BHARATHIDASAN UNIVERSITY TIRUCHIRAPPALLI - 620 024.

B.Sc. ELECTRONICS

CHOICE BASED CREDIT SYSTEM –

LEARNING OUTCOMES BASED CURRICULUM FRAMEWORK (CBCS - LOCF)

(Applicable to the candidates admitted from the academic year 2022-23 onwards)

(For the 2024-2025 batch, the Naan Mudhalvan scheme has been implemented in the 2nd semester)

Sem.	Part	Course	Title	Ins. Hrs.	Credit	Exam Hour	Int.	Ext.	Total
I	I	Language Course – I Tamil $ / Other Languages + #		6	3	3	25	75	100
	II	English Course – I		6	3	3	25	75	100
	III	Core Course – I (CC)	Electric Circuits & Electronic Devices	5	5	3	25	75	100
		Core Practical – I (CP)	Electric Circuits & Electronic Devices Laboratory	4	4	3	40	60	100
		First Allied Course – I (AC)		4	4	3	25	75	100
		First Allied Course – II (AC)		3	-	-	-	-	-
	IV	Value Education		2	2	3	25	75	100
		TOTAL		**30**	**21**	**-**	**-**	**-**	**600**
II	I	Language Course – II Tamil $ / Other Languages + #		6	3	3	25	75	100
	II	English Course – II		4	3	3	25	75	100
	III	Core Course – II (CC)	Analog Electronic Circuits	5	5	3	25	75	100
		Core Practical – II (CP)	Analog Electronic Circuits Laboratory	4	4	3	40	60	100
		First Allied Course – II (AC)		3	2	3	25	75	100
		First Allied Course – III (AC)		4	4	3	25	75	100
		Add on Course – I ##	Professional English- I	6*	4	3	25	75	100
	IV	Environmental Studies		2	2	3	25	75	100
	VI	Naan Mudhalvan Scheme (NMS) @@	Overview of English Language Communication	2	2	3	25	75	100
		TOTAL		**30**	**29**	**-**	**-**	**-**	**900**

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III	I	Language Course – III Tamil $ / Other Languages + #		6	3	3	25	75	100
	II	English Course - III		6	3	3	25	75	100
	III	Core Course – III (CC)	Digital Electronics	5	5	3	25	75	100
		Core Practical - III (CP)	Digital Electronics Laboratory	4	4	3	40	60	100
		Second Allied Course – I (AC)		4	4	3	25	75	100
		Second Allied Practical (AP)		3	-	-	-	-	-
		Add on Course – II ##	Professional English - II	6*	4	3	25	75	100
	IV	Non-Major Elective I @ - Those who choose Tamil in Part I can choose a non-major elective course offered by other departments. Those who do not choose Tamil in Part I must choose either a) Basic Tamil if Tamil language was not studied in school level **or** b) Special Tamil if Tamil language was studied upto 10th & 12th std.	Home Appliances	2	2	3	25	75	100
		TOTAL		**30**	**25**	**-**	**-**	**-**	**700**
IV	I	Language Course –IV Tamil $ / Other Languages + #		6	3	3	25	75	100
	II	English Course – IV		6	3	3	25	75	100
	III	Core Course - IV (CC)	Linear Integrated Circuits	5	5	3	25	75	100
		Core Practical - IV (CP)	Linear Integrated Circuits Laboratory	4	4	3	40	60	100
		Second Allied Practical (AP)		3	2	3	40	60	100
		Second Allied Course – II (AC)		4	4	3	25	75	100
	IV	Non-Major Elective II @ - Those who choose Tamil in Part I can choose a non-major elective course offered by other departments. Those who do not choose Tamil in Part I must choose either c) Basic Tamil if Tamil language was not studied in school level **or** d) Special Tamil if Tamil language was studied upto 10th & 12th std.	Consumer Electronics	2	2	3	25	75	100
		TOTAL		**30**	**23**	**-**	**-**	**-**	**700**

