SEETHALAKSHMI RAMASWAMI COLLEGE
(AUTONOMOUS)
AFFILIATED TO BHARATHIDASAN UNIVERSITY
TIRUCHIRAPPALLI
Accredited with A+ by NAAC (4th Cycle)

SYLLABUS

Revised CBCS-OBE–BASED Curriculum Structure

DEPARTMENT OF COMPUTER APPLICATIONS

UG PROGRAMME

(2024 onwards)

Guidelines for UG Curriculum Revision 2024-2025

The revised OBE-CBCS Curriculum pattern for the Undergraduate programme to be implemented from 2024 onwards, is based on the recommendations of the apex bodies namely **TANSCHE, UGC, Bharathidasan University (Parent University) and NAAC in lieu of the National Education Policy**.

○ As per the norms of UGC and Bharathidasan University, the sum total credits for UG programme is **140** including the domain specific **Group Project (3 credits)** which is to be completed by the students to orient them towards research activities.

○ Apart from 140 credits, **12 extra credit courses** have been introduced with the **total credits of 20**, in order to promote diversified skills among students.

○ A 30 hour **Course** entitled "**Communicative and Functional English**" has been introduced as **a mandatory** course, to enhance Communicative English.

○ Three **Courses** on the titles "**Office Automation, Web Designing and Internet Concepts**" with 30 hours for each course have been introduced as **mandatory** courses for honing the technical skills.

○ Students are given the provision of completing one **Online Course** as an **optional** course (**MOOC/SWAYAM/NPTEL**) for strengthening the domain specific knowledge.

○ One Community outreach activity may be carried out as an **optional** course by students who are interested to earn extra credit to showcase their commitment towards society and to fulfill the social responsibility of the institution.

○ A 30 hour **Certificate Course** on "**Indian Knowledge System**" has been introduced as a **mandatory** course to familiarize India's knowledge contribution to the major disciplines, to fall in line with the National Education Policy.

○ A discipline specific **Value Added Course** has been introduced as **mandatory** course as per TANSCHE requirements.

○ Three Internships (**1 credit each**) are introduced **of which Internship –I (at the II Semester vacation)** is made **mandatory** for every student of UG programme to enhance the employability and entrepreneurship skills.

○ A 30 hour **Course** titled "**Capacity Building for Enhancing Professional Skills**" (15 hours for the Professional Placement by the Union and 15 hours for Career Guidance Workshop by the respective Departments) has been introduced as a **mandatory** course to help the students acquire professional competency.

BACHELOR OF COMPUTER APPLICATIONS
CBCS - OBE Curriculum Structure
(For students admitted from 2024 onwards)

SEM	PART	COURSE	COURSE CODE	COURSE TITLE	HRS	CRD	INT/ EXT	CIA	SE	TOT
I	I	Language - I		Course - I	6	3	EXT	25	75	100
	II	English - I		Course - I	6	3	EXT	25	75	100
	III	Core Course - I		Programming in C and Data Structures	7	6	EXT	25	75	100
	III	Core Practical - I		Practical-I : Programming in C and Python	3	-	INT	-	-	-
	III	First Allied Course - I		Offered by the Department of Mathematics	4	3	EXT	25	75	100
	III	First Allied Practical		Offered by the Department of Mathematics	2	-	INT	-	-	-
	IV	VBE		Value Based Education	2	2	EXT	25	75	100
		Total			**30**	**17**				**500**
		EXTRA CREDIT COURSE		Communicative and Functional English offered by Department of English **(MANDATORY)**	2	2	INT	100	-	100
II	I	Language – II		Course – II	6	3	EXT	25	75	100
	II	English – II		Course – II	6	3	EXT	25	75	100
	III	Core Course – II		Programming in Python	7	6	EXT	25	75	100
	III	Core Practical – I		Practical-I: Programming in C and Python	3	4	INT	40	60	100
	III	First Allied Course - II		Offered by the Department of Mathematics	4	3	EXT	25	75	100
	III	First Allied Practical		Offered by the Department of Mathematics	2	3	INT	40	60	100
	IV	EVS		Environmental Studies	2	2	EXT	25	75	100
		Total			**30**	**24**				**700**

