

# **ALAGAPPA UNIVERSITY**

**Accredited with A+ Grade by NAAC (CGPA 3.64) in the Third Cycle  
Karaikudi – 630003. Tamilnadu , INDIA**

## **Directorate of Distance Education**



## **PROGRAMME PROJECT REPORT**

**for**

**Bachelor of Science in Information Technology B.Sc(I.T)**

**To be submitted to**

**UGC, Distance Education Bureau (DEB),  
New Delhi**

**for seeking approval to introduce programme through  
Distance Education Mode**

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## **B.Sc(IT) Credit Based Curriculum and Evaluation System**

### **ALAGAPPA UNIVERSITY, KARAIKUDI DIRECTORATE OF DISTANCE EDUCATION**

#### **Bachelor of Science in Information Technology (B.Sc(IT))**

#### **Credit Based System (CBS) (With effect from June 2018 - 2019 Onwards)**

##### **(a) Programme's Mission and Objectives**

###### **Mission**

Mission is to impart employability and creativity to the Under graduate students and lives up to the standards of Information Technology (IT) industry.

###### **Programme Objectives**

- ✓ To offer variety of course specializations due to which multitude of job profiles are created.
- ✓ To provide excellent career opportunities in various industries including software development companies in the areas of System analysis/design/developments/supports ,mobile application programming, game programming, web and e- commerce development, database administration, software testing, education and training etc.
- ✓ To avail the prospect of going abroad for off-shore development in the top IT companies across the world.
- ✓ To support employability and career growth prospects for learners are extremely high.

###### **Programme Outcomes**

- ✓ Ability to use current programming languages such that the student produces useful algorithms that solve mathematical, graphical and other structures.
- ✓ Ability to reason and think in abstract terms, such as object orientation in order to build proper algorithms.
- ✓ Ability to communicate the fundamentals of computer science both in written form by applying software engineering techniques and verbal forms.
- ✓ Ability to cross disciplinary lines to abstract and apply CS based solutions in different disciplines.
- ✓ Facility with the fundamental and mathematical constructions of Information Science, the essential foundation of the discipline.
- ✓ Understanding of basic computer hardware architecture and be able to design fundamental logic circuits.

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### **(b) Relevance of the program with HEI's and Alagappa University Mission and Goals**

This programme is aligned with HEI's and Alagappa University mission and goals to be offered through distance mode to reach quality higher education to the unreachable and/or rural learners. Higher education in Computer Science offered through distance mode meets the mission of HEI's like digital India and e-cash transaction will enrich the Human resources for the uplift of the nation.

### **(c) Nature of prospective target group of learners**

The nature of prospective target group of learners is graduates from various disciplines like Commerce, Mathematics, Physics, Chemistry, Biology, etc. It also includes the learners who want to become entrepreneurs like Web Designers, Software Developers, BPO's, KPO's etc.,

### **(d) Appropriateness of programme to be conducted in Open and Distance Learning mode to acquire specific skills and competence;**

B.Sc (IT) Programme through Distance Learning mode is developed in order to give subject-specific skills including i) Knowledge about various kinds of programming languages, Office Automation, Open Source ii) Principles of Information Technology, RDBMS, Data Structure, Digital computer fundamentals, System Analysis and Design, Multimedia and its applications and Discrete mathematics.

### **(e) Instructional Design**

#### **e.1 Revisions of Regulation and Curriculum Design**

1. The University reserves the right to amend or change the regulations, schemes of examinations and syllabi from time to time based on recent market dynamics, industrial developments, research and feedback from stakeholders and learners.
2. Each student should secure 96 credits to complete B.Sc (IT) programme.
3. Each theory and practical course carries 4 credits with 75 marks in the University End Semester Examination (ESE) and 25 marks in the Continuous Internal Assessment (CIA).

#### **Programme code**

<b>B.Sc(IT)</b>	129	<b>B.Sc(IT) (Lateral Entry LE)</b>	131
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## **B.Sc(IT) Credit Based Curriculum and Evaluation System**

### **B.Sc(I.T) Course of Study and Scheme of Examinations**

S.No	Course code		Name of the Course	CIA Marks Max.	ESE Marks Max.	Total Marks Max.	C Max.
	Bsc(IT)	Bsc(IT) (LE)					
<b>FIRST YEAR</b>							
<b>SEMESTER I</b>							
1	12911A 12911B		<b>Part I:</b> Tamil Paper I / Communication Skills – I	25	75	100	4
2	12912		<b>Part II:</b> English Paper – I	25	75	100	4
3	12913		<b>Part III: Core Paper:</b> Principles of Information Technology	25	75	100	4
4	12914		<b>Part III: Core Paper:</b> Office Automation Lab	25	75	100	4
			<b>TOTAL</b>	<b>100</b>	<b>300</b>	<b>400</b>	<b>16</b>
<b>SEMESTER II</b>							
5	12921A 12921B		<b>Part I:</b> Tamil Paper II: / Communication Skills – II	25	75	100	4
6	12922		<b>Part II:</b> English Paper – II	25	75	100	4
7	12923		<b>Part III: Core Paper:</b> Programming in C and Data Structures	25	75	100	4
8	12924		<b>Part III: Core Paper:</b> C and Data structure Lab	25	75	100	4
			<b>TOTAL</b>	<b>100</b>	<b>300</b>	<b>400</b>	<b>16</b>
<b>SECOND YEAR</b>							
<b>SEMESTER III</b>							
9	12931A 12931B	13131A 13131B	<b>Part I:</b> Tamil Paper III / Human Skills Development I	25	75	100	4
10	12932	13132	<b>Part II:</b> English Paper – III	25	75	100	4
11	12933	13133	<b>Part III: Core Paper:</b> Internet and Java Programming	25	75	100	4
12	12934	13134	<b>Part III: Core Paper:</b> Internet and Java Programming Lab	25	75	100	4
			<b>TOTAL</b>	<b>100</b>	<b>300</b>	<b>400</b>	<b>16</b>
<b>SEMESTER IV</b>							
13	12941A 12941B	13141A 13141B	<b>Part I:</b> Tamil Paper IV / Human Skills Development II	25	75	100	4
14	12942	13142	<b>Part II:</b> Paper II: English – IV	25	75	100	4
15	12943	13143	<b>Part III: Core Paper:</b> Open Source Software	25	75	100	4
16	12944	13144	<b>Part III: Core Paper:</b> Open Source Lab	25	75	100	4
			<b>TOTAL</b>	<b>100</b>	<b>300</b>	<b>400</b>	<b>16</b>
<b>THIRD YEAR</b>							
<b>SEMESTER V</b>							
17	12951	13151	<b>Part III: Core Paper:</b> Discrete Mathematics	25	75	100	4
18	12952	13152	<b>Part III: Core Paper:</b> Operating Systems	25	75	100	4

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19	12953	13153	<b>Part III: Core Paper:</b> Relational Database Management System (RDBMS)	25	75	100	4
20	12954	13154	<b>Part III: Core Paper:</b> Relational Database Management System (RDBMS)Lab	25	75	100	4
			<b>TOTAL</b>	<b>100</b>	<b>300</b>	<b>400</b>	<b>16</b>
<b>SEMESTER VI</b>							
21	12961	13161	<b>Part III: Core Paper:</b> ● NET Programming	25	75	100	4
22	12962	13162	<b>Part III: Core Paper:</b> System Analysis and Design	25	75	100	4
23	12963	13163	<b>Part III: Core Paper:</b> Multimedia and its Applications	25	75	100	4
24	12964	13164	<b>Part III: Core Paper:</b> ● NET Programming Lab	25	75	100	4
			<b>TOTAL</b>	<b>100</b>	<b>300</b>	<b>400</b>	<b>16</b>
			<b>GRAND TOTAL</b>	<b>600</b>	<b>1800</b>	<b>2400</b>	<b>96</b>

**CIA** : Continuous Internal Assessment **ESE** : End semester Examination

### **Course Code Legend:**

1	2	9	S	C
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129 – Programme code for B.Sc( Information Technology)

S -- Semester Number

C – Course Number in the Semester

### **e.2 Detailed Syllabi**

The detailed Syllabi of study and shall be as shown in Appendix.

### **e.3 Duration of the Programme:**

The B.Sc(IT) programme shall consist of a period of three years (Six Semesters).

#### **e.3.1 Medium of Instruction**

- The medium of instruction is only in **English**.
- The course material is also in **English**.

### **e.4 Faculty and Support Staff Requirements:**

The following faculty and support staff is required for this programme.

<b>S.No</b>	<b>Staff Category</b>	<b>Required</b>
1	Core Faculty	3
2	Faculty for Specialization	2
3	Laboratory Assistant	1
4	Clerical Assistant	1

\* Faculty at least in Assistant Professor level

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### **e.5 Instructional Delivery mechanisms**

The instructional delivery mechanisms of the programme includes SLM- Study materials, Lab instruction manual, Personal contact session for both theory and practical courses of the programme, e-version of the course materials in the form of CD, e-book, e-tutorials, Massive Open Online Courses (MOOC) courses, Open Educational Resources(OER) and virtual lab.

### **e.6 Identification of media**

The printed version of SLM – study material shall be given to the learners in addition to MOOC, e-tutorial and virtual lab.

### **e.7 Student Support Services**

The student support services will be facilitated by the Directorate of Distance Education, Alagappa University, Karaikudi and its approved learning centres located in various parts of Tamilnadu.

The pre-admission student support services like counseling about the programme including curriculum design, mode of delivery, fee structure and evaluation methods will be explained by the staff at Directorate of Distance Education or Learning centres.

The post-admission student support services like issuing Identity card, study materials will be provided thru Directorate or Learning centres. The face to face contact sessions of the programme for both theory and practical's will be held at the Directorate or Learning centres.

The student support regarding the conduct of examinations, evaluations, publication of results and certificates done by the Office of the Controller of Examinations, Alagappa University, Karaikudi

## **(f) Procedure for Admissions, curriculum transaction and evaluation**

### **f.1 Minimum qualification for admission**

Candidates for admission to the first year of the Bachelor of Science in Information Technology (B.Sc(I.T)) programme shall be required to have passed HSC or 3 year diploma from recognized institution shall be eligible.

#### **f.1.1 Lateral Entry(LE)**

Candidates who have passed 3 year diploma in Computer Science Engineering, Electrical and Electronics Engineering, Electronics and Communication Engineering, Information Technology and Electronics Robotics from recognized institution are eligible for admission into the Second Year of B.Sc(IT) programme.

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### **f.2 Curriculum transaction**

- The face to face contact sessions in class room teaching with the support of SLM, Power Point Presentations, web based tools, audio and animated videos.
- The practical classes are based on the respective subject study materials containing requirement for the laboratory experiments.
- Face to face contact sessions will be conducted for both theory and practical courses in the following manner.

<b>Course Type</b>	<b>Face to face contact session per semester (in Hours)</b>
Theory courses (3 Courses with 4 credits each)	48
Practical courses (1 Course with 4 credit)	120
<b>Total</b>	<b>168</b>

### **f.3 Evaluation**

The examinations shall be conducted separately for theory and practical's to assess the knowledge acquired during the study. There shall be two systems of examinations viz., internal and external examinations. In the case of theory courses, the internal evaluation shall be conducted as Continuous Internal Assessment via. Student assignments preparation and seminar, etc. The internal assessment shall comprise of maximum 25 marks for each course. The end semester examination shall be of three hours duration to each course at the end of each semester. In the case of Practical courses, the internal will be done through continuous assessment of skill in demonstrating the experiments and record or report preparation. The external evaluation consists of an end semester practical examinations which comprise of 75 marks for each course.

#### **Internal assessment**

- Internal assessment of theory courses is through home assignment with workbook, case studies, review questions, quiz, multiple choice questions etc., for 25 marks.
- The internal assessment for the practical courses shall be through home assignment which includes workbook designing algorithm, preparing source code, PL/SQL coding etc., for 25 marks.
- Student should submit assignment for theory and practical courses of every course and semester.



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### **Division of Internal Marks (Assignment)**

<b>Theory</b>		<b>Practical</b>	
<b>Assignment</b>	<b>Marks</b>	<b>Assignment</b>	<b>Marks</b>
Review questions	15	Algorithm Design	15
Workbook, case studies, quiz, multiple choice questions	10	Workbook for preparing source code, PL/SQL coding , results	10
<b>TOTAL</b>	<b>25</b>	<b>TOTAL</b>	<b>25</b>

### **End Semester Examination (ESE)**

The university end Semester Examinations shall be of three hours duration with maximum of 75 Marks for both theory and practical courses.

#### **f.3.1 Passing Minimum**

- For internal Examination, the passing minimum shall be 40% (Forty Percentage) of the maximum marks (25) prescribed for UG and PG Courses.
- For External Examination, the passing minimum shall be 40% (Forty Percentage) of the maximum marks (75) prescribed for UG and PG Courses.
- In the aggregate (External + Internal), the passing minimum shall be 40% for UG and 50% for PG courses.

#### **f.3.2 Question Paper Pattern - Theory**

The end semester examination will be conducted in the duration of 3 Hours and maximum of 75 Marks.

#### **All the Blocks Should Be Given Equal Importance**

Part – A (10 x 2 Marks: 20 Marks) Answer all questions

Part – B (5 x 5 Marks: 25 Marks) Answer all questions choosing either (a) or (b)

Part – C (3 x 10 Marks: 30 Marks) (Answer any 3 out of 5 questions)

#### **End Semester Examination (ESE) - Practical**

Students are required to prepare a separate lab record for each lab course. The practical counsellor should duly sign this lab record after each session. Students shall prepare practical record note book which includes aim, algorithm, source code, input, expected output and result of the experiment and submit during end semester practical examination.

