

Bachelor of Computer Applications(BCA)

Supportive/Allied Disciplines
Mathematics and Commerce

**Programme : Bachelor of Computer Applications
Supportive/Allied Disciplines : Mathematics and Commerce**

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	4	16	11.43	16	8.89
	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	47	0-5	140	100	180	100

Programme : Bachelor of Computer Application
Supportive/Allied Disciplines : Mathematics and Commerce

B. List of Supportive/Allied Core and Elective Courses

Supportive/Allied Courses (Compulsory)

Theory:

- 16UCU301 : Computational Mathematics
- 16UCU302 : Discrete Structures and Optimization Techniques
- 16UCZ303 : Financial and Cost Accounting
- 16UCZ304 : Management Information 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:

- 16UCA501 : System Analysis and Design
- 16UCA502 : Advanced Java Programming
- 16UCA503 : Multimedia System
- 16UCA504 : Web Designing
- 16UCA505 : System Application and Product

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
- 16UCA557 : Web Designing
- 16UCA558 : Multimedia

Elective Courses (Optional)

Generic/Cluster (Any One Course):

- 16UCU701 : Soft Computing

**Dr.SNS Rajalakshmi College of Arts and Science (Autonomous),
Coimbatore-641049**

16UCU702 : Cyber Security
16UCU703 : Information Retrieval

Discipline Centric:

Group 1(Any One Course)

16UCA801 : Ecommerce
16UCA802 : Enterprise Resource Planning
16UCA803 : Business Analytics

Group 2(Any One Course)

16UCA804 : Mobile Application Development System
16UCA805 : Geographical Information System
16UCA806 : Spatial Database System

Group 3(Any One Course)

Advanced Laboratory in :

16UCA807 : Mobile Application Development using J2ME
16UCA808 : Web based Spatial Database Programming
16UCA809 : R Programming

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.,)**

**Programme : Bachelor of Computer Application
Supportive/Allied Disciplines : Mathematics and Commerce**

**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						

**Dr.SNS Rajalakshmi College of Arts and Science (Autonomous),
Coimbatore-641049**

III	Supportive/Allied : Commerce - 1	16UCZ303	Financial and Cost Accounting	4	100	4
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	16UCA501	System 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	16UCA381	Value Added Technical Skills – I	1	100	2
IV	Elective Foundation - 1	16UFE901 or 16UFE902 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	800	30
Semester IV						
III	Supportive/Allied : Commerce - 2	16UCZ304	Management Information System	4	100	4
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	16UCA801/ 16UCA802/ 16UCA803	Ecommerce/ Enterprise Resource Planning/ Business Analytics	4	100	5
III	Ability (Skill) Enhancement	16UAB384	Soft and Quantitative Skills – IV	1	100	3
III	Ability (Skill) Enhancement	16UCA382	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	900	30
Semester V						
III	Discipline Centric Core - 2	16UCA502	Advanced Java Programming	4	100	5
III	Generic/Cluster Elective	16UCU701/ 16UCU702/ 16UCU703	Soft Computing/ Cyber Security/ Information Retrieval	4	100	5
III	Discipline Centric Elective - 2	16UCA804/ 16UCA805/ 16UCA806	Mobile Application Development System/ Geographical Information System/ Spatial Database System	4	100	5
III	Discipline Centric Elective		<u>Advanced Laboratory in :</u> Mobile Application	4	100	5

**Dr.SNS Rajalakshmi College of Arts and Science (Autonomous),
Coimbatore-641049**

	- 3	16UCA807/ 16UCA808/ 16UCA809	Development using J2ME/ Web based Spatial Database Programming/ R Programming			
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	16UCA383	Training in Skill Sets	2	100	2
Sub-Total				22	700	30
Semester VI						
III	Discipline Centric Core - 3	16UCA503	Multimedia System	4	100	5
III	Discipline Centric Core - 4	16UCA504	Web Designing	4	100	5
III	Discipline Centric Core - 5	16UCA505	System Application and Product	4	100	5
III	Open (Inter-disciplinary) Elective	Course offered by other Disciplines		3	100	3
III	Core Laboratory - 7	16UCA557	Web Designing	2	100	4
III	Core Laboratory - 8	16UCA558	Multimedia	2	100	4
III	Discipline Centric Core - 6	16UCA581	Project/Industrial Training/Internship	5	100	4
Sub-Total				24	700	30