SEM	PART	COURSE	COURSE CODE	COURSE TITLE	HRS	CRD	INT/ EXT	CIA	SE	TOT
III	I	Language – III		Course – III	6	3	EXT	25	75	100
	II	English – III		Course – III	6	3	EXT	25	75	100
	III	Core Course – III		Programming in Java	6	6	EXT	25	75	100
	III	Core Practical - II		Practical-II: Programming in Java and MySQL	2	-	INT	-	-	-
	III	Second Allied Course – I		Offered by the Department of Commerce	4+2 / 4	3	EXT	25	75	100
	III	Second Allied Practical		Offered by the Department of Commerce	2	-	INT	-	-	-
	IV	NME - I*		Offered by other Departments	2	2	EXT	25	75	100
	IV	SBE –I		VB.NET Programming	2	2	EXT	25	75	100
				Total	**30**	**19**				**600**
		EXTRA CREDIT COURSE		Internship – I - (II Semester vacation) **Online/Offline - Certificate, Report & Photo (MANDATORY)**	-	1	INT	-	**-**	100
				Community outreach activity (II Semester vacation – **Report, Photo & Feedback**) **(OPTIONAL)**	-	1	INT	-	-	100

SEM	PART	COURSE	COURSE CODE	COURSE TITLE	HRS	CRD	INT/ EXT	CIA	SE	TOT
IV	I	Language – IV		Course – IV	6	3	EXT	25	75	100
	II	English – IV		Course – IV	6	3	EXT	25	75	100
	III	Core Course - IV		Database Systems	6	6	EXT	25	75	100
	III	Core Practical - II		Practical-II: Programming in Java and MySQL	2	4	INT	40	60	100
	III	Second Allied Course – II		Offered by the Department of Commerce	4	3	EXT	25	75	100
	III	Second Allied Practical		Offered by the Department of Commerce	2 / 2	3 / 3	INT	40	60	100
	IV	NME - II*		Offered by other Departments	2	2	EXT	25	75	100
	IV	SBE – II		Fundamentals of R Programming	2	2	EXT	25	75	100
				Total	**30**	**26**				**800**
		EXTRA CREDIT COURSE		Certificate Course (IKS) – **Offered by other Departments (beyond class hours) (MANDATORY)**	2	2	INT	25	75	100
				Office Automation **(MANDATORY)**	2	2	INT	25	75	100
				Internship – II (III Semester vacation) - **Online/Offline - Certificate, Report & Photo (OPTIONAL)**	-	1	INT	-	-	100
* Offered by the Department to the students of other disciplines

SEM	PART	COURSE	COURSE CODE	COURSE TITLE	HRS	CRD	INT/ EXT	CIA	SE	TOT
V	III	Core Course - V		Programming in ASP.NET	5	5	EXT	25	75	100
	III	Core Course - VI		Computer Networks	5	5	EXT	25	75	100
	III	Core Course - VII		Data Mining and Warehousing	5	5	EXT	25	75	100
	III	Core Practical- III		Practical-III**:** ASP.NET Programming	6	4	INT	40	60	100
	III	MBE – I		Cloud Computing	5	4	EXT	25	75	100
	IV	SBE – III		Photo Editing and Animation	2	2	EXT	25	75	100
	IV	SSD		Soft Skill Development	2	2	INT	25	75	100
				Total	**30**	**27**				**700**
		EXTRA CREDIT COURSE		Value Added Course – **offered to the same department (beyond class hours) (MANDATORY)**	2	2	INT	25	75	100
				Web Designing **(MANDATORY)**	2	2	INT	25	75	100
				Internship – III (IV Semester vacation) – **Online/Offline - Certificate, Report & Photo (OPTIONAL)**	-	1	INT	-	-	100
				Online Course (MOOC/ Swayam / NPTEL) – **Before V Semester (OPTIONAL)**	-	2	INT	-	-	100

SEM	PART	COURSE	COURSE CODE	COURSE TITLE	HRS	CRD	INT/ EXT	CIA	SE	TOT
VI	III	Core Course - VIII		Programming in PHP	5	5	EXT	25	75	100
	III	Core Course - IX		Operating Systems	5	5	EXT	25	75	100
	III	Core Practical - IV		Practical-IV: PHP Programming	6	4	INT	40	60	100
	III	MBE- II		Software Engineering	5	4	EXT	25	75	100
	III	MBE - III		Internet of Things	5	4	EXT	25	75	100
	III	Project		Group project	3	3	EXT	20	80	100
	V	GS		Gender Studies	1	1	INT	25	75	100
	V	Extension		Extension Activities (NSS/NCC/YRC/Sports and Exnora)	-	1	INT	-	-	100
				Total	**30**	**27**				**800**
				Grand Total	**180**	**140**				**4100**
		EXTRA CREDIT COURSE		Capacity Building for Enhancing Professional Skills **– Offered by the Department (MANDATORY)**	2	2	INT	-	-	100
				Internet Concepts **(MANDATORY)**	2	2	INT	25	75	100