## **B.Sc(IT) Credit Based Curriculum and Evaluation System**

### **Division of marks in ESE – Practical (Maximum 75 marks)**

The end semester practical examination will be conducted in the duration of 3 Hours and maximum of 75 Marks.

<b>Practical details</b>	<b>Max. Marks</b>
Algorithm / Flowchart	10
Source Code	20
Debugging	10
Execution	10
Results	10
Viva-Voce	5
Record	10
Total	75

### **f.3.3 Procedure for Completing the Course:**

A student shall be permitted to continue the programme from I to VI semester irrespective of failure(s) in the courses of the earlier semesters. The candidate will qualify for the B.Sc(IT) degree only if he/she passes all the (including arrears) courses with in a period of FIVE years from the date of admission.

### **f.3.4 Results and Classification:**

Results will be declared at the end of each semester of the University examination and the marks/grade obtained by the candidate will be forwarded to them by the Controller of Examinations, Alagappa University.

#### **f.3.4.1 Marks and grades**

The following table gives the marks, grade points, letter, grades and classification to indicate the performance of the candidate.

<b>Range of Marks</b>	<b>Grade Points</b>	<b>Letter Grade</b>	<b>Description</b>
90-100	9.0 - 10.00	O	Outstanding
80-89	8.0 - 8.9	D+	Excellent
75-79	7.5 - 7.9	D	Distinction
70-74	7.0 - 7.4	A+	Very Good
60-69	6.0 - 6.9	A	Good
50-59	5.0 - 5.9	B	Average
40-49	4.0 - 4.9	C	Satisfactory
00-39	0.00	U	Reappear
ABSENT	0.00	AAA	Absent

**For a semester**

$$\text{Grade Point Average[GPA]} = \frac{\sum C_i G_i}{\sum C_i}$$

$$\text{GPA} = \frac{\text{Sum of the multiplication of Grade points by the credit of the courses}}{\text{Sum of the credit of the courses in the semester}}$$

$$= \frac{\text{Sum of [ Credit earned x Grade Points]}}{\text{Sum of the credits earned in the semester}}$$

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### **For the entire programme**

$$\text{Cumulative Grade Point Average [CGPA]} = \frac{\sum_n \sum_i C_{ni} G_{ni}}{\sum_n \sum_i C_{ni}}$$

=  $\frac{\text{sum of the multiplication of grade points by the credits of the entire programme}}{\text{Sum of the credits of the courses for the entire programme}}$

Where,

$C_i$  - Credits earned for the course i in any semester

$G_i$  - Grade Point earned for course i in any semester

n - is number of all Courses successfully cleared during the particular semester in the case of GPA and during all the semesters (programme) in the case of CGPA.

<b>CGPA</b>	<b>Grade</b>	<b>Classification of Final Result</b>
9.5 – 10.00	O+	First class – Exemplary*
9.0 and above but below 9.5	O	
8.5 and above but below 9.0	D++	First class with Distinction*
8.0 and above but below 8.5	D+	
7.5 and above but below 8.0	D	
7.0 and above but below 7.5	A++	First Class
6.5 and above but below 7.0	A+	
6.0 and above but below 6.5	A	
5.5 and above but below 6.0	B+	Second Class
5.0 and above but below 5.5	B	
4.5 and above but below 5.0	C+	Third Class
4.0 and above but below 4.5	C	
0.0 and above but below 4.0	U	Reappear

\* The candidates who have passed in the first appearance and within the prescribed semester

### **f.4 Fees Structure:**

<b>Fee Particulars</b>	<b>Amount in Rs.</b>		
	<b>First Year</b>	<b>Second Year</b>	<b>Third Year</b>
Admission Processing Fees	100	--	--
Course Fees	8300	8300	8300
ICT fees	150	150	150
<b>Total Fees</b>	<b>8550</b>	<b>8450</b>	<b>8450</b>

The above mentioned fees structure is exclusive of examination fees.

### **g)Requirement of the laboratory support and library resources**

#### **g.1 Laboratory Support**

A well- equipment Computer Laboratory was established in the Alagappa University, Karaikudi with necessary software's as per the practical's syllabi for conducting face to

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face contact sessions for practical courses of this programme. Model Practical Questions is available to the learners in the university website.

### **g.2 Library Resources**

The Directorate of Distance Education, Alagappa University provides library facility with number of books and Self Learning materials for Computer Science programmes. The Central library of Alagappa University provides the collection of volumes of Self Learning Materials, Printed books, Subscriptions to printed periodicals and Non-book materials in print form for the learner's references. All these library resources are meant for learner's reference purpose only.

### **(h) Cost estimate of the programme and the provisions:**

<b>Expense details</b>	<b>Amount in (Rs.) Approx.</b>
Programme development (Single time investment)	20,00,000/-
Programme delivery (per year)	24,00,000/-
Programme maintenance (per year)	5,00,000/-

### **(i) Quality assurance mechanism and expected programme outcomes:**

#### **i.1 University's Moto:**

' Excellence in Action'

#### **i.2 University's Vision and Mission**

##### **Vision**

Achieving Excellence in all spheres of Education, with particular emphasis on ' PEARL' - Pedagogy, Extension, Administration, Research and Learning.

##### **Mission**

Affording a High Quality Higher Education to the learners so that they are transformed into intellectually competent human resources that will help in the uplift of the nation to Educational, Social, Technological, Environmental and Economic Magnificence (ESTEEM).

#### **i.3 University Objectives**

1. Providing for instructions and training in such branches of Learning at the university may determine.
2. Fostering Research for the Advancement and Dissemination of Knowledge and Application.

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### **i.4 Quality Policy**

Attaining Benchmark Quality in every domain of 'PEARL' to assure Stakeholder Delight through Professionalism exhibited in terms of strong purpose, sincere efforts, steadfast direction and skillful execution.

### **i.5 Quality Quote**

Quality Unleashes Opportunities Towards Excellence (QUOTE).

### **i.6. Course benchmarks**

The benchmark qualities of the programme may be reviewed based on the performance of students in their end semester examinations and number of enrolments of students. Feedback from the alumni, students, parents, stakeholders and employers will be received to analyze the benchmark qualities for the further improvement of the programme.

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**APPENDIX**

**Detailed Syllabi  
FIRST YEAR  
SEMESTER I**

Course Code	Title of the Course
12911A	PART I: TAMIL PAPER I

பொதுத்தமிழ்  
பாடத்திட்டம்

மதிப்பெண் : 75+25  
மதிப்பீடு : 4

நோக்கம் : மொழி அறிவு, இலக்கண அறிவை வளர்த்தல்

**பிரிவு -1 : இசைப்பாடல்**

கூறு 1

1. கண்ணதாசன் - ஸ்ரீ கிருஷ்ண கானம்
  1. புல்லாங்குழல் கொடுத்த
  2. குருவாபூருக்கு வாருங்கள்

கூறு 2

1. கோகுலத்து பசுக்கள்
2. கோகுலத்தில் ஒரு நாள் ராதை
3. ஆயர்பாடி மாளிகையில்

கூறு 3

- பட்டுக்கோட்டை கல்யாண சுந்தரம்
1. நெஞ்சில் குடியிருக்கும்
  2. செய்யும் தொழிலே தெய்வம்

கூறு 4

1. பாரதியார்  
கண்ணன் என் விளையாட்டுப்பிள்ளை  
பாரத மாதா திருப்பள்ளி எழுச்சி

**பிரிவு - 2 : கவிதை, புதுக்கவிதை**

கூறு 5

1. பாரதிதாசன் - உலகப்பன் பாட்டு (5)
2. நாமக்கல் கவிஞர் - நோயற்ற வாழ்வு 7 பாட்டு
3. பெ.தூரன் - நிலா பிஞ்சு

கூறு 6

1. வல்லிக் கண்ணன் - வெறும் புகழ்
2. கு.ப.இராஜகோபாலன் - எதற்காக?
3. மீரா - பதினைந்து

கூறு 7

1. சிற்பி - சர்ப்ப யாகம்
2. ஞானக்கூத்தன் - தோழர் மோசிகீரணர்

கூறு 8

1. அப்துல் ரகுமான் - கண்ணும் எழுதேம்
2. சண்முக சுப்பையா - வயிறு

**பிரிவு - 3 : காப்பியம்**

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**கூறு 9**

1. சிலப்பதிகாரம் - வழக்குரை காதை
  2. கம்பராமாயணம் - அயோத்தியா காண்டம்
- பிரிவு - 4 : காப்பியம்

**கூறு 10**

1. சீறாப்புராணம் - ஈத்தங்குலை வரவழைத்த படலம் (1)

**கூறு 11**

- தேம்பாவணி** - காட்சிப்படலம்  
பாடல் எண் (ஒவ்வொரு பாடலின் முதல்வரி)  
1. இன்னவாயில்  
2. கொழுந்துறும்  
3. பஞ்சு(ச) அரங்கில்

**கூறு 12**

- தேம்பாவணி** - காட்சிப்படலம்  
பாடல் எண் (ஒவ்வொரு பாடலின் முதல்வரி)  
4. எண்ணுளே  
5. ஒண்தலங்கள்  
6. இரவியேந்த கஞ்சக்

**கூறு 13**

- தேம்பாவணி** - காட்சிப்படலம்  
பாடல் எண் (ஒவ்வொரு பாடலின் முதல்வரி)  
7. கன்னியாயதாயும்  
8. ஏந்தி ஓங்கு உளத்து  
9. ஆவ தேமுனர்  
10. கொல்லும் வேலொடும்

**கூறு 14**

- தேம்பாவணி** - காட்சிப்படலம்  
பாடல் எண் (ஒவ்வொரு பாடலின் முதல்வரி)  
11. என்ற வாசகம்  
12. அம்பினால்  
13. வேண்டும் ஓர் வினை

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## **B.Sc(IT) Credit Based Curriculum and Evaluation System**

<b>Course Code</b>	<b>Title of the Course</b>
<b>12911B</b>	<b>PART I: COMMUNICATION SKILLS – I</b>

### **Learning objectives:**

1. To make students to understand the basic skills of Communication.
2. To acquaint students with the important features of Communication skills.

### ***BLOCK I: COMMUNICATION: AN INTRODUCTION***

**Unit - I** Communication – Meaning – Types- Importance

**Unit – II** Barriers to Effective Communication – Principles – Principles of Effective Communication

### ***BLOCK II: ORAL COMMUNICATION***

**Unit – III** Oral Communication – Meaning – Importance- Forms of Oral Communication

**Unit – IV** Intonation –Meaning – Function- Types Preparation of Speech- Steps Involved

**Unit – V** Principles of Effective Oral Communication

### ***BLOCK III: WRITTEN COMMUNICATION***

**Unit – VI** Written Communication – Meaning –Steps – Importance- Advantages Use of words and Phrases

**Unit – VII** Sentence – Meaning –Sentence formation- Characteristics of an Effective Sentence

**Unit–VIII** Paragraph Writing –Essay Writing –Steps Involved –Outline- Layout – Contents-Drafting-Correction- Final Draft

### ***BLOCK IV: OFFICIAL COMMUNICATION***

**Unit – IX** Application for Employment and Curriculum Vitae –Steps involved

**Unit – X** Non –Verbal Communication – Meaning –Types –Body Language – Postures-Gestures –Facial Expressions –Eye Contact

**Unit – XI** Report Writing –Report –Types of Reports –Format of a Report

**Unit – XII** Essentials of a Good Report –Preparation of Report-Procedure Involved

**Unit – XIII** Meetings-Purpose of the Meeting – Procedure

**Unit–XIV** Group Discussion–Quality of Content-Participation –Logical Presentation –Behavioural Skills



## **B.Sc(IT) Credit Based Curriculum and Evaluation System**

### **References:**

1. Krishna Mohan & Meera Banerjee, Developing Communication Skills, 2005.
2. Geetha Nagaraj, Write to Communicate, 2004.
3. Wren & Martin, English Grammar and Composition, 2002.
4. Dale Carnegie, How to Win Friends and Influence People, 1981.
5. Dale R Jordan, Language Skills and Use.
6. Gartside L. Bahld, Nagammiah and McComas, Satterwhite, Modern Business Correspondence.
7. Rajendra Pal and Kortahalli J S, Essentials of Business Communication.
8. Wallace, Michael J, Study Skills in English.
9. Editors of Readers Digest, Super Word Power.

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## **B.Sc(IT) Credit Based Curriculum and Evaluation System**

Course Code	Title of the Course
12912	Part II: ENGLISH – Paper I

### **Learning objective:**

1. To make the students master the different topics prescribed in the Prose, Grammar and Composition.

#### ***BLOCK I: PROSE I***

<b>Unit – I</b>	Water-the Elixir of life	- C.V. Raman
<b>Unit – II</b>	Mrs. Packletide's Tiger	- SAKI
<b>Unit – III</b>	A Deed of Bravery	- Jim Carbett
<b>Unit – IV</b>	The Cat	- Catharine M. Willson
<b>Unit – V</b>	On Letter Writing	- Alpha of the Plough

#### ***BLOCK II: PROSE II***

<b>Unit – VI</b>	Our Ancestors	- Carl Sagan
<b>Unit – VII</b>	Our Civilization	- C.E.Foad
<b>Unit – VIII</b>	A Hero on Probation	- B.R. Nanda
<b>Unit – IX</b>	Dangers of Drug Abuse	- Hardin B. Fones
<b>Unit – X</b>	Food	- J.B.S. Haldane

#### ***BLOCK III: DEVELOPING GRAMMATICAL SKILLS***

<b>Unit – XI</b>	- Articles-Gerunds-Participles-Infinitives-Modals-Proposition- Tenses
<b>Unit – XII</b>	- Direct and Indirect Speech-Transformation of sentences- Active and passive voice.