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

Total Marks: $700+700+800+900+700+700 = 4500$

B.Sc. Computer Science

Supportive/Allied Disciplines

Mathematics and Commerce

**Programme : B.Sc. Computer Science
Supportive/Allied Disciplines : Mathematics and Commerce**

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	4	16	11.43	16	8.89
	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 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	47	0-5	140	100	180	100

Programme : B.Sc. Computer Science
Supportive/Allied Disciplines : Mathematics and Commerce

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

Supportive/Allied Courses (Compulsory)

Theory:

- 16UCU301 : Computational Mathematics
- 16UCU302 : Discrete Structures and Optimization Techniques
- 16UCW303 : Total Quality Management
- 16UCW304 : Business Accounting

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:

- 16UCS501 : Artificial Intelligence and Expert System
- 16UCS502 : Data Mining and Data Warehousing
- 16UCS503 : Software Testing
- 16UCS504 : WAP and XML Programming
- 16UCS505 : Distributed Computing

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
- 16UCS557 : Software Testing
- 16UCS558 : WAP and XML

Elective Courses (Optional)

Generic/Cluster (Any One Course):

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

Discipline Centric:

Group 1(Any One Course)

16UCS801 : Software Quality Assurance
16UCS802 : Middleware Technologies
16UCS803 : Big Data Analytics

Group 2(Any One Course)

16UCS804 : Internet of Things
16UCS805 : Animation Techniques
16UCS806 : Open Source Software

Group 3(Any One Course)

Advanced Laboratory in :
16UCS807 : Open Source Software
16UCS808 : Animation Techniques
16UCS809 : Data Analytics

Inter-disciplinary Elective Courses for other Disciplines

16UCS601 : HTML
16UCS602 : Unix Programming
16UCS603 : Multimedia and its Applications

National/International Certification Programmes

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

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.,)**

**Programme : B.Sc. Computer Science
Supportive/Allied Disciplines : Mathematics and Commerce**

**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	2	100	2

**Dr.SNS Rajalakshmi College of Arts and Science (Autonomous),
Coimbatore-641049**

			Rights			
V	Extension	16UEX951	NSS/YRC/RRC	-	CIA	Extra
Sub-Total				24	700	30
Semester III						
III	Supportive/Allied : Commerce - 1	16UCW303	Total Quality Management	4	100	4
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	16UCS501	Artificial Intelligence and Expert System	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	16UCS381	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	800	30
Semester IV						
III	Supportive/Allied : Commerce - 2	16UCW304	Business Accounting	4	100	4
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	16UCS801/ 16UCS802/ 16UCS803	Software Quality Assurance/ Middleware Technologies/ Big Data Analytics	4	100	5
III	Ability (Skill) Enhancement	16UAB384	Soft and Quantitative Skills – IV	1	100	3
III	Ability (Skill) Enhancement	16UCS382	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	900	30
Semester V						
III	Discipline Centric Core - 2	16UCS502	Data Mining and Data Warehousing	4	100	5
III	Generic/Cluster Elective	16UCU701/ 16UCU702/ 16UCU703	Soft Computing/ Cyber Security/ Intelligence System (Robotics)	4	100	5
III	Discipline Centric	16UCS804/	Internet of Things/	4	100	5

**Dr.SNS Rajalakshmi College of Arts and Science (Autonomous),
Coimbatore-641049**

	Elective - 2	16UCS805/ 16UCS806	Animation Techniques/ Open Source Software			
III	Discipline Centric Elective - 3	16UCS807/ 16UCS808/ 16UCS809	Advanced Laboratory in : Open Source Software / Animation Techniques / Data Analytics	4	100	5
III	Core Laboratory - 5	16UCU555	Programing in dot-Net	2	100	4
III	Core Laboratory - 6	16UCU556	Programing in PHP and MYSQL	2	100	4
III	Ability (Skill) Enhancement	16UCS383	Training on Skill Sets	2	100	2
Sub-Total				22	700	30
Semester VI						
III	Discipline Centric Core - 3	16UCS503	Software Testing	4	100	5
III	Discipline Centric Core - 4	16UCS504	WAP and XML Programming	4	100	5
III	Discipline Centric Core - 5	16UCS505	Distributed Computing	4	100	5
III	Open (Inter-disciplinary) Elective	Course offered by other Disciplines		3	100	3
III	Core Laboratory - 7	16UCS557	Software Testing	2	100	4
III	Core Laboratory - 8	16UCS558	WAP and XML	2	100	4
III	Discipline Centric Core - 6	16UCS581	Project/Industrial Training/Internship	5	100	4
Total				24	700	30

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

Total Marks: $700+700+800+900+700+700 = 4500$