TOTAL DISTRIBUTION OF HOURS, CREDITS & MARKS FOR UG PROGRAMME			
SEMESTER	HOURS	CREDITS	TOTAL MARKS
I	30	17	500
II	30	24	700
III	30	19	600
IV	30	26	800
V	30	27	700
VI	30	27	800
TOTAL	180	140	4100

LIST OF MAJOR BASED ELECTIVE COURSES

SEM	GROUP	COURSE CODE	COURSE TITLE
V	I (Choose any one course)		(A) **Cloud Computing** (B) Data Science (Optional)
VI	II (Choose any one course)		**(A) Software Engineering** (B) Computer Graphics (Optional)
	III (Choose any one course)		**(A) Internet of Things** (B) Robotics (Optional)

LIST OF SKILL BASED ELECTIVE COURSES

SEM	GROUP	COURSE CODE	COURSE TITLE
III	I (Choose any one course)		(A) **VB.NET Programming** (B) Programming in Oracle (Optional)
IV	II (Choose any one course)		(A) **Fundamentals of R Programming** (B) Visual Basic Programming (Optional)
V	III (Choose any one course)		(A) **Photo Editing and Animation** (B) Shell Programming (Optional)

NON MAJOR ELECTIVE COURSES OFFERED TO OTHER DEPARTMENTS

SEM	COURSE	COURSE CODE	COURSE TITLE
III	I		Fundamentals of Computers
IV	II		Introduction to e-Commerce

VALUE ADDED COURSE
Extra Credit Course for Skill Development

SEM	COURSE	COURSE CODE	COURSE TITLE
V	I		Angular JS

CERTIFICATE COURSE OFFERED TO OTHER DEPARTMENTS
Extra Credit Course for Skill Development (IKS)

SEM	COURSE	COURSE CODE	COURSE TITLE
IV	I		Cryptography in Ancient and Modern India

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BACHELOR OF COMPUTER APPLICATIONS
(CBCS System)
(For Students admitted from June 2024 onwards)

Subject	Number of Courses	Hours	Credit
Language	4	24	12
English	4	24	12
Core Course	9	51	49(4x6=24 + 5x5=25)
Core Practical	4	22	16(4x4=16)
Allied Course: Mathematics Commerce	4	16	12
Allied Practical: Mathematics Commerce	2	8	6
Major Based Elective Course (3x4)	3	15	12
Skill Based Elective Course	3	6	6
Non Major Elective Course	2	4	4
Value Based Education	1	2	2
Environmental Studies	1	2	2
Soft Skill Development	1	2	2
Gender Studies	1	1	1
Extension Activities	1	0	1
Group Project	1	3	3
Total	**41**	**180**	**140**

BACHELOR OF COMPUTER APPLICATIONS
(CBCS System)
(For Students admitted from June 2024 onwards)

EXTRA CREDIT COURSES FOR SKILL DEVELOPMENT*

Subject	Common/Subject Specific	Number of Courses	Credit
**Office Automation (MANDATORY)	**Common to All**	**1**	**2**
**Web Designing (MANDATORY)	**Common to All**	**1**	**2**
**Internet Concepts (MANDATORY)	**Common to All**	**1**	**2**
**Online Course (MOOC/SWAYAM/NPTEL) (OPTIONAL)	**Subject Specific**	**1**	**2**
Communicative and Functional English (MANDATORY)	**Common to All**	1	2
Community outreach activity (OPTIONAL)	**Subject Specific**	1	1
Certificate Course (IKS - Indian Knowledge System) (MANDATORY)	**Subject Specific (offered to other departments)**	1	2
Value Added Course (MANDATORY)	**Subject Specific**	1	2
Internship – I To be completed during II Semester Vacation (MANDATORY) Internship – II & III (OPTIONAL)	**Subject Specific**	3	3
Capacity Building for Enhancing Professional Skills (MANDATORY)	**50%Common to All (Placement Training)** **50% Subject Specific(Career Guidance Workshop by the respective Departments)**	1	2
TOTAL	**12**	**12**	**20**

*The extra credit courses have been introduced in the OBE-CBCS Curriculum pattern to be implemented from 2024 onwards based on the recommendations of the apex bodies namely **TANSCHE, UGC, Bharathidasan University (Parent University), NAAC in lieu of the National Education Policy.**

