

B.Sc. Information Technology

Supportive/Allied Disciplines
Mathematics and Electronics

**Programme : B.Sc. Information 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			
Foundation							
IV	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 Database Management System
- 16UCU407 : Computer Networks
- 16UCU408 : Programming in Java

Discipline Centric:

- 16UIT501 : Object Oriented Analysis and Design
- 16UIT502 : Software Engineering
- 16UIT503 : Advanced Database Management System
- 16UIT504 : Programming in Python
- 16UIT505 : Analysis and Design of Algorithm

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
- 16UIT557 : Internet Programming
- 16UIT558 : Programming in Python

Elective Courses (Optional)

Generic/Cluster- (Any One Course):

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

Discipline Centric:

Group 1(Any One Course)

16UIT801 : Distributed Technology
16UIT802 : Distributed Operating System
16UIT803 : Information Security

Group 2(Any One Course)

16UIT804 : Cloud Computing
16UIT805 : Mobile Computing
16UIT806 : No SQL

Group 3(Any One Course)

Advanced Laboratory in :

16UIT807 : Programming in UNIX and Shell
16UIT808 : Programming in Network
16UIT809 : Programming in No SQL

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 :	16UCI351	Microprocessor	2	100	2

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	Electronics Laboratory - 1					
III	Generic/Cluster Core -5	16UCU405	Data Structure and Algorithm	4	100	5
III	Generic/Cluster Core -6	16UCU406	Relational Database Management System	4	100	5
III	Discipline Centric Core - 1	16UIT501	Object Oriented Analysis and Design	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	16UIT381	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	-	CIA	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	16UIT801/ 16UIT802/ 16UIT803	Distributed Technology/ Distributed Operating System/ Information Security	4	100	5
III	Ability (Skill) Enhancement	16UAB384	Soft and Quantitative Skills – IV	1	100	3
III	Ability (Skill) Enhancement	16UIT382	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	16UIT502	Software Engineering	4	100	5
III	Discipline Centric Core - 3	16UIT503	Advanced Database Management System	4	100	5
III	Generic/Cluster Elective	16UCU701/ 16UCU702/ 16UCU703	Soft Computing/ Cyber Security/ Information Retrieval	4	100	5
III	Discipline Centric Elective - 2	16UIT804/ 16UIT805/ 16UIT806	Cloud Computing/ Mobile Computing/ No SQL	4	100	5
III	Core Laboratory - 5	16UCU555	Programming in dot-Net	2	100	4
III	Core Laboratory - 6	16UCU556	Programming in PHP and	2	100	4

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			MYSQL			
III	Ability (Skill) Enhancement	16UIT383	Training on Skill Sets	2	100	2
Sub-Total				22	700	30
Semester VI						
III	Discipline Centric Core - 4	16UIT504	Programming in Python	4	100	5
III	Discipline Centric Core - 5	16UIT505	Analysis and Design of Algorithm	4	100	5
III	Discipline Centric Elective - 3	16UIT807/ 16UIT808/ 16UIT809	<u>Advanced Laboratory in :</u> Programming in UNIX and Shell/ Programming in Network/ Programming in No SQL	4	100	5
III	Interdisciplinary Elective	Course offered by other Disciplines		3	100	3
III	Core Laboratory - 7	16UIT557	Internet Programming	2	100	4
III	Core Laboratory - 8	16UIT558	Programming in Python	2	100	4
III	Discipline Centric Core - 6	16UIT581	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