#### ***BLOCK IV: DEVELOPING WRITING SKILLS***

<b>Unit – XIII</b>	- Letter writing - Precis writing - Developing hints.
<b>Unit – XIV</b>	- Dialogue writing - Paragraph writing.

### **References:**

1. Sebastian D K, *Prose for the Young Reader*, Macmillan.
2. *Active English Grammar*, Ed. by the Board of Editors, Macmillan.
3. *Modern English – A Book of Grammar Usage and Composition* by N.Krishnaswamy, Macmillan Publishers.

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## **B.Sc(IT) Credit Based Curriculum and Evaluation System**

<b>Course Code</b>	<b>Title of the Course</b>
<b>12913</b>	<b>PRINCIPLES OF INFORMATION TECHNOLOGY</b>

### **Course Objects**

- To understand the revolution in computers and communications
- To know about various application software
- To understand the information systems and software development

### **Course Outcome**

- To know the latest trends in information technology

<b>Unit No.</b>	<b>Contents</b>
	<b>BLOCK 1 : AN OVERVIEW OF THE REVOLUTION IN COMPUTERS AND COMMUNICATIONS:</b>
<b>1</b>	<b>From the analog to the digital age :</b> The “ New Story” of computers and communications - The six Elements of a Computer & Communications System
<b>2</b>	<b>Communications:</b> Development in Computer Technology, Developments in Communications Technology
<b>3</b>	<b>Computer and Communications Technology Combined:</b> Connectivity and Interactivity - The Ethics of Information Technology.
	<b>BLOCK 3 : NUMBER SYSTEM</b>
<b>4</b>	<b>Introduction:</b> Binary, Octal, Decimal and Hexadecimal number systems – Conversion from one base to another base – Use of complements – binary arithmetic – Numeric and Character codes.
<b>5</b>	<b>Boolean algebra:</b> Fundamental concepts of Boolean Algebra – De Morgan’s theorems – Simplification of expressions – Sum of products and products of sums
<b>6</b>	<b>Karnaugh map simplification</b> – Quine - McKluskey method – two level implementation of Combinational Circuits
	<b>BLOCK 2 : SOFTWARE</b>
<b>7</b>	<b>Application Software:</b> Kinds of Software - The five types of applications software - Word processing - Spreadsheets
<b>8</b>	<b>Other Software:</b> Database software, Presentation graphics software - Communications software <b>Programming Languages</b> - Object Oriented and Visual Programming - Internet Programming - HTML, XML, JAVA and ActiveX.
<b>9</b>	<b>Desktop accessories and personal information managers</b> - integrated software and suites - Groupware - Internet Web browsers - Specialised software - Ethics and Intellectual property rights.
	<b>BLOCK 4 : COMMUNICATIONS</b>
<b>10</b>	<b>Communications:</b> The practical uses of communications and connectivity - Telephone related communications services - Video/voice communication: Video conferencing and picture phones - online information services - The Internet - Shared resources : Workgroup computing, Electronic Data Interchange, and Intranets - Telecomputing and virtual offices -

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<b>11</b>	<b>Using computer to communicate:</b> Analog and Digital Signals - modems and communication Software, ISDN lines, and Cable Modems
<b>12</b>	<b>Communications Channels:</b> Communications Networks - Local Networks - Factors affecting Data transmission - Cyberethics: Netiquette, Controversial material and censorship, and privacy issues.
	<b>BLOCK 5 : STORAGE AND DATABASE</b>
<b>13</b>	<b>Storage fundamentals</b> - Compression and Decompression - Criteria for Rating Secondary Storage Devices - Diskettes - Hard Disks - Optical Disks - Magnetic Tapes
<b>14</b>	<b>Organising Data in Secondary Storage:</b> Databases, Data Storage - Hierarchy and the concept of the key field - File Management: Basic concepts - File Management Systems .Data Management Systems - Types of Database Organization - Features of a DBMS.

### **Text Books**

1. Stacey C Sawyer, Brain K Williams, Sarah E Hutchinson Using Information Technology – Brief Version A Practical Introduction to Computer and Communications Second Edition, The McGraw Hill Companies 2009.
2. Stacey C Sawyer, Brain K Williams, Sarah E Hutchinson Using Information Technology – Brief Version A Practical Introduction to Computer and Communications Third Edition, McGraw Hill Companies 2011

### **Book for Reference:**

1. J Hames O'Brien – Introduction to Information systems.
2. Digital Computer Fundamentals, 6th Edition, Thomas C. Bartee, Tata McGraw Hill, 2008.
3. Digital Logic and Computer Design, M. Morris Mano, Pearson Education, 2008.

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## **B.Sc(IT) Credit Based Curriculum and Evaluation System**

<b>Course Code</b>	<b>Title of the Course</b>
<b>12914</b>	<b>OFFICE AUTOMATION LAB</b>

### **Course Objectives**

- To create, edit, save and print documents with list tables, header, footer, graphic, spellchecker, mail merge and grammar checker
- To be able to attain the knowledge about spreadsheet with formula, macros, spell checker etc.
- To be able to prepare presentation.

### **Course Outcome**

- Attained total automation experience of the office using office automation software.

<b>Unit No.</b>	<b>Contents</b>
	<b>BLOCK 1 : MS-WORD</b>
<b>1</b>	<b>Working with Files</b> – Creating and opening documents, Saving documents, Renaming documents, working on multiple documents. Working with Text – Formatting, Moving, copying and pasting text
<b>2</b>	Styles – Apply a style, Apply from the Style dialog box, Create a new style from a model, Modify or rename a style, Delete style. Lists – Bulleted and numbered lists, Nested lists, Formatting lists.
<b>3</b>	<b>Table Manipulations.</b> Graphics – Adding clip Art, Add an image from a file, Editing graphics, Spelling and Grammar, AutoCorrect
<b>4</b>	<b>Page formatting</b> -Page margins, page size and orientation, Header and footers, page numbers, Mail Merge. Macros – Recording a macro, Running a macro-Web wizard – Using the Web Wizard, Creating & Saving web pages, Hyper links. Mail Merge.
	<b>BLOCK 2 : MS-EXCEL</b>
<b>5</b>	<b>Modifying a Worksheet</b> – Moving through cells, Adding worksheets, rows and columns Resizing rows and columns, Selecting cells, Moving and copying cells, Freezing panes - Macros – recording and running.
<b>6</b>	<b>Formatting cells</b> – Formatting toolbar, Dates and times, Auto formatting. Formula and Functions. Linking worksheets – Relative, absolute and mixed referencing
<b>7</b>	<b>Sorting and Filling</b> – Basic ascending and descending sorted, Complex sorts, Alternating text and numbers with Auto fill, Autofilling functions.
<b>8</b>	<b>Graphics</b> – Adding clip art, add an image from a file, Charts – Using chart Wizard, Copy a chart to Microsoft Word
	<b>BLOCK 3 : MS-POWER POINT</b>
<b>9</b>	<b>Create a Presentation from a template.</b> Working with Slides – Insert a new slide, Applying a design template, Changing slide layouts
<b>10</b>	<b>Slides:</b> Reordering slides, Hide slides, Create a Custom slide show. Adding Content – Resizing a text box, Text box properties, Delete a text box.
<b>11</b>	<b>Video and Audio effects,</b> Color Schemes & Backgrounds Adding clip art, Adding an image from a file, Save as a web page.

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<b>BLOCK 4 : MS-ACCESS</b>	
<b>12</b>	<b>Using Access database wizard, pages and projects.</b> Creating Tables – Create a Table in design view, Primary key, Indexes, Field validation rules.
<b>13</b>	<b>Datasheet Records</b> – Adding, Editing, Deleting records, Adding and deleting columns Resizing rows and columns, Finding data in a table & replacing, Print a datasheet.Declaring Table Relationships. Sorting and Filtering – Sorting, Filter by selection, by form, saving & removing a filter. Queries – Create a query in design view, Query Wizard, Find duplicates query
<b>BLOCK 5 : FORMS IN MS ACCESS</b>	
<b>14</b>	<b>Forms</b> – Create a form using the wizard, Create a form in Design View. Form Controls. Sub forms-Create a form and sub form at once, Sub form wizard, Drag and drop method. Reports – Using the wizard, Create in Design View, Printing reports. Importing, Exporting, Linking.

### **REFERENCE BOOKS:**

1. Laura Acklen et al, Microsoft Office 97 Professional Essentials, Prentice-Hall India (1998).

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**SEMESTER II**

Course Code	Title of the Course
12921A	PART I: TAMIL PAPER I

-பொதுத்தமிழ்  
பாடத்திட்டம்

மதிப்பெண் : 75+25  
மதிப்பீடு : 4

நோக்கம் : மொழி அறிவு, இலக்கண அறிவை வளர்த்தல்  
பிரிவு 1: தேம்பாவணி

கூறு 1

- தேம்பாவணி - காட்சிப்படலம்  
பாடல் எண் (ஒவ்வொரு பாடலின் முதல்வரி)  
14. சொல் தவிர்ந்த  
15. அன்னை  
16. அஞ்சுவார்  
17. சொல்லக் கேட்டனள்  
18. மற்செய்கை  
19. மண்கனியப்  
20. அழுது ஆர்ந்த

கூறு 2

- தேம்பாவணி - காட்சிப்படலம்  
பாடல் எண் (ஒவ்வொரு பாடலின் முதல்வரி)  
21. பொய் பொதுளும்  
22. இன்பு அருந்தி  
23. வழுதாயின இன்பு  
24. மறம் ஏவினர்

கூறு 3

- தேம்பாவணி - காட்சிப்படலம்  
பாடல் எண் (ஒவ்வொரு பாடலின் முதல்வரி)  
25. மண்ணோர்கள்  
26. பொய்யா விதியோய்  
27. விடியா இருள்  
28. அழுவார் எவரும்

பிரிவு 2: சிறுகதை, உரைநடை

கூறு 4

சிறுகதை - நீலபத்மநாபனின் "வான வீதியில்"

கூறு 5

உரைநடை - கம்பன் புறத்திணை - தி.சொக்கலிங்கம்

பிரிவு 3: இலக்கணம் - எழுத்தும் சொல்லும்

கூறு 6

1. முதலெழுத்துகள், சார்பெழுத்துகள்
2. மொழி முதலெழுத்துகள், மொழி இறுதி எழுத்துகள்

கூறு 7

1. ஒற்றெழுத்து மிகலும் மிகாமையும்,
2. ஆகு பெயர், அன்மொழித் தொகை.
3. வினா-விடை வகைகள்

கூறு 8

1. தமிழ்ச் சொல்லமைப்பின் சிறப்பு - பெயர், வினை, இடை, உரி வடிவங்கள்,
2. பிற மொழிச் சொற்களைத் தமிழில் ஆளும் முறைகள்

## **B.Sc(IT) Credit Based Curriculum and Evaluation System**

### **கூறு 9**

3. அல் வழி, வேற்றுமைப் புணர்ச்சிகள்
4. திணை, பால் , எண் , இட இயைபு.

### **பிரிவு 4: தமிழ் இலக்கிய வரலாறு**

### **கூறு 10**

1. இக்கால இலக்கிய வகைகள்  
அ) மரபுக் கவிதை  
ஆ) புதுக் கவிதையின் தோற்றமும் வளர்ச்சியும்

### **கூறு 11**

1. உரை நடை இலக்கியங்கள் - தோற்றமும் வளர்ச்சியும்  
அ) கட்டுரை ஆ) சிறுகதை  
இ) புதினம் ஈ) நாடகம்

### **கூறு 12**

1. இக்கால இலக்கியக் களங்கள்  
திரைப்படம் , தொலைக்காட்சி, வானொலி, இதழ்கள் தமிழுக்கு ஆற்றி வரும் பணிகள்

### **கூறு 13**

1. தமிழும் சமயங்களும் :  
அ) சைவம் ஆ)வைணவம் இ)சமணம் ஈ)பௌத்தம் உ)இசுலாம்  
ஊ) கிறித்துவம்

### **கூறு 14**

1. பிற்காலக் காப்பியங்கள் :  
அ) கம்பராமாயணம் ஆ) பெரியபுராணம்
2. இணையம் - பற்றிய செய்திகள்

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## **B.Sc(IT) Credit Based Curriculum and Evaluation System**

<b>Course Code</b>	<b>Title of the Course</b>
<b>12921B</b>	<b>PART I: COMMUNICATION SKILLS – II</b>

### **Learning objectives:**

1. To make students understand the basic skills of Communication.
2. To acquaint students with the important features of Communication skills.