BACHELOR OF COMPUTER APPLICATIONS
(CBCS System)
EXTRA CREDIT COURSE FOR SKILL DEVELOPMENT*

SEM	COURSE	COURSE CODE	COURSE TITLE	HRS	CRD	INT/ EXT	CIA	SE	TOT
II	EXTRA CREDIT COURSES		Communicative and Functional English offered by Department of English (**MANDATORY**)	2	2	INT	100	-	100
III			Community outreach activity (II Semester vacation – **Report, Photo & Feedback**) (**OPTIONAL**)	-	1	INT	-	-	100
III			**Internship – I** - (II Semester vacation) **Online/Offline - Certificate, Report & Photo** (**MANDATORY**)	-	1	INT	-	-	100
IV			Certificate Course (IKS) – **Offered to other Department (beyond class hours)** (**MANDATORY**)	2	2	INT	25	75	100
IV			**Internship – II** (III Semester vacation) - **Online/Offline -Certificate, Report & Photo** (**OPTIONAL**)	-	1	INT	-	-	100
IV			**Office Automation (MANDATORY)**	2	2	INT	25	75	100
V			Value Added Course – **Offered to the same department (beyond class hours)** (**MANDATORY**)	2	2	INT	25	75	100
V			**Internship – III** (IV Semester vacation) – **Online/Offline - Certificate, Report & Photo** (**OPTIONAL**)	-	1	INT	-	-	100
V			**Web Designing (MANDATORY)**	2	2	INT	25	75	100
V			Online – Course (MOOC/Swayam/NPTEL) – **Before V Semester (OPTIONAL)**	-	2	INT	-	-	100
VI			Capacity Building for Enhancing Professional Skills **– Offered by the Department** (**MANDATORY**)	2	2	INT	-	-	100
VI			**Internet Concepts (MANDATORY)**	2	2	INT	25	75	100
			TOTAL		**20**				**1200**

BACHELOR OF COMPUTER APPLICATIONS
(CBCS System)
MANDATORY EXTRA CREDIT COURSE FOR SKILL DEVELOPMENT*

SEM	COURSE CODE	COURSE TITLE	HRS	CRD	INT/ EXT	CIA	SE	TOT
II		Communicative and Functional English offered by Department of English	2	2	INT	100	-	100
III		**Internship – I** - (II Semester vacation) **Online/Offline - Certificate, Report & Photo**	-	1	INT	-	-	100
IV		Certificate Course (IKS) – **Offered to other Department (beyond class hours)**	2	2	INT	25	75	100
IV		**Office Automation**	2	2	INT	25	75	100
V		Value Added Course – **Offered to the same department (beyond class hours)**	2	2	INT	25	75	100
V		**Web Designing**	2	2	INT	25	75	100
VI		Capacity Building for Enhancing Professional Skills **– Offered by the Department**	2	2	INT	-	-	100
VI		**Internet Concepts**	2	2	INT	25	75	100
		TOTAL NO OF COURSES 8	**14**	**15**				**800**

BACHELOR OF COMPUTER APPLICATIONS
(CBCS System)
OPTIONAL EXTRA CREDIT COURSE FOR SKILL DEVELOPMENT*

SEM	COURSE CODE	COURSE TITLE	HRS	CRD	INT/ EXT	CIA	SE	TOT
III		Community outreach activity (II Semester vacation – **Report, Photo & Feedback**)	-	1	INT	-	-	100
IV		**Internship – II** (III Semester vacation) - **Online/Offline -Certificate, Report & Photo**	-	1	INT	-	-	100
V		**Internship – III** (IV Semester vacation) – **Online/Offline - Certificate, Report & Photo**	-	1	INT	-	-	100
V		Online – Course (MOOC/Swayam/NPTEL) – **Before V Semester**	-	2	INT	-	-	100
		TOTAL NO OF COURSES 4		**5**				**400**

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BACHELOR OF COMPUTER APPLICATIONS
(CBCS System)
(For Students admitted from June 2024 onwards)
EXTRA CREDIT COURSES FOR SKILL DEVELOPMENT(Common/Subject Specific)

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Subject	Common/Subject Specific
**Office Automation (MANDATORY)	**Common to All**
**Web Designing (MANDATORY)	**Common to All**
**Internet Concepts (MANDATORY)	**Common to All**
**Online Course (MOOC/SWAYAM/NPTEL) (OPTIONAL)	**Subject Specific**
Communicative and Functional English **(MANDATORY)**	**Common to All**
Community outreach activity **(OPTIONAL)**	**Subject Specific**
Certificate Course (IKS - Indian Knowledge System) **(MANDATORY)**	**Subject Specific (offered to other departments)**
Value Added Course **(MANDATORY)**	**Subject Specific**
Internship – **I To be completed during II Semester Vacation (MANDATORY)** **Internship – II & III (OPTIONAL)**	**Subject Specific**
Capacity Building for Enhancing Professional Skills **(MANDATORY)**	**50%Common to All (Placement Training)** **50% Subject Specific(Career Guidance Workshop by the respective Departments)**
TOTAL	**12**