

B.Sc. Computer Technology

**Supportive/Allied Disciplines
Mathematics and Electronics**

**Programme : B.Sc. Computer Technology
Supportive/Allied Disciplines : Mathematics and Electronics**

A. Distribution of Courses, Credits and Contact Hours

Part	Type of Course	Total No. of Courses	Credits per Course	Total Credits	Percentage in Total Credits	Total Contact Hours	Percentage in Total Contact Hours
I	Language: Tamil/Malayalam/Hindi/French	2	4	8	5.71	10	5.56
II	English	2	4	8	5.71	10	5.56
III	Supportive/Allied (Compulsory)						
	Theory	4	(2x4 + 2x2)	12	11.43	12	8.89
	Laboratory Practice	2	2	4		4	
	Core (Compulsory)						
	Generic/Cluster Core	8	4	32	52.14	36	53.89
	Discipline Centric Core	5	4	20		25	
	Core Laboratory	8	2	16		32	
	Project/Industrial Training/Internship	1	5	5		4	
	Elective (Optional)						
	Discipline Centric Elective: Theory	2	4	8	13.57	10	12.78
	Discipline Centric Elective: Laboratory	1	4	4		5	
	Generic/Cluster Elective	1	4	4		5	
	Open (Inter-disciplinary) Elective	1	3	3		3	
	Ability (Skill) Enhancement						
	Soft and Quantitative Skills	4	0-1	2	4.29	10	8.89
	Value Added Technical Skills	2	1	2		4	
Training on Skill Sets	1	2	2	2			
IV	Foundation						
	Compulsory	2	2	4	5.71	4	4.44
	Elective (Optional)	2	2	4		4	
V	Extension	1	2	2	1.43	Extra	-
	Total	49	0-5	140	100	180	100

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B. List of Supportive/Allied, Core and Elective Courses

Supportive/Allied Courses (Compulsory)

Theory:

- 16UCU301 : Computational Mathematics
- 16UCU302 : Discrete Structures and Optimization Techniques
- 16UCI303 : Microprocessor
- 16UCI304 : Embedded System

Laboratory:

- 16UCI351 : Microprocessor
- 16UCI352 : Embedded System

Core Courses (Compulsory)

Generic/Cluster:

- 16UCU401 : Programming in C
- 16UCU402 : Computer System Architecture
- 16UCU403 : Object Oriented Programming using C++
- 16UCU404 : Operating Systems
- 16UCU405 : Data Structure and Algorithm
- 16UCU406 : Relational Data Base Management System
- 16UCU407 : Computer Networks
- 16UCU408 : Programming in Java

Discipline Centric:

- 16UCT501 : Client Server Technology
- 16UCT502 : Computer Installation and Servicing
- 16UCT503 : PC Hardware and Trouble Shooting
- 16UCT504 : Object Oriented Modeling and Design
- 16UCT505 : Multimedia Techniques

Laboratory:

- 16UCU551 : Programming in C
- 16UCU552 : Object Oriented Programming using C++
- 16UCU553 : Data Structures
- 16UCU554 : Programming in Java
- 16UCU555 : Programming in dot-Net
- 16UCU556 : Programming in PHP and MYSQL
- 16UCT557 : Computer Installation and Serving
- 16UCT558 : Programming in Network

Elective Courses (Optional)

Generic/Cluster – (Any One Course):

- 16UCU701 : Soft Computing
- 16UCU702 : Cyber Security
- 16UCU703 : Information Retrieval

Discipline Centric:

Group 1(Any One Course)

- 16UCT801 : Principles of Data Communication Networks
- 16UCT802 : Security in Computing
- 16UCT803 : Mobile Computing

Group 2(Any One Course)

- 16UCT804 : Web Technology
- 16UCT805 : Software Project Management
- 16UCT806 : Cryptography and Network Security

Group 3(Any One Course)

- Advanced Laboratory in :
- 16UCT807 : Web Technology
 - 16UCT808 : Multimedia
 - 16UCT809 : Software Engineering

National/International Certification Programmes

1. Online Spoken Tutorial by MHRD
2. Diploma in Project Management (Alison)
3. Diploma in HTML5, CSS3 and Java Script Course (Alison)
4. Web Application Development : Basic Concepts (University of Mexico)
5. Cyber Security and its Ten Domains (University systems of Georgia via Coursera)

Explanation for Course Code:

**First 02 Digits : Year 2016; Third Digit : Level of the Programme (U : UG / P : PG);
Fourth and Fifth Digits : Cluster / Discipline Code; Last 03 Digits : Nature of the
Course (Core/Elective/Supportive etc.,)**

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C. Semester-wise Distribution of Courses, Credits, Marks and Contact Hours

