill, 2012
2. *Richard Fairley,* **Software Engineering Concepts**, [Twenty Third Reprint], Tata McGraw Hill, 2006.
3. *William.E.Perry,* **Effective Methods for Software Testing**, [Third Edition], Willey India, 2006.

17UITSS1	SELF STUDY-1 : ETHICAL HACKING	SEMESTER III

Total Credits: 1

PREAMBLE

The subject aims to develop knowledge about:
- General computer organization and architecture, Ethical Hacking methodology
- Generalized exploit techniques ,Basic network concepts

CONTENTS

UNIT I

Introduction to Ethical Hacking-Hacking History-Ethical Hacking-Threats. TCP/IP Primer-TCP-IP-UDP-Packets-3 Way Handshake. Foot printing-Gathering Information-Whois-Tracert and TTL.

UNIT II

Scanning-Ping Sweeps-Scanning Tools-Port Scanning- Enumeration-NetBIOS-Active Directory-SNMP Enumeration-DNS Zone Transfer. Hacking Windows-Privilege Escalation-Cracking Passwords-Data Execution Prevention.

UNIT III

Hacking Unix-Quest for Root-Vulnerability Mapping-Services. Network Devices and Hardware-Mid-Term-Discovery-Fingerprinting. Hacking Code-Buffer Overflows-Input Validation-Vulnerabilities-Exploits.

UNIT IV

Web Server Hacking and Web Application Vulnerabilities-IIS Attacks-Apache Attacks-Spidering. Firewalls, Intrusion Detection Systems, and Honey pots-Firewall Types and Configurations-Intrusion Detection Systems (IDS)-Honey pot Applications

UNIT V

Social Engineering-Social Engineering-Human-Based Social Engineering-Computer-Based Social Engineering-Identity Theft. Viruses, Worms, and Trojans-Viruses-Spyware- Spam bots-Worms.

TEXT BOOK

3. *Stuart McClure, Joel Scambray, and George Kurtz*, **Hacking Exposed: Network Security Secrets and Solutions,** First Edition Publisher: McGraw-Hill, 2008

17UITSS2	SELF STUDY-2 : GREEN INFORMATION TECHNOLOGY	SEMESTER III

Total Credits: 1

PREAMBLE

The subject aims to develop knowledge about

- To reduce the energy use, waste, and other environmental impacts of Information Technology (IT) systems

CONTENTS

UNIT- I

The Importance of Green Information Technologies -Governance and Regulatory Issues Minimizing Power Usage -- Cooling.

UNIT-II

Business Process Reengineering for Sustainability - Going Paperless - Recycling.

UNIT- III

Sustainable Hardware-Technology Company Case Studies - University and Other Case Studies.

UNIT- IV

Data Center Design and Redesign – Virtualization.

UNIT- V

Managing Your Green IT Transformation - The Future: Staying Green.

TEXT BOOK

1.*Toby J. Velete, Anthony T. Velete, Robert Elsenpeter,***Green IT – Reduce Your Information System's Environmental Impact While Adding to the Bottom Line,** First Edition Publisher: McGraw-Hill ,2008

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