### ***BLOCK I: INTRODUCTION TO COMMUNICATION SKILLS***

- Unit – I** Code and Content of Communication Skills  
**Unit– II** Stimulus and Response of Communication Skills

### ***BLOCK II: SPEAKING SKILLS***

- Unit – III** Effective Speaking Guidelines  
**Unit – IV** Pronunciation Etiquette of Communication Skills  
**Unit – V** Phonetics in Communication Skills

### ***BLOCK III: LANGUAGE SKILLS***

- Unit – VI** A self Assessment of Communicating Soft Skills  
**Unit – VII** Language Skills –Ability –Skill Selected Need- Learner Centre activities  
**Unit – VIII** Listening Skills –Importance –Types of Listening- Interview Skills  
**Unit – IX** Conversation Skills –Modes  
**Unit – X** Presentation Skills - Preparing –Planning-Presentation

### ***BLOCK IV: WRITING SKILLS***

- Unit – XI** Written Communication –Structure of Effective Sentences –Paragraph  
**Unit – XII** Technical Writing-Creative Writing- Editing and Publishing  
**Unit – XIII** Corporate Communication Skills-Internal –Effective business writing – Letters, Proposals, Resume  
**Unit – XIV** Corporal Communication Skills-External - Press release - Newsletters- Interviewing skills

## **B.Sc(IT) Credit Based Curriculum and Evaluation System**

### **References:**

1. Dutt. Kiranmai & Geeta Rajjevan. Basic Communication Skills. Rev.ed. Foundation Books Pvt.Ltd. Cambridge House, New Delhi 2006.
2. Bill R. Swetmon. Communication Skills for the 21<sup>st</sup> Century. Chennai: Eswar Press. First South Asian Edition 2006.
3. Glass. Lillian. Talk to Win. New York: Perigee Books,1987.
4. Pease. Alan. Signals: How to Use Body Language for Power, Success and Love, New York: Bantam Books, 1981.
5. Walters. Lilly. Secrets of Successful Speakers. New York: McGraw-Hill, Inc., 1993.
6. Mandal. S.K. How to Succeed in Group Discussions & Personal Interviews. Mumbai: JAICO Publishing House.
7. Rogoff. Leonard and Ballenger. Grady. Office Guide to Business Letters, Memos & Reports. New York: Macmillan, 1994.
8. Krishna Mohan & Meera Banerjee, Developing Communication Skills, 2005.
9. Geetha Nagaraj, Write to Communicate, 2004.
10. Wren & Martin, English Grammar and Composition, 2002.
11. Rajendra Pal and Kortahalli J S, Essentials of Business Communication.

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## **B.Sc(IT) Credit Based Curriculum and Evaluation System**

Course Code	Title of the Course
12922	Part II: ENGLISH – PAPER II

### **Learning objective:**

1. To make the students master the different topics prescribed in the Poetry and Language use Sections.

#### ***BLOCK I: POETRY - I***

- Unit – I** Sonnet - William Shakespeare  
**Unit – II** Lines Composed upon Westminster Bridge  
-William Wordsworth  
**Unit – III** Grecian Urn - John Keats (1795-1827)  
**Unit – IV** Andrea Del Sarto - Robert Browning (1812-1889)

#### ***BLOCK II: POETRY - II***

- Unit – V** The Road Not Taken - Robert Frost (1874-1963)  
**Unit – VI** Strange Meeting - Wilfred Owen (1813-1918)  
**Unit – VII** Gitanjali - Rabindranath Tagore (1861-1946)  
**Unit – VIII** The Coromandel Fishers - Sarojini Naidu  
**Unit – IX** The Express - Stephen Spender

#### ***BLOCK III: DRAMA***

- Unit – X** Shakespeare : The Merchant of Venice

#### ***BLOCK IV: DEVELOPING LANGUAGE SKILLS***

- Unit – XI** Essay writing  
**Unit – XII** Note Making  
**Unit – XIII** Report writing  
**Unit – XIV** Comprehension

### **References:**

1. *The Golden Quill*, P.K. Seshadri, Macmillan.
2. *The Merchant of Venice*, Shakespeare. (Any overseas edition).
3. *Active English Grammar*, Ed. by the Board of Editors, Macmillan.
4. *Modern English – A Book of Grammar Usage and Composition* by N.Krishnaswamy, Macmillan Publishers.

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## **B.Sc(IT) Credit Based Curriculum and Evaluation System**

<b>Course Code</b>	<b>Title of the Course</b>
<b>12923</b>	<b>PROGRAMMING IN C AND DATA STRUCTURES</b>

### **Course Objectives:**

- To design, implement and apply the basic C programming concepts.
- To understand the linear and non linear data structures available in solving problems

### **Course Requirements:**

- Before studying this course, the student has knowledge about
- Basic principles of programming
- Concepts of stack, queue and array

### **Course Outcome:**

After the completion of this course, the student will able to

- To write programs using structures, strings, arrays, pointers and strings for solving complex computational problem.
- Use the data structures real time applications
- analyze the efficiency of Data Structures

<b>Unit no.</b>	<b>Description</b>
<b>BLOCK 1 : INTRODUCTION TO C</b>	
<b>1</b>	<b>Program Development styles and Basics of C.</b> Introduction to C – Character set – Identifiers and keywords – Data types – constants – Variables – declarations – Declaring variables, - Rules for defining variables. Initializing variables - Type conversion. Operator and Expressions
<b>2</b>	<b>Data input, output</b> and Preliminaries – single character input and output – Entering input data – Writing output data – gets and puts functions –
<b>3</b>	<b>control statements:</b> Branching and looping – Nested control structures .
<b>4</b>	Switch – Break – Continue and Goto.
<b>BLOCK 2 : FUNCTIONS, ARRAYS AND POINTERS</b>	
<b>5</b>	<b>Function:</b> defining a function – Accessing a function – Passing arguments to a function – Recursion – Library function – Macros – C preprocessor – Program structure: Storage classes – Automatic variables – Global variables – Static variables– Multiple programming – Bitwise operation.
<b>6</b>	<b>Arrays</b> – Array initialization, Definition of Array, Characteristic of Array, One dimensional array, Two dimensional array, Multidimensional arrays, Character array and strings – string handling functions.
<b>7</b>	<b>Pointers</b> – Features of Pointers, Pointer declaration, Arithmetic operation with pointers, Pointers and Arrays, Pointers and two dimensional arrays, Array of Pointers, Pointers to Pointers, Pointers and strings.
<b>BLOCK 3 : STRUCTURE UNION AND FILES</b>	
<b>8</b>	Structures and Unions: defining a structure – Processing a structure – Structures and pointers– Passing structures to functions – Self referential structures – Bit fields – Unions – Enumerations.
<b>9</b>	Data file: Opening and Closing a data file – Creating a data file – Processing a data file – Unformatted data file – Command line parameters.

## **B.Sc(IT) Credit Based Curriculum and Evaluation System**

<b>BLOCK 4 : LINEAR DATA STRUCTURE</b>	
<b>10</b>	<b>Introduction to Data Structure,</b> Stack, Stack related terms, operation on a stack, Representation of Stack, Implementation of a stack - Polish notation. Queues, Various Positions of Queue, Representation of Queues.
<b>11</b>	<b>List,</b> Merging lists, Linked list, Single linked list, Double Linked List, Header Linked list, Insertion and Deletion of linked list, Traversing a linked list. Representation of Linked list
<b>BLOCK 5 : NON-LINEAR DATA STRUCTURE</b>	
<b>12</b>	<b>Introduction</b> – Trees, Binary Trees, Types of Binary trees,
<b>13</b>	<b>Binary Tree Representation,</b> Traversing Binary Trees,
<b>14</b>	<b>Binary Search tree,</b> Insertion and Deletion operations, trees and their applications Hashing Techniques.

### **TEXT BOOKS:**

1. Programming in ANSI C, Fifth Edition, E.Balagurusamy, Tata McGraw-Hill Publishing Company Ltd, 2011
2. Data Structures, Seymour Lipschutz, G.A.Vijayalakshmi Pai, Second Edition , Schaum's Outlines, Tata Mc-Graw Hill Private Ltd., 2006.

### **REFERENCE BOOKS :**

1. Fundamentals of Data structures in C, Second edition, Ellis Horowitz and Sartaj Sahini, Universities press, 2007.
2. Programming and Data Structure, Pearson Edition, Ashok N Kamthane, 2007.

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## **B.Sc(IT) Credit Based Curriculum and Evaluation System**

<b>Course Code</b>	<b>Title of the Course</b>
<b>12924</b>	<b>C AND DATA STRUCTURE LAB</b>

### **Course Objectives**

- To be able to solve data structure problems using C language
- To learn and implement C language programming techniques

### **Course Outcome**

- Students can develop programming knowledge
- Students can solve any kind of problems using C language
- Data Structure based problems can be solved

### **Experiments based on C programming and Data Structures**

<b>Unit No.</b>	<b>Contents</b>
	<b>BLOCK 1 : C PROGRAM FUNDAMENTALS</b>
<b>1</b>	Simple C Programs
<b>2</b>	Using if and switch constructs Programs
<b>3</b>	Looping statements Problems
	<b>BLOCK 2 : FUNCTIONS, ARRAYS, STRINGS, FILE AND POINTERS</b>
<b>4</b>	Functions and Recursive programs
<b>5</b>	Arrays ,Strings and Matrices Programs
<b>6</b>	File Handling Programs
<b>7</b>	Pointers and Arrays Programs programs
	<b>BLOCK 3 – STRUCTURE , UNION AND FILES</b>
<b>8</b>	Structure and union : Programs using structure and union
<b>9</b>	Files : Programs based on file handling
	<b>BLOCK 4 : LINEAR DATA STRUCTURE PROGRAMS</b>
<b>10</b>	Stacks, queues ,expression evaluation programs
<b>11</b>	Infix to postfix conversion
<b>12</b>	Linked List programs: List, Merging lists, Linked list, Single linked list, Double Linked List, Header Linked list, Insertion and Deletion of linked list, Traversing a linked list.
	<b>BLOCK 5 : NON LINEAR DATA STRUCTURE EXPERIMENTS</b>
<b>13</b>	Tree Programs : Trees, Binary Trees, Types of Binary trees, Binary Tree Representation,
<b>14</b>	Traversing Binary Trees, Binary Search tree, Insertion and Deletion operations,

### **REFERENCE BOOKS:**

1. Programming in ANSI C, Fifth Edition, E.Balagurusamy, Tata McGraw-Hill Publishing Company Ltd, 2011
2. Data Structures, Seymour Lipschutz, G.A.Vijayalakshmi Pai, Second Edition , Schaum's Outlines, Tata Mc-Graw Hill Private Ltd., 2006.
3. Fundamentals of Data structures in C, Second edition, Ellis Horowitz and Sartaj Sahini, Universities press, 2007.
4. Programming and Data Structure, Pearson Edition, Ashok N Kamthane, 2007.

## **B.Sc(IT) Credit Based Curriculum and Evaluation System**

### **SECOND YEAR SEMESTER III**

Course Code	Title of the Course
12931A / 13131A	PART I: TAMIL PAPER I

பொதுத்தமிழ்  
பாடத்திட்டம்

மதிப்பெண் : 75+25  
மதிப்பீடு : 4

நோக்கம் : மொழி அறிவு, இலக்கண அறிவை வளர்த்தல்

#### **பிரிவு 1: இலக்கியம் - 1**

கூறு 1: பத்துப்பாட்டு - முல்லைப்பாட்டு

கூறு 2: எட்டுத்தொகை - ஐங்குறுநூறு

கூறு 3: கபிலர் - குறிஞ்சித்திணை

கூறு 4: மஞ்சைப்பத்து - முதல் மூன்று பாடல்கள்

கூறு 5: குறுந்தொகை - பரணர் பாடல்கள் பா. எண். 19, 24, 36, 128, 399

#### **பிரிவு 2: இலக்கியம் - 2**

கூறு 6: நற்றிணை - பெருங்குன்றூர்கிழார் - பா. எண். 5

பெருவழுதியார் - பா. எண். 55

பெருங்கௌசிகனார் - பா. எண். 139

கூறு 7: நற்றிணை - கருவூர்க்கோசிகனார் - பா. எண். 214

உலோச்சனார் - பா. எண். 249

கூறு 8: அகநானூறு - சேந்தம்புதனார் பாடல்கள் பா.எண். 84, 207

கூறு 9: புறநானூறு - மறோக்கத்து நப்பசலையார் பாடல்கள்

பா. எண். 37, 39, 126, 226, 280

#### **பிரிவு 3: பதினெண்கீழ்க்கணக்கு**

கூறு 10: பதினெண் கீழ்க்கணக்கு - திருக்குறள் - வாழ்க்கைத் துணை நலம் (6), அறிவுடைமை (43), பிரிவாற்றாமை (116)

கூறு 11: நான்மணிக்கடிகை - எள்ளற்க (3), பறைபடவாழா (4),

கூறு 12: நான்மணிக்கடிகை - மண்ணயறிப (5), கள்ளிவயிற்றில் (6), கல்லிற்பிறக்கும்(7)

#### **பிரிவு 4: நாடகம் - புதினம்**

கூறு 13: நாடகம் - இராசராசசோழன் - அரு. இராமநாதன்

கூறு 14: நாவல் - சுவடுகள் - இரா. பாலசுப்பிரமணியன், சத்யா வெளியீடு, மதுரை.