Part	Type of Course	Course Code	Title of the Course	Credits	Marks	Contact Hours / Week
Semester I						
I	Language	16UOT101/ 16UOM101/ 16UOH101/ 16UOF101	Modern Literature, Short Story, Grammar & History of Literature / Malayalam – I/ Hindi – I/ French – I	4	100	5
II	English	16UOE201	Language through Literature	4	100	5
III	Supportive/Allied : Mathematics - 1	16UCU301	Computational Mathematics	4	100	4
III	Generic/Cluster Core -1	16UCU401	Programming in C	4	100	4
III	Generic/Cluster Core -2	16UCU402	Computer System Architecture	4	100	4
III	Core Laboratory - 1	16UCU551	Programming in C	2	100	4
III	Ability (Skill) Enhancement	16UAB381	Soft and Quantitative Skills – I	-	CIA	2
IV	Compulsory Foundation - 1	16UFC901	Environmental Studies	2	100	2
V	Extension	16UEX951	NSS/YRC/RRC	-	CIA	Extra
Sub-Total				24	700	30
Semester II						
I	Language	16UOT102/ 16UOM102/ 16UOH102/ 16UOF102	Sangam Literature, Epics, Prose, Grammar & History of Literature/ Malayalam – II/ Hindi – II/ French – II	4	100	5
II	English	16UOE202	Language for Empowerment	4	100	5
III	Supportive/Allied : Mathematics - 2	16UCU302	Discrete Structures and Optimization Techniques	4	100	4
III	Generic/Cluster Core - 3	16UCU403	Object Oriented Programming using C++	4	100	4
III	Generic/Cluster Core - 4	16UCU404	Operating Systems	4	100	4
III	Core Laboratory - 2	16UCU552	Object Oriented Programming using C++	2	100	4
III	Ability (Skill) Enhancement	16UAB382	Soft and Quantitative Skills – II	-	CIA	2
IV	Compulsory Foundation - 2	16UFC902	Value Education: Human Rights	2	100	2
V	Extension	16UEX951	NSS/YRC/RRC	-	CIA	Extra
Sub-Total				24	700	30
Semester III						
III	Supportive/Allied : Electronics Theory - 1	16UCI303	Microprocessor	2	100	2
III	Supportive/Allied : Electronics Laboratory - 1	16UCI351	Microprocessor	2	100	2

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III	Generic/Cluster Core -5	16UCU405	Data Structure and Algorithm	4	100	5
III	Generic/Cluster Core -6	16UCU406	Relational Data Base Management System	4	100	5
III	Discipline Centric Core - 1	16UCT501	Client Server Technology	4	100	5
III	Core Laboratory - 3	16UCU553	Data Structures	2	100	4
III	Ability (Skill) Enhancement	16UAB383	Soft and Quantitative Skills – III	1	100	3
III	Ability (Skill) Enhancement	16UCT381	Value Added Technical Skills – I	1	100	2
IV	Elective Foundation - 1	16UFE901 or 16U FE902 or 16UFE903/ 16UFE904	Basic Tamil – I or Advanced Tamil – I or General Awareness/ Constitution of India	2	100	2
V	Extension	16UEX951	NSS/YRC/RRC	-		Extra
Sub-Total				22	900	30
Semester IV						
III	Supportive/Allied : Electronics Theory - 2	16UCI304	Embedded System	2	100	2
III	Supportive/Allied : Electronics Laboratory - 2	16UCI352	Embedded System	2	100	2
III	Generic/Cluster Core -7	16UCU407	Computer Networks	4	100	5
III	Generic/Cluster Core -8	16UCU408	Programming in Java	4	100	5
III	Core Laboratory - 4	16UCU554	Programming in Java	2	100	4
III	Discipline Centric Elective - 1	16UCT801/ 16UCT802/ 16UCT803	Principles of Data Communication Networks/ Security in Computing/ Mobile Computing	4	100	5
III	Ability (Skill) Enhancement	16UAB384	Soft and Quantitative Skills – IV	1	100	3
III	Ability (Skill) Enhancement	16UCT382	Value Added Technical Skills – II	1	100	2
IV	Elective Foundation - 2	16UFE905 or 16U FE906 or 16UFE907/ 16UFE908	Basic Tamil – II or Advanced Tamil – II or Yoga for Human Excellence/ Women’s Rights	2	100	2
V	Extension	16UEX951	NSS/YRC/RRC	2	100	Extra
Sub-Total				24	1000	30
Semester V						
III	Discipline Centric Core - 2	16UCT502	Computer Installation and Servicing	4	100	5
III	Discipline Centric Core - 3	16UCT503	PC Hardware and Trouble Shooting	4	100	5
III	Generic/Cluster Elective	16UCU701/ 16UCU702/ 16UCU703	Soft Computing/ Cyber Security/ Information Retrieval	4	100	5
III	Discipline Centric Elective - 2	16UCT804/ 16UCT805/ 16UCT806	Web Technology/ Software Project Management/ Cryptography and Network Security	4	100	5

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III	Core Laboratory - 5	16UCU555	Programming in dot-Net	2	100	4
III	Core Laboratory - 6	16UCU556	Programming in PHP and MYSQL	2	100	4
III	Ability (Skill) Enhancement	16UCT383	Training on Skill Sets	2	100	2
Sub-Total				22	700	30
Semester VI						
III	Discipline Centric Core - 4	16UCT504	Object Oriented Modeling and Design	4	100	5
III	Discipline Centric Core - 5	16UCT505	Multimedia Techniques	4	100	5
III	Discipline Centric Elective - 3	16UCT807/ 16UCT808/ 16UCT809	<u>Advanced Laboratory in :</u> Web Technology/ Multimedia/ Software Engineering	4	100	5
III	Open (Inter-disciplinary) Elective	Course offered by other Disciplines		3	100	3
III	Core Laboratory - 7	16UCT557	Computer Installation and Serving	2	100	4
III	Core Laboratory - 8	16UCT558	Programming in Network	2	100	4
III	Discipline Centric Core - 6	16UCT581	Project/Industrial Training/Internship	5	100	4
Sub-Total				24	700	30

Total Credits: $24+24+22+24+22+24 = 140$

Total Marks: $700+700+900+1000+700+700 = 4700$