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## **B.Sc(IT) Credit Based Curriculum and Evaluation System**

Course Code	Title of the Course
12931B / 13131B	<b>PART I: HUMAN SKILL DEVELOPMENT – I</b>

### **Learning objective:**

1. To Make the Students develop human skills.

#### ***BLOCK I: HUMAN SKILLS AND HABITS***

**Unit – I** Human Skills –Developing skills-Types

**Unit – II** Mind-Levels of functions  
Habits-Meaning-Types-Merits of good habits - Interpersonal  
Relationship-Features- Interpersonal Behaviour

#### ***BLOCK II: PERSONALITY AND SELF CONCEPT***

**Unit – III** Thinking ahead- Significance of thinking ahead

**Unit – IV** Developing Personality-Meaning -Need- Factors  
influencing personality, Ways of developing  
personality -Building positive personality

**Unit – V** Self-concept-Self-esteem-Meaning-Importance - Self- efficacy-  
Self- acceptance-Meaning-Importance - Etiquette-Meaning-  
Etiquettes in using mobile, telephones-Dais Etiquette

#### ***BLOCK III: TYPES OF SKILLS***

**Unit – VI** Goal-setting Skills-Meaning-Types-Importance-

**Unit – VII** Decision-making skills-Meaning-Types-Steps in decision-making

**Unit–VIII** Negotiating Skills-Styles-Structure-Creating negotiation-Competitive  
Negotiation

#### ***BLOCK IV: HUMAN RELATIONS***

**Unit – IX** Attitudes-Meaning-Types-Importance-Developing positive attitudes

**Unit – X** Coping with Change-Meaning-Characteristics-Importance of  
change Resistance to change-Dealing with change

**Unit – XI** Leadership-Meaning-Importance-Characteristics-Styles-

**Unit – XII** Human Relations Skill-Need-Canons of good human relations

**Unit – XIII** Counselling-Meaning-Importance-Forms- Conflicts-  
Meaning-Types- Causes-Effects-Managements of conflicts

**Unit – XIV** Stress-Meaning-Types-Causes-Effects-Managing the stress  
- Anger- Meaning-Causes-Consequences-Anger  
Management

### **References:**

1. Les Giblin, Skill with People, 1995.
2. Shiv Khera, You Can Win, 2002.
3. Christian H Godefroy, Mind Power.
4. Dale Carnegie, How to Enjoy Your Life and Your Job, 1985.
5. Natalie H Rogers, How to Speak without Fear, 1982.
6. Dale Carnegie, How to Develop Self-Confidence and Influence People by Public Speaking.



## **B.Sc(IT) Credit Based Curriculum and Evaluation System**

Course Code	Title of the Course
12932 / 13132	Part II: ENGLISH - PAPER- III

### **Learning objective:**

1. To make the students master the different topics prescribed in the Short Stories, One Act Plays, Grammar and Composition.

#### ***BLOCK I: SHORT STORIES***

<b>Unit – I</b>	A Hero	- R.K. Narayanan
<b>Unit – II</b>	The Diamond Necklace	- Guy de Maupassant
<b>Unit – III</b>	The Verger	- Somerset Maugham
<b>Unit – IV</b>	The Postmaster	- Rabindranath Tagore

#### ***BLOCK II: ONE ACT PLAYS - I***

<b>Unit – V</b>	The Proposal	- Anton Chekhov
<b>Unit – VI</b>	The Boy Comes Home	- A.A. Milne
<b>Unit – VII</b>	The Silver Idol	- James R. Waugh
<b>Unit – VIII</b>	Progress	- St. John Ervine

#### ***BLOCK III: ONE ACT PLAYS - II***

<b>Unit – IX</b>	The Pie and the Tart	- Hume Chesterman
<b>Unit – X</b>	Reunion	- W.st. Joh Tayleur
<b>Unit – XI</b>	A kind of Justice	- Margaret Wood
<b>Unit – XII</b>	The Refugee	- Asif Currimbhoy

#### ***BLOCK IV: GRAMMAR AND COMPOSITION***

<b>Unit – XIII</b>	Parts of speech-Noun- Pronoun- Adjective Degrees of Comparison- Verb- Adverb
<b>Unit – XIV</b>	Agenda- Minutes- Notice- Descriptive Writing

### **References:**

1. *Aroma*, Ed. by the Board of Editors, Publishers- New Century Book House, Chennai.
2. *Six Short Stories*, Ed. by the Board of Editors, Harrows Publications, Chennai.
2. *One Act Plays*, Ed. by the Board of Editors, Harrows Publications, Chennai.
3. *Modern English – A Book of Grammar Usage and Composition* by N.Krishnaswamy, Macmillan Publishers.
4. *English for Communication*, Ed. by the Board of Editors, Harrows Publications, Chennai.

## **B.Sc(IT) Credit Based Curriculum and Evaluation System**

<b>COURSE CODE</b>	<b>TITLE OF THE COURSE</b>
<b>12933 / 13133</b>	<b>INTERNET AND JAVA PROGRAMMING</b>

### **Course Objectives:**

- To provide an overview of working principles of internet, web related functionalities
  - To understand and apply the fundamentals core java, packages, database connectivity for computing

### **Course Requirements:**

- Basic knowledge of internet and programming principles

### **Course Outcome:**

- Able to understand the internet standards and recent web Technologies
- Able to implement, compile, test and run Java program,
- Able to make use of hierarchy of Java classes to provide a solution to a given set of requirements found in the Java API

<b>Unit No.</b>	<b>Contents</b>
	<b>BLOCK 1 : INTRODUCTION</b>
<b>1</b>	<b>Basic Internet Concepts:</b> Connecting to the Internet – Domain Name System – E-mail
<b>2</b>	<b>The World Wide Web</b> – Internet Search Engines – Web Browsers – Chatting and conferencing on the Internet
<b>3</b>	<b>Online Chatting</b> –Messaging – Usenet Newsgroup – Internet Relay chat (IRC) – FTP – Telnet.
	<b>BLOCK 2 : FUNDAMENTALS OF OBJECT-ORIENTED PROGRAMMING:</b>
<b>4</b>	<b>Basic concepts</b> of OOP – Benefits – Applications
<b>5</b>	<b>Java Evolution:</b> Features – how java differs from C and C++ - java and internet- java support system – java environment -
<b>6</b>	<b>Overview of Java Language</b> –constants variables and data types- Operators and Expressions - Decision Making and Branching - Looping
	<b>BLOCK 3 : CLASSES, OBJECTS AND METHODS</b>
<b>7</b>	<b>class:</b> Defining a class –fields –methods –creating objects – accessing class members – constructors – methods overloading –static members –nesting of methods – Inheritance –overriding methods –final variables-classes –methods
<b>8</b>	<b>Arrays, Strings and Vectors</b> :One dimensional Arrays –creating of array – Two dimensional arrays- strings –vectors –Wrapper classes – Enumerated Types - Interfaces: Multiple Inheritance
<b>9</b>	<b>Packages:</b> Defining interface –Extending interfaces – Implementing Interfaces - Putting Classes Together
	<b>BLOCK 4: MULTITHREADING , EXCEPTION AND APPLETS</b>
<b>10</b>	<b>Multithreaded Programming</b> – Creating Threads –Extending the thread class –Stopping and Blocking a thread –Life cycle of a thread –using thread methods

## **B.Sc(IT) Credit Based Curriculum and Evaluation System**

	–Thread Exceptions –Priority –Synchronization –Implementing the ‘Runnable’ Interface
<b>11</b>	<b>Managing Error and Exceptions:</b> Types of errors –Exceptions –Syntax of Exception Handling code – Multiple Catch statements –using finally statement – Throwing our own Exceptions – using exceptions for Debugging - Graphics Programming: The Graphics Class – Lines and Rectangles – Circles and Ellipses – Drawing Arcs – Drawing Polygons – Line Graphs – Using Control Loops in Applets – Drawing Bar Charts.
<b>12</b>	<b>Applet Programming:</b> How applets differ from Applications – preparing to write applets – Building Applet Code – Applet life cycle – creating an Executable Applet – Designing a Web Page – Applet Tag – Adding Applet to HTML file – Running the Applet – Passing parameters to Applets – Displaying Numerical values – Getting input from the user
<b>BLOCK 5 : MANAGING INPUT/OUTPUT FILES IN JAVA</b>	
<b>13</b>	<b>Introduction</b> – concept of streams –stream classes – byte stream classes – character Stream
<b>14</b>	<b>I/O classes:</b> –using stream –using the file class –Input / output Exceptions – creation of files – Reading / writing characters – reading writing bytes Random access files- Interactive input and output –Other stream classes

### **Text Books:**

1. R. Krishnamoorthy and S. Prabhu, Internet and Java Programming, New Age International Publishers, 2004 (Unit I).
2. Programming with Java, 4e, E. Balagurusamy, Tata McGraw-Hill, 2010.

### **Reference books:**

1. Deitel, Deitel and Nieto, Internet and World Wide Web – How to program, Pearson Education, 2000.
2. Naughton and H.Schildt, Java 2 - The complete reference, Tata McGraw-Hill, Fourth edition, 2006.
3. Elliotte Rusty Harold, Java Network Programming, O’Reilly Publishers, 2000.
4. B.Mohamal Ibrahim , Java : J2SE – A Practical Approach, Firewall media, 2006.
5. Cay S. Horstmann, Gary Cornell, Core Java, Volume I and II, 5th Edition, Pearson Education, 2003.
6. Topley, J2ME in A Nutshell, O’Reilly Publishers, 2002.
7. Hunt, Guide to J2EE Enterprise Java, Springer Publications, 2004.
8. Ed Roman, Enterprise Java Beans, Wiley Publishers, 1998.

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## **B.Sc(IT) Credit Based Curriculum and Evaluation System**

<b>COURSE CODE</b>	<b>TITLE OF THE COURSE</b>
<b>12934 / 13134</b>	<b>INTERNET AND JAVA PROGRAMMING LAB</b>

### **Course Objective:**

- To understand and practice markup languages
- To understand and practice embedded dynamic scripting on client side Internet Programming
- To understand and practice web development techniques on client-side.

### **Course Requirement:**

- Basic concepts of Web and Java programming

### **Course Outcome:**

- Explore markup languages features and create interactive web pages using them
- Learn and design Client side validation using scripting languages
- Acquire knowledge about Open source JavaScript libraries
- Able to design front end web page and connect to the back end databases.

### **Experiments based on Internet Programming Theory**

<b>Unit No.</b>	<b>Contents</b>
	<b>BLOCK 1 : JAVA FUNDAMENTAL PROBLEMS</b>
<b>1</b>	Simple Java Problems
<b>2</b>	class and objects
<b>3</b>	Conditional control using java
<b>4</b>	Looping using java
	<b>BLOCK 2 : OOP CONCEPTS</b>
<b>5</b>	Function overloading programs
<b>6</b>	Operator overloading programs
<b>7</b>	Inheritance programs, Packages
<b>8</b>	Polymorphism programs Message passing programs
	<b>BLOCK 3 : THREAD &amp; VIRTUAL FUNCTION</b>
<b>9</b>	Threads
<b>10</b>	Virtual function programs
	<b>BLOCK 4 : I/O AND EXCEPTION HANDLING</b>
<b>11</b>	Exception handling programs
<b>12</b>	I/O manipulation programs,
	<b>BLOCK 4 :NETWORK PROGRAMMING</b>
<b>13</b>	Applet programs
<b>14</b>	Implementation of simple network programs using java

### **Reference books:**

1. R. Krishnamoorthy and S. Prabhu, Internet and Java Programming, New Age International Publishers, 2004).
2. Programming with Java, 4e, E. Balagurusamy, Tata McGraw-Hill, 2010.
3. Deitel, Deitel and Nieto, Internet and World Wide Web – How to program, Pearson Education, 2000.
4. Naughton and H.Schildt, Java 2 - The complete reference, Tata McGraw-Hill, Fourth edition, 2006.
5. Elliotte Rusty Harold, Java Network Programming, O'Reilly Publishers, 2000.
6. B.Mohamal Ibrahim , Java : J2SE – A Practical Approach, Firewall media, 2006.

**SEMESTER IV**

Course Code	Title of the Course
12941A / 13141A	PART I: TAMIL PAPER IV

பொதுத்தமிழ்  
பாடத்திட்டம்

மதிப்பெண் : 75+25  
மதிப்பீடு : 4

நோக்கம் : மொழி அறிவு, இலக்கண அறிவை வளர்த்தல்

**பிரிவு 1: செய்யுள் உறுப்புகள்**

- கூறு 1: செய்யுள் உறுப்புகள் - யாப்பு - எழுத்து, அசை, சீர்,  
கூறு 2: செய்யுள் உறுப்புகள் - யாப்பு - தளை, அடி, தொடை  
கூறு 3: வெண்பா, ஆசிரியப்பா, கலிப்பா, வஞ்சிப்பா,  
கூறு 4: புதிய யாப்பு வடிவங்கள் - சிந்து, கண்ணி, கீர்த்தனை  
கூறு 5: புதுக்கவிதையில் குறியீடு - படிமம்.

**பிரிவு 2: அகப்பொருள் - புறப்பொருள்**

- கூறு 6: அகப்பொருள் - புறப்பொருள் - ஐந்திணை விளக்கம்  
கூறு 7: அகப்பொருள் துறைகள் - வரைவு கடாதல், அறத்தொடு நிறறல்,  
உடன்போக்கு  
கூறு 8: புறப்பொருள் துறைகள் - வஞ்சினக்காஞ்சி, கையறுநிலை, செவியறிவுறாஉ

**பிரிவு 3: அணி**

- கூறு 9: அணி இலக்கணம் - உவமை, உருவகம், வேற்றுமை, பிறிது மொழிதல்,  
தற்குறிப்பேற்றம், சிலேடை, பின்வருநிலை.  
கூறு 10: நிறுத்தல் குறிகள்.

**பிரிவு 4: காப்பியம் - சங்க இலக்கியம்**

- கூறு 11: தொல்காப்பியம் - சங்கஇலக்கியம் - எட்டுத்தொகை, பத்துப்பாட்டு,  
கூறு 12: பதினெண்கீழ்க்கணக்கு.  
கூறு 13: ஐம்பெருங்காப்பியங்கள் - பிற்காலக் காப்பியங்கள் - கம்பராமாயணம் -  
பெரியபுராணம்.  
கூறு 14: இக்காலக் காப்பியங்கள் - பாரதியின் பாஞ்சாலி சபதம் - பாரதிதாசனின்  
பாண்டியன் பரிசு - கண்ணதாசனின் இயேசு காவியம் , சிற்பியின் - மௌன  
மயக்கங்கள்.

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## **B.Sc(IT) Credit Based Curriculum and Evaluation System**

Course Code	Title of the Course
12941B / 13141B	<b>PART I: HUMAN SKILL DEVELOPMENT – II</b>

### **Learning objective:**

1. To Make the Students develop human skills.

#### ***BLOCK I: GUIDENCE AND COUNSELLING***

**Unit – I** Guidance & Counselling – Role of Counsellor - Importance and Techniques of counselling

**Unit – II** Managerial skill- Need – Importance

**Unit – III** Human relational skills-Communication-Attention

#### ***BLOCK II: TECHNICAL SKILLS***

**Unit – IV** Conceptual skills-Meaning-Importance

**Unit – V** Technical skills-Techniques-Practices-Tools-Procedures

**Unit – VI** Presentation skills-Planning-Preparation-Delivery

**Unit – VII** Organization skills-Meaning-Nature-Importance-Types

**Unit – VIII** Multi-Tasking skills Responsibilities-Causes

**Unit – IX** Leader- Qualities of a good leader

#### ***BLOCK III: UNDERSTANDING SKILLS***

**Unit – X** Understanding Skills -Human systems: Individual, Group, organization, and their major interactions

**Unit – XI** Understanding Skills -Human systems: Community and Society, and their major interactions

#### ***BLOCK IV: SOCIETY BASED SKILLS***

**Unit – XII** Problem solving skills – Handling –Facing - Importance

**Unit – XIII** Cooperative Learning Skills

**Unit – XIV** Making Social Responsibilities-Causes

### **References:**

1. Les Giblin, Skill with People, 1995.
2. Shiv Khera, You Can Win, 2002.
3. Christian H Godefroy, Mind Power.
4. Dale Carnegie, How to Enjoy Your Life and Your Job, 1985.
5. Natalie H Rogers, How to Speak without Fear, 1982.
6. Dale Carnegie, How to Develop Self-Confidence and Influence People by Public Speaking.

## **B.Sc(IT) Credit Based Curriculum and Evaluation System**

Course Code	Title of the Course
12942 / 13142	Part II: ENGLISH –PAPER – IV

### **Learning objective:**

1. To make the students master the different topics prescribed in the Short Stories, Drama, Fiction, Tales from Shakespeare, Biographies, Grammar and Composition.

#### ***BLOCK I: SHORT STORIES***

<b>Unit – I</b>	Lalajee	- Jim Corbelt
<b>Unit – II</b>	A Day's Wait	- Hemmingway
<b>Unit – III</b>	Two old Men	- Leo Tolstoy
<b>Unit –IV</b>	Little Girls wiser than	- Men Tolstoy
<b>Unit – V</b>	Boy who wanted more Cheese	- William Elliot Griffir

#### ***BLOCK II: DRAMA AND FICTION***

<b>Unit – VI</b>	Pygmalion	- G.B. Shaw
<b>Unit – VII</b>	Swami and Friends	- R.K. Narayanan

#### ***BLOCK III: SHAKESPEARE***

<b>Unit – VIII</b>	- The Merchant of Venice
<b>Unit – IX</b>	- Romeo and Juliet
<b>Unit – X</b>	- The Winter's Tale

#### ***BLOCK IV: BIOGRAPHIES, GRAMMAR AND COMPOSITION***

<b>Unit – XI</b>	- Martin-Luther king	- R.N. Roy
<b>Unit – XII</b>	- Nehru	- A.J. Toynbee
<b>Unit – XIII</b>	- Concord- Phrases and Clauses-Question Tag	
<b>Unit – XIV</b>	- Expansion of Proverbs - Group Discussion - Conversation (Apologizing, Requesting, Thanking )	

### **References:**

1. *Sizzlers*, by the Board of Editors, Publishers:-Manimekala Publishing House, Madurai.
2. *Pygmalion* – G.B. Shaw
3. *Swami and Friends* – R.K. Narayan
4. *Tales from Shakespeare* Ed. by the Board of Editors, Harrows Publications, Chennai.
5. *Modern English – A Book of Grammar Usage and Composition* by N.Krishnaswamy, Macmillan Publishers.

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## **B.Sc(IT) Credit Based Curriculum and Evaluation System**

<b>COURSE CODE</b>	<b>TITLE OF THE COURSE</b>
<b>12943 / 13143</b>	<b>OPEN SOURCE SOFTWARE</b>

### **Course Objectives:**

- To understand the need, advantages and applications of open source software
- To work with open source database and open source programming languages

### **Course Outcome**

- Attained to know and work with open source software like Linux, MySQL etc
- Able to do programming in open source programming languages

<b>Unit No.</b>	<b>Contents</b>
	<b>BLOCK 1 : INTRODUCTION</b>
<b>1</b>	Introduction to Open sources – Need of Open Sources – Advantages of Open Sources–Application of Open Sources.
<b>2</b>	Open source operating systems: LINUX: Introduction– General Overview– Kernel Mode and user mode–Process–
<b>3</b>	Advanced Concepts–Scheduling – Personalities – Cloning – Signals – Development with Linux. .
	<b>BLOCK 2 : OPEN SOURCE DATABASE</b>
<b>4</b>	MySQL: Introduction Setting up account Starting, terminating and writing your own SQL programs
<b>5</b>	Record selection Technology– Working with strings – Date and Time
<b>6</b>	Sorting Query Results – Generating Summary – Working with metadata – Using sequences – MySQL and Web.
	<b>BLOCK 3 :OPEN SOURCE PROGRAMMING LANGUAGE - PHP</b>
<b>7</b>	PHP: Introduction – Programming in web environment – variables – constants–data types – operators –Statements
<b>8</b>	Functions– Arrays – OOP –String Manipulation and regular expression –File handling and data storage
<b>9</b>	PHP and SQL database – PHP and LDAP – PHP Connectivity –Sending and receiving E-mails –Debugging and error handling – Security – Templates.
	<b>BLOCK 4 :OPEN SOURCE PROGRAMMING LANGUAGE - PYTHON</b>
<b>10</b>	Syntax and Style – Python Objects – Numbers – Sequences – Strings –Lists and Tuples – Dictionaries –Conditionals and Loops .
<b>11</b>	Files – Input and Output –Errors and Exceptions – Functions – Modules – Classes and OOP – Execution Environment.
	<b>BLOCK 5 :OPEN SOURCE PROGRAMMING LANGUAGE - PERL</b>
<b>12</b>	Perl backgrounder – Perl overview– Perl parsing rules – Variables and Data – Statements
<b>13</b>	Control structures – Subroutines
<b>14</b>	Packages, and Modules-Working with Files –Data Manipulation.



## **B.Sc(IT) Credit Based Curriculum and Evaluation System**

### **Text Books:**

1. Remy Card, Eric Dumas and Frank Mevel, “The Linux Kernel Book”, Wiley Publications, 2003
2. Steve Suchring, “MySQL Bible”, John Wiley, 2002

### **Books for Reference:**

1. Rasmus Lerdorf and Levin Tatroe, “Programming PHP”, O’Reilly, 2002
2. Wesley J. Chun, “Core Python Programming”, Prentice Hall, 2001
3. Martin C. Brown, “Perl: The Complete Reference”, 2nd Edition, Tata McGraw-Hill Publishing Company Limited, Indian Reprint 2009.
4. Steven Holzner, “PHP: The Complete Reference”, 2nd Edition, Tata McGraw-Hill Publishing Company Limited, Indian Reprint 2009.
5. Vikram Vaswani, “MYSQL: The Complete Reference”, 2nd Edition, Tata McGraw-Hill Publishing Company Limited, Indian Reprint 2009.

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## **B.Sc(IT) Credit Based Curriculum and Evaluation System**

<b>COURSE CODE</b>	<b>TITLE OF THE COURSE</b>
<b>12944 / 13144</b>	<b>OPEN SOURCE LAB</b>

### **Course Objectives:**

- To understand the need, advantages and applications of open source software
- To work with open source database and open source programming languages
- To develop applications in PHP using various concepts like arrays, udf's, Sessions and make the students to understand and to establish the connectivity between PHP and MySQL and develop programs to add records, retrieve records and delete records from a table.

### **Course Outcome**

- Attained to know and work with open source software like Linux, MySql etc.,
- Able to do programming in open source programming languages.

<b>Unit No.</b>	<b>Contents</b>
	<b>BLOCK 1 : INTRODUCTION TO LINUX</b>
<b>1</b>	<b>Kernel</b> configuration, compilation and installation.
<b>2</b>	<b>Install various software</b> on Linux. Install and configure XAMP.Unix Commands and shell programming.
	<b>BLOCK 2 : MYSQL</b>
<b>3</b>	<b>Creating simple table</b> with constraints Insertion, Updation and Deletion of rows in MYSQL tables Searching of data by different criteria,Sorting of data
<b>4</b>	<b>Demonstration of joining tables</b> Usage of subqueries,aggregate functions Working with set operators Working with string, numeric and date functions
<b>5</b>	<b>Database connectivity</b> in PHP with MySQL Validating Input Formatting the Output.
	<b>BLOCK 3 : PHP</b>
<b>6</b>	<b>PHP Simple Programs</b> PHP program to perform the arithmetic operation. PHP program Adding numbers using function.
<b>7</b>	<b>PHP Web programs arrays and functions</b> Creating simple webpage using PHP Use of conditional statements in PHP Use of looping statements in PHP Creating different types of arrays Usage of array functions Creating user defined functions
<b>8</b>	<b>File manipulation using PHP</b> Creation of files,sessions and cookies Creating simple applications using PHP Creating simple table with constraints

## **B.Sc(IT) Credit Based Curriculum and Evaluation System**

<b>BLOCK 4 : PERL AND PYTHON PROGRAMMING</b>	
<b>9</b>	<b>PERL programs</b> : Simple programs using PERL
<b>10</b>	<b>Python Programming:</b> Use of conditional statements Use of looping statements
<b>11</b>	<b>Python Programming: Arrays</b> Creating different types of arrays Usage of array functions Creating user defined functions
<b>12</b>	<b>Python Programming: String:</b> String Handling
<b>BLOCK 5 : APPLICATION DEVELOPMENT</b>	
<b>13</b>	<b>Connect to a MYSQL</b> database with PHP, PERL and Python.
<b>14</b>	<b>Developing simple applications</b> using PHP and MYSQL

### **Books for Reference:**

- Remy Card, Eric Dumas and Frank Mevel, “The Linux Kernel Book”, Wiley Publications, 2003
- Steve Suchring, “MySQL Bible”, John Wiley, 2002.
- Rasmus Lerdorf and Levin Tatroe, “Programming PHP”, O’Reilly, 2002.
- Wesley J. Chun, “Core Python Programming”, Prentice Hall, 2001
- Martin C. Brown, “Perl: The Complete Reference”, 2nd Edition, Tata McGraw-Hill Publishing Company Limited, Indian Reprint 2009.

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**THIRD YEAR  
SEMESTER V**

<b>COURSE CODE</b>	<b>TITLE OF THE COURSE</b>
<b>12951 / 13151</b>	<b>DISCRETE MATHAMATICS</b>

**Course Objectives:**

- To understand the concepts and operations Set theory, Graph Theory
- To understand and apply the Mathematical Logic in computer science.

**Course Requirements:**

- Knowledge about Logics and graphs

**Course Outcome:**

- Acquire the basic knowledge of matrix, set theory, functions and relations concepts needed for designing and solving problems
- Acquire the knowledge of logical operations and predicate calculus needed for computing skill
- Able to design and solve Boolean functions for defined problems

<b>Unit No.</b>	<b>Contents</b>
<b>BLOCK 1 : MATHEMATICAL LOGIC</b>	
<b>1</b>	<b>Mathematical Logic:</b> Statements and Notation - connectives -normal forms – The theory of inference for the statement calculus -
<b>2</b>	<b>Predicate Calculus:</b> The predicate calculus - Inference theory and predicate calculus.
<b>3</b>	<b>Set theory:</b> Sets – Basic concepts – notation - inclusion and equality of sets - the power set
<b>BLOCK 2 : RELATIONS</b>	
<b>4</b>	<b>Relations and ordering</b> properties – relation matrix and graph of a relation
<b>5</b>	<b>Relations</b> Partition – equivalence and compatibility relations
<b>6</b>	<b>Composition and partial ordering:</b> Composition – partial ordering – partially ordered set
<b>BLOCK 3 : FUNCTIONS</b>	
<b>7</b>	<b>Functions</b> – definition – composition – inverse – binary and n-ary operations
<b>8</b>	<b>Other Functions</b> : Characteristic function – hashing function.
<b>BLOCK 4 : ALGEBRAIC STRUCTURES</b>	
<b>9</b>	<b>Algebraic Structures:</b> Algebraic Systems: Examples and General Properties
<b>10</b>	<b>Semigroups and Monoids:</b> Definitions and Examples - Homomorphism of Semigroups and Monoids - Subsemigroups and Submonoids
<b>11</b>	<b>Groups:</b> Definitions and Examples - Cosets and Lagrange's Theorem
<b>12</b>	<b>Normal Subgroups</b> – Algebraic Systems with two Binary Operations.
<b>BLOCK 5 : GRAPH AND FINITE PROBABILITY</b>	
<b>13</b>	<b>Graph theory:</b> Basic concepts – definition – paths - reach - ability and connectedness – matrix representation of graphs - trees.
<b>14</b>	<b>Finite Probability</b> – Probability Distributions – Conditional Probability Independence – Bayes' Theorem – Mathematical Expectation

## **B.Sc(IT) Credit Based Curriculum and Evaluation System**

### **TEXT BOOKS:**

1. J.P. Tremblay and R. Manohar Discrete mathematical structures with applications to Computer Science TMH Publishing Company 2003.
2. Judith L. Gersting, Mathematical Structures for Computer Science, 5th Edition, W.H. Freeman and Company, 2003.

### **REFERENCE BOOKS:**

1. Venkatraman M K, Sridharan N and Chandrasekaran N, Discrete Mathematics, The National Publishing Company, 2004.
2. Narsingh Deo, Graph Theory with Applications to Engineering and Computer Science PHI, 2003.
3. Ramasamy, Discrete Mathematical Structures with application to combinatorics, Univeristies Press, 2006.
4. Bernard Kolman, Roberty C. Busby, Sharn Cutter Ross, Discrete Mathematical Structures, Pearson Education, 2006.
5. Richard Johnsonbaugh, Discrete Mathematics, Fifth Edition, Pearson Education. 2001.
6. Garry Haggard and others, Discrete Mathematics for Computer science, Thomson.

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## **B.Sc(IT) Credit Based Curriculum and Evaluation System**

<b>COURSE CODE</b>	<b>TITLE OF THE COURSE</b>
<b>12952 / 13152</b>	<b>OPERATING SYSTEMS</b>

### **Course Objective**

- Able to understand the operating system principles
- Able to know the Principles of Deadlock, processor scheduling and memory management.

### **Course Requirements:**

- To be aware of the evolution and fundamental principles of operating system, processes and their communication

### **Course Outcome**

- Students have acquired the knowledge about the types of operating systems
- Students have acquired the knowledge about the functions of operating system

<b>Unit No.</b>	<b>Contents</b>
	<b>BLOCK 1 : INTRODUCTION</b>
<b>1</b>	<b>Introduction:</b> Definition of Operating Systems – Computer System Organization
<b>2</b>	<b>Computer System Architecture</b> – Operating System Structure – Operating System Operations
<b>3</b>	<b>System Structures:</b> Operating System Services – System Calls – System Programs – Operating System Design and Implementation.
	<b>BLOCK 2 : PROCESS CONCEPT</b>
<b>4</b>	<b>Process Concept:</b> Process Scheduling – Operations on Processes – Inter Process Communication
<b>5</b>	<b>Process Scheduling:</b> Scheduling Concepts – Scheduling Criteria – Scheduling Algorithms – Multiple Processor Scheduling
	<b>BLOCK 3 : SYNCHRONIZATION</b>
<b>6</b>	<b>Synchronization:</b> The Critical Section Problem – Synchronization Hardware – Semaphores – Classic Problems of Synchronization – Monitors
<b>7</b>	<b>Deadlocks:</b> Deadlocks Characterization – Methods for Handling Deadlocks
<b>8</b>	<b>Deadlock</b> Prevention – Avoidance – Detection – Recovery from Deadlock.
	<b>BLOCK 4 : MEMORY MANAGEMENT</b>
<b>9</b>	<b>Memory Management Strategies:</b> Swapping – Contiguous Memory Allocation – Paging – Segmentation
	<b>BLOCK 5 : FILE SYSTEM</b>
<b>10</b>	<b>File Concept</b> – Access Methods – Directory
<b>11</b>	<b>Structure</b> – File System Mounting – File Sharing – Protection.
<b>12</b>	<b>Implementing File Systems:</b> File System Structure – File System Implementation
<b>13</b>	<b>Directory Implementation</b> – Allocation Methods – Free Space Management
<b>14</b>	<b>Secondary Storage Structure:</b> Overview of Mass Storage Structure – Disk Structure – Disk Attachment – Disk Scheduling – Disk Management.

## **B.Sc(IT) Credit Based Curriculum and Evaluation System**

### **TEXT BOOK:**

1. Abraham Silberschatz, Peter Baer Galvin and Greg Gagne, “Operating System Principles”, 7th Edition, Wiley India Edition, 2008.

### **REFERENCE BOOKS:**

1. Andrew S.Tanenbaum, Operating Systems Design and Implementation, 3rd edition, Prentice Hall, 2006.
2. Harvey M. Deitel, An Introduction to Operating Systems, 3<sup>rd</sup> Edition, Addison Wesley 2007.

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## **B.Sc(IT) Credit Based Curriculum and Evaluation System**

<b>COURSE CODE</b>	<b>TITLE OF THE COURSE</b>
<b>12953 / 13153</b>	<b>RELATIONAL DATABASE MANAGEMENT SYSTEMS (RBDMS)</b>

### **Course Objectives:**

- To understand the fundamentals of data models
- To make a study of SQL and relational database design.
- To know about data storage techniques and query processing.
- To impart knowledge in transaction processing, concurrency control techniques and External storage

### **Course Requirements:**

- Knowledge about the basic concepts of the database.

### **Course Outcome:**

- Design a database using ER diagrams and map ER into Relations and normalize the relations
- Acquire the knowledge of query evaluation to monitor the performance of the DBMS.
- Develop a simple database applications using normalization.

<b>Unit No</b>	<b>Contents</b>
	<b>BLOCK 1 INTRODUCTION</b>
<b>1</b>	<b>Data base System Applications</b> , data base System VS file System – View of Data – Data Abstraction –Instances and Schemas – data Models – the ER Model
<b>2</b>	<b>Model</b> :Relational Model – Other Models – Database Languages – DDL – DML – database Access for applications Programs – data base Users and Administrator – Transaction Management – data base System Structure – Storage Manager – the Query Processor.
<b>3</b>	<b>History of Data base Systems</b> - Data base design and ER diagrams – Beyond ER Design Entities, Attributes and Entity sets – Relationships and Relationship sets – Additional features of ER Model – Concept Design with the ER Model – Conceptual Design for Large enterprises.
	<b>BLOCK 2 : RELATIONAL MODEL</b>
<b>4</b>	<b>Introduction</b> – Integrity Constraint Over relations – Enforcing Integrity constraints – Querying relational data – Logical data base Design – Introduction to Views – Destroying / altering Tables and Views.
<b>5</b>	<b>Relational Algebra</b> – Selection and projection set operations – renaming – Joins – Division – Examples of Algebra overviews –
<b>6</b>	<b>Relational calculus</b> – Tuple relational Calculus – Domain relational calculus – Expressive Power of Algebra and calculus.
	<b>BLOCK 3 : SQL QUERY</b>
<b>7</b>	<b>Form of Basic SQL Query</b> – Examples of Basic SQL Queries – Introduction to Nested Queries – Correlated Nested Queries Set – Comparison Operators – Aggregative Operators – NULL values – Comparison using Null values – Logical connectivity's – AND, OR and NOT – Impact on SQL Constructs – Outer Joins – Disallowing NULL values – Complex Integrity Constraints in SQL Triggers and Active Data bases. Schema refinement



## **B.Sc(IT) Credit Based Curriculum and Evaluation System**

<b>8</b>	<b>Normal forms :</b> Problems Caused by redundancy – Decompositions – Problem related to decomposition – reasoning about FDS – FIRST, SECOND, THIRD Normal forms – BCNF–
<b>9</b>	<b>Join:</b> Lossless join Decomposition – Dependency preserving Decomposition – Schema refinement in Data base Design – Multi valued Dependencies – FORTH Normal Form.
<b>BLOCK 4 TRANSACTION</b>	
<b>10</b>	<b>Introduction :</b> Transaction Concept- Transaction State- Implementation of Atomicity and Durability – Concurrent – Executions – Serializability- Recoverability – Implementation of Isolation – Testing for serializability
<b>11</b>	<b>Protocols :</b> Lock Based Protocols – Timestamp Based Protocols- Validation- Based Protocols – Multiple Granularity.
<b>12</b>	<b>Recovery and Atomicity</b> – Log – Based Recovery – Recovery with Concurrent Transactions – Buffer Management – Failure with loss of nonvolatile storage-Advance Recovery systems- Remote Backup systems
<b>BLOCK 5 STORAGE</b>	
<b>13</b>	<b>Data on External Storage</b> – File Organization and Indexing – Cluster Indexes, Primary and Secondary Indexes – Index data Structures – Hash Based Indexing – Tree base Indexing – Comparison of File Organizations – Indexes
<b>14</b>	<b>Performance Tuning-</b> Intuitions for tree Indexes – Indexed Sequential Access Methods (ISAM) – B+ Trees: A Dynamic Index Structure.

### **Text Books:**

1. Raghurama Krishnan, Johannes Gehrke, Data base Management Systems, 3rd Edition, TATA McGrawHill.2003.
2. Silberschatz, Korth, Data base System Concepts, 6th Edition, Tata McGraw Hill, 2011.

### **Reference Books:**

1. Relational Database Principles 2nd Edition, Colin Ritchie, 2004
2. Sharad Maheswari and Ruchin Jain, Database management systems Complete Practical Approach, Firewall media, 2006
3. Peter Rob & Carlos Coronel, Data base Systems design, Implementation, and Management, 7th Edition.
4. Elmasri Navrate , Fundamentals of Database Systems, Pearson Education.

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## **B.Sc(IT) Credit Based Curriculum and Evaluation System**

<b>COURSE CODE</b>	<b>TITLE OF THE COURSE</b>
<b>12954 / 13154</b>	<b>RELATIONAL DATABASE MANAGEMENT SYSTEMS (RBDMS) - LAB</b>

Use the concepts like data normalization, link between table by means of foreign keys and other relevant database concepts for the following applications. The implementation of each should have necessary input screen (forms) Menu-driven query processing and reports. Necessary validations should be made for each table;

<b>Unit No.</b>	<b>Contents</b>
	<b>BLOCK 1 : TABLE MANIPULATION</b>
1	<b>Table</b> creation, Renaming a Table, Copying another table, Dropping a Table
2	<b>Table Description:</b> Describing Table Definitions, Modifying Tables
	<b>BLOCK 2 : SQL QUERIES AND SUB QUERIES</b>
3	<b>SQL Queries:</b> Queries, Sub Queries, and aggregate functions
4	<b>DDL:</b> Experiments using database DDL SQL statements
5	<b>DML:</b> Experiment using database DML SQL statements
6	<b>DCL:</b> Experiment using database DCL SQL statements
	<b>BLOCK 3 : INDEX AND VIEW</b>
7	<b>Index :</b> Experiment using database index creation, Renaming a index, Copying another index, Dropping a index
8	<b>Views:</b> Create Views, Partition and locks
	<b>BLOCK 4 : EXCEPTION HANDLING AND PL/SQL</b>
9	<b>Exception Handling:</b> PL/SQL Procedure for application using exception handling
10	<b>Cursor:</b> PL/SQL Procedure for application using cursors
11	<b>Trigger:</b> PL/SQL Procedure for application using triggers
12	<b>Package:</b> PL/SQL Procedure for application using package
13	<b>Reports:</b> DBMS programs to prepare report using functions
	<b>BLOCK 5 : APPLICATION DEVELOPMENT</b>
14	<b>Design and Develop Application:</b> Library information system, Students mark sheet processing, Telephone directory maintenance, Gas booking and delivering, Electricity bill processing, Bank Transaction, Pay roll processing. Personal information system, Question database and conducting Quiz and Personal diary

### **Reference Books:**

1. Raghurama Krishnan, Johannes Gehrke, Data base Management Systems, 3rd Edition, TATA McGrawHill.2003.
2. Silberschatz, Korth, Data base System Concepts, 6th Edition, Tata McGraw Hill, 2011.
3. Relational Database Principles 2nd Edition, Colin Ritchie, 2004
4. Sharad Maheswari and Ruchin Jain, Database management systems Complete Practical Approach, Firewall media, 2006
5. Peter Rob & Carlos Coronel, Data base Systems design, Implementation, and Management, 7th Edition.
6. Elmasri Navrate , Fundamentals of Database Systems, Pearson Education.

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**SEMESTER VI**

<b>COURSE CODE</b>	<b>TITLE OF THE COURSE</b>
12961 / 13161	• NET PROGRAMMING

<b>Unit No.</b>	<b>Contents</b>
	<b>BLOCK 1 – INTRODUCTION</b>
<b>1</b>	<b>Overview of Microsoft .NET Framework</b> - The .NET Framework components-The Common Language Runtime (CLR) Environment- The .NET Framework class Library
<b>2</b>	<b>Getting Started with Visual Basic .net IDE</b> : Set up of work environment, start page, the menu system, toolbars, the new project dialog box, graphical designers, code designers, the object explorer, the toolbox, the solution explorer, the class view window, the properties window, the dynamic help window, the server explorer, the output window, the command window.
<b>3</b>	<b>Visual basic language concept</b> : variables, Constants, Data Types, Operators, Control Structures and loops - Arrays : single and multidimensional array, declaring, dynamic array.
	<b>BLOCK 2 : INTRODUCTION TO WINDOWS COMMON CONTROLS</b>
<b>4</b>	<b>Working with Form</b> - Properties : appearance, behaviour, layout, windows style etc,
<b>5</b>	<b>methods and events</b> - Differentiate procedure oriented, object oriented and event driven programming – Input box- Message box
<b>6</b>	<b>Working with Common Tool Box Controls:</b> Label , button, Textbox , NumericUpDown , Check Box, Radio Button , Group Box , control and all important methods and events.
	<b>BLOCK 3 : ADDITIONAL CONTROLS AND MENUS OF WINDOWS</b>
<b>7</b>	Working with other controls of toolbox: Date Time Picker, List Box, Combo box, Picture Box, Rich Text Box, Progress bar, Masked Text box, Link Label, Checked List box
<b>8</b>	Working with Menus: creating menu,inserting,deleting,assigning short cut keys, popup menu.
	<b>BLOCK 4 : INBUILT FUNCTIONS, DIALOG BOX,MDI &amp; EXCEPTION</b>
<b>9</b>	<b>Inbuilt Functions</b> : Mathematical Functions-String manipulation - Dialog Boxes: OpenFileDialog, SaveFileDialog, FontDialog, ColorDialog, PrintDialog
<b>10</b>	<b>Sub Procedures and functions</b> : declaring, passing and returning arguments, exiting from it, pass by value and pass by ref
<b>11</b>	<b>Exception Handling and MDI:</b> Structured Error Handling (Try ....Catch ....finally), Unstructured Error Handling (On error go to line, goto 0, goto -1, resume next ) - Multiple document interface (MDI) : MDI Parent form and child form.
	<b>BLOCK 5 : DATABASE ACCESS USING ADO.NET</b>
<b>12</b>	<b>ADO .NET Object Model:</b> Dataprovider - Dataset - ADO .NET Programming : Creating a Database Application
<b>13</b>	<b>Creating Connection to a Database using ADO.NET</b> , Populating Data in ADO.NET,
<b>14</b>	<b>Browsing Records</b> , Datagrid view, Editing, Saving, Adding and Deleting Records using bounded and unbounded.

## **B.Sc(IT) Credit Based Curriculum and Evaluation System**

### **Text Books:**

1. Shelly, cashman, Quasney ‘ Microsoft Visual Basic .NET : Comprehensive Concepts And Techniques ‘ Cengage learning, 2012
2. StevenHolzner , Visual Basic .NET Programming Black Book , Dreamtech Press Publications, New Delhi

### **Book for Reference:**

1. Julia Case Bradley and Anita C Millsbaugh Programming in Visual Basic.NET McGraw Hill Higher Education (September 2002)

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## **B.Sc(IT) Credit Based Curriculum and Evaluation System**

<b>COURSE CODE</b>	<b>TITLE OF THE COURSE</b>
<b>12962 / 13162</b>	<b>SYSTEM ANALYSIS AND DESIGN</b>

### **Course Objectives**

To understand about the system and its Development life cycle  
To be able to analyze, design, develop, implement and maintain software system.

### **Course Outcome**

On Successful completion of the course the students should have:

- Understood the life cycle of the software development.
- Able to prepare software system documentation

<b>Unit No.</b>	<b>Contents</b>
	<b>BLOCK 1 : SYSTEM CONCEPTS AND SYSTEM DEVELOPMENT LIFE CYCLE</b>
<b>1</b>	<b>System Concepts</b> - Characteristics - Elements of a system - Types of Systems: Abstract, Physical, Open, Closed and Man-made Information system - Computer Based Information Systems: MIS, DSS, TPS and OAS
<b>2</b>	<b>System Development Life Cycle</b> - Problem Definition - Feasibility Study - Analysis - Design - Development - Implementation - Post Implementation and Maintenance
<b>3</b>	<b>System Analyst</b> : Interpersonal Skills - Technical Skill - Communication Skills - Role of Systems Analyst.
	<b>BLOCK 2 : SYSTEM ANALYSIS</b>
<b>4</b>	<b>System Analysis</b> : Bases for planning in System Analysis - Preliminary Investigation - Determining the User's information requirements, Case Scenario, Problem Definition and Project Initiation, Background Analysis
<b>5</b>	<b>Fact Finding Techniques</b> : Interview - Questionnaire - Record Review - Observation. Systems Analysis: Analysing Systems data - Feasibility Study: Technical, Economical and Operational - Steps in Feasibility Analysis, Feasibility Report, Oral Presentation
<b>6</b>	<b>Systems Costs &amp; Benefits:</b> Categories of Cost - Benefits - Cost Benefit Analysis: Break Even, Present Value, Pay Back and Cash Flow. <b>Analysis Tools</b> : Data flow concept - Data Flow Diagram - Data Dictionary - Decision Table - Decision Tree - Structured English.
	<b>BLOCK 3 : SYSTEM DESIGN</b>
<b>7</b>	<b>System Design</b> : Process and stages of System Design : Logical and Physical Design. Design Methodologies: Structured design - Form Driven Methodology - Major Development Activities
<b>8</b>	<b>Input Output and Form Design:</b> Input Design : Capturing Data for input - Input Validation - Input Design of on-line systems. Output Design - Printed, Display and Audio.
<b>9</b>	<b>Forms Design</b> : Definition - Classification of Forms, Requirements of Forms Design - Types of Forms - Forms Control.
	<b>BLOCK 4 : FILE AND DATABASE DESIGN:</b>
<b>10</b>	<b>File concepts</b> - Types of Files - Methods of File Organization - Sequential - Direct - Indexed - Database Design: Database concept
<b>11</b>	<b>Types of Databases</b> : Hierarchical, Network and Relational.
<b>12</b>	<b>System Development:</b> Software Design - Top Down Approach - Flow Chart: System

## **B.Sc(IT) Credit Based Curriculum and Evaluation System**

	Flow Chart - Program Flow Chart - HIPO - IPO - VTOC - Warnier Orr Diagram - Structured Walkthrough - Quality Assurance - Levels of Assurance - System Testing - Special Systems Tests
	<b>BLOCK 4 : SYSTEM EVALUATION,IMPLEMENTATION AND MAINTENANCE</b>
<b>13</b>	<b>System Evaluation and Implementation</b> Training Personnel - Training Methods - Conversion: Conversion Methods - Parallel, Direct, Pilot and Phase-in. Conversion Plan - Site Preparation - Data and File Preparation - Post Implementation Review -
<b>14</b>	<b>System Maintenance</b> : Corrective - Adaptive - Hardware and Software Selection : Computer Industry - Software Industry - Procedure of Hardware and Software Selection: Major phases in Hardware and Software selection - Evaluation Process - Financial considerations.

### **Text Book**

Elias M.Awad, Systems Analysis and Design, 1990, Galgotia Publication Pvt. Ltd.

### **Reference Book:**

1. James A. Sen, Analysis and Design of Information System, 1985, McGraw Hill.

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## **B.Sc(IT) Credit Based Curriculum and Evaluation System**

<b>COURSE CODE</b>	<b>TITLE OF THE COURSE</b>
<b>12963 / 13163</b>	<b>MULTIMEDIA AND ITS APPLICATIONS</b>

### **Course Objective:**

- To acquire knowledge about Text, Images & Animation.
- To enable the students to learn the concepts of Multimedia.

### **Course Requirements:**

- Basic concepts of Images, Audio and Video

### **Course Outcome:**

On Successful completion of the course the students should have:

- Understood the Multimedia animation and Desktop Computing.

<b>Unit No.</b>	<b>Contents</b>
	<b>BLOCK 1 : FUNDAMENTAL CONCEPTS</b>
<b>1</b>	<b>Fundamental concepts</b> in Text and Image: Multimedia and hypermedia, world wide web, overview of multimedia software tools.
<b>2</b>	<b>Graphics and image</b> data representation graphics/image data types, file formats
<b>3</b>	<b>Color in image and video:</b> color science, color models in images, color models in video.
	<b>BLOCK 2 : FUNDAMENTAL CONCEPTS IN VIDEO AND DIGITAL AUDIO</b>
<b>4</b>	Fundamental concepts in video and digital audio: Types of video signals, analog video, digital video
<b>5</b>	<b>Digitization of sound, MIDI</b>
<b>6</b>	<b>Quantization</b> and transmission of audio
	<b>BLOCK 3 : MULTIMEDIA DATA COMPRESSION:</b>
<b>7</b>	<b>Lossless compression algorithm:</b> Run-Length Coding, Variable Length Coding, Dictionary Based Coding, Arithmetic Coding
<b>8</b>	Lossless Image Compression, Lossy compression algorithm: Quantization.
	<b>BLOCK 4 : BASIC VIDEO COMPRESSION TECHNIQUES</b>
<b>9</b>	<b>Introduction</b> to video compression, video compression based on motion compensation
<b>10</b>	<b>search for motion vectors</b> , MPEG
<b>11</b>	<b>Basic Audio Compression</b> Techniques.
	<b>BLOCK 5 : MULTIMEDIA NETWORKS:</b>
<b>12</b>	<b>Multimedia Networks:</b> Basics of Multimedia Networks, Multimedia Network.
<b>13</b>	<b>Communications and Applications:</b> Quality of Multimedia Data Transmission, Multimedia over IP
<b>14</b>	<b>Multimedia over ATM Networks</b> , Transport of MPEG-4, Media-on-Demand(MOD).

### **Text Book:**

1. Fundamentals of Multimedia by Ze-Nian Li and Mark S. Drew PHI/Pearson Education 2004

### **Reference Books:**

1. Digital Multimedia, Nigel chapman and jenny chapman, Wiley-Dreamtech 2009
2. Multimedia and Communications Technology, Steve Heath, Elsevier (Focal Press) 1999

## **B.Sc(IT) Credit Based Curriculum and Evaluation System**

<b>COURSE CODE</b>	<b>TITLE OF THE COURSE</b>
<b>12964 / 13164</b>	<b>• NET PROGRAMMING LAB</b>

### **Course objectives**

- To be able to understand the fundamentals of windows GUI
- To be able to run variable applications on windows
- To be able to understand .NET Programming concepts

### **Course outcome**

- Students can develop GUI based applications using .NET

<b>Unit No.</b>	<b>Contents</b>
	<b>BLOCK 1</b>
<b>1</b>	Building simple applications, Observe and draw visual .net IDE layout and hands on practice to create, save and open the project.
<b>2</b>	Working with intrinsic controls ,Control Arrays,Sub Procedures and functions
	<b>BLOCK 2</b>
<b>3</b>	Application with multiple forms
<b>4</b>	Application with dialogs
<b>5</b>	Application with Menus
<b>6</b>	Application using data controls
<b>7</b>	Application using Common Dialogs
	<b>BLOCK 3</b>
<b>8</b>	Drag and Drop Events,Inbuild functions, Mathematical and string functions
<b>9</b>	Database Management
<b>10</b>	Creating ActiveX Controls
<b>11</b>	Database object (DAO) and properties
<b>12</b>	Active Data Objects (ADO) ADO and OLE DB
	<b>BLOCK 4</b>
<b>13</b>	<b>Database : Bounded and Unbounded Mode :</b> Connecting to the database ,Retrieving a recordset Creating a query dynamically Using a parameterized query using action queries - Adding records Editing records closing the database connection
	<b>BLOCK 5</b>
<b>14</b>	<b>Simple Application development:</b> 1. Library information system 2. Students mark sheet processing 3. Telephone directory maintenance 4. Gas booking and delivering 5. Electricity bill processing 6. Bank Transaction 7. Pay roll processing 8. Personal information system 9. Question database and conducting Quiz 10. Personal diary

### **Text Books**

1. Gary Cornwell Visual basic 6 , Tata McGraw Hill
2. Shelly, cashman, Quasney ‘ Microsoft Visual Basic .NET : Comprehensive Concepts And Techniques ‘Cengage learning, 2012
3. StevenHolzner , Visual Basic .NET Programming Black Book , Dreamtech Press Publications, New Delhi



## **B.Sc(IT) Credit Based Curriculum and Evaluation System**

Minutes of the Meeting of the Board of Studies in Computer Science for the Master of Computer Applications (M.C.A), M.Sc(Information Technology), M.Sc. (Computer Science), Post Graduate Diploma in Computer Applications (P.G.D.C.A), Bachelor of Computer Applications (B.C.A), B.Sc (Information Technology), B.Sc. (Computer Science) Programmes to be offered through Open Distance Learning (ODL) Mode held at The Directorate of Distance Education, Alagappa University, Karaikudi – 630 003, on 04.09.2017, (11.00 A.M).

### **Members Present**

1.	Dr. V Palanisamy	-	Chairman
2.	Dr E Ramaraj	-	Member
3.	Dr K.Kuppusamy	-	Member
4.	Dr. T.Meyyappan	-	Member
5.	Dr S.S.Dhenakaran	-	Member
6.	Dr K.Mahesh	-	Special Invitee
7.	Dr A. Padmapriya	-	Special Invitee
8.	Dr. P. Prabhu	-	Member
9.	Mr S Balasubramanian	-	Member

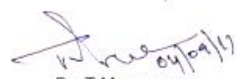
After the deliberation and discussion the board resolved the following:

1. The Board considered the curriculum design and detailed syllabi of Computer Science programmes, prepared as per the norms and the Board scrutinized and necessary modifications are specified.
2. The Board resolved to approve curriculum design, detailed syllabi and other regulations for the Master of Computer Applications (M.C.A), M.Sc(Information Technology), M.Sc (Computer Science), Post Graduate Diploma in Computer Applications (P.G.D.C.A), Bachelor of Computer Applications (B.C.A), B.Sc (Information Technology), B.Sc. (Computer Science) programmes to be offered from 2018-2019 academic year onwards by the Directorate of Distance Education of Alagappa University, Karaikudi.

  
Dr. V. Palanisamy

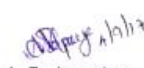
  
Dr. E. Ramaraj

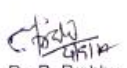
  
Dr. K. Kuppusamy


  
Dr. T. Meyyappan

  
Dr. S.S. Dhenakaran

  
Dr. K. Mahesh

  
Dr. A. Padmapriya

  
Dr. P. Prabhu

  
Mr. S. Balasubramanian