V	III	Core Course - V (CC)	Communication Systems	5	5	3	25	75	100
		Core Course – VI (CC)	Microprocessors and Microcontrollers	5	5	3	25	75	100
		Core Course – VII (CC)	Electronic Instrumentation	5	5	3	25	75	100
		Core Practical -V (CP)	Advanced Electronics Laboratory	4	4	3	40	60	100
		Major Based Elective – I (Any one)	1. Embedded Systems 2. Internet of Things	5	4	3	25	75	100
	IV	Skill Based Elective- I	Mobile Phone Servicing	4	2	3	25	75	100
		Soft Skills Development		2	2	3	25	75	100
		TOTAL		**30**	**27**	**-**	**-**	**-**	**700**
VI	III	Core Course - VIII (CC)	Power Electronics	6	5	3	25	75	100
		Core Course - IX (CC)	VLSI Design	6	5	3	25	75	100
		Core Practical – VI (CP)	VLSI Design Laboratory	4	4	3	40	60	100
		Major Based Elective – II (Any one)	1. Biomedical Electronics 2. Wireless Communications	5	4	3	25	75	100
		Project		4	3	-	20	80	100
	IV	Skill Based Elective – II	Laptop Servicing and Troubleshooting	4	2	3	25	75	100
	V	Gender Studies		1	1	3	25	75	100
		Extension Activities **		-	1	-	-	-	-
		TOTAL		**30**	**25**	**-**	**-**	**-**	**700**
		GRAND TOTAL		**180**	**150**	**-**	**-**	**-**	**4300**

List of Allied Courses

First Allied Course	Second Allied Course
Mathematics	Chemistry / Computer Science

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$ For those who studied Tamil upto 10th +2 (Regular Stream).

+ Syllabus for other Languages should be on par with Tamil at degree level.

Those who studied Tamil upto 10th +2 but opt for other languages in degree level under Part- I should study special Tamil in Part – IV.

The Professional English – Four Streams Course is offered in the 2nd and 3rd Semester (only for 2022-2023 Batch) in all UG Courses. It will be taught apart from the Existing hours of teaching / additional hours of teaching (1 hour /day) as a 4 credit paper as an add on course on par with Major Paper and completion of the paper is must to continue his / her studies further. (As per G.O. No. 76, Higher Education (K2) Department dated: 18.07.2020).

* The Extra 6 hrs / cycle as per the G.O. 76/2020 will be utilized for the Add on Professional English Course.

@ NCC Course is one of the Choices in Non-Major Elective Course. Only the NCC cadets are eligible to choose this course. However, NCC Course is not a Compulsory Course for the NCC Cadets.

** Extension Activities shall be outside instruction hours.

@@ Naan Mudhalvan Scheme

SUMMARY OF CURRICULUM STRUCTURE OF UG PROGRAMMES

Sl. No.	Part	Types of the Courses	No. of Courses	No. of Credits	Marks
1.	I	Language Courses	4	12	400
2.	II	English Courses	4	12	400
3.		Core Courses	9	45	900
4.		Core Practical	6	24	600
5.		Allied Courses I & II	4	16	400
6.	III	Allied Practical	2	4	200
7.		Major Based Elective Courses	2	8	200
8.		Add on Courses	2	8	200
9.		Project	1	3	100
10.		Non-Major Elective Courses	2	4	200
11.		Skill Based Elective Courses	2	4	200
12.	IV	Soft Skills Development	1	2	100
13.		Value Education	1	2	100
14.		Environmental Studies	1	2	100
15.	V	Gender Studies	1	1	100
16.		Extension Activities	1	1	--
17.	VI	Naan Mudhalvan Scheme	1	2	100
		Total	**44**	**150**	**4300**

PROGRAMME OBJECTIVES:

- To inculcate skills those are relevant to the Industry Requirements and for the Research and Development sectors.
- To train the students to use novel ideas in the field of Electronics and provide smart solutions to Electronics Oriented Problems.
- To contribute the new inventions in the field of Electronics.
- To provide better knowledge in the Component Design areas and utilize the knowledge for their Self Employment.

PROGRAMME OUTCOME:

On the successful completion of the B.Sc. Electronics Programme, the students will

- To understand and apply the knowledge of Electronic devices, circuit design and Practical experience in the field of Electronics.
- To identify, analyze and solve the problems in design of digital circuits, Linear Integrated Circuits and bio Medical Instrumentation areas.
- To acquire and update the knowledge in the current Industrial trends including the concepts of Sensors, Microcontroller and Power Electronics.
- To independently carryout Entrepreneurship to fulfill day-to-day Electronics requirements.
- To utilize the knowledge to benefit the society with the innovative Products.

PROGRAMME EMPLOYMENT OPPORTUNITY:

This curriculum is designed to train young minds to develop their fundamental, analytical and problem-solving ability in electronics-oriented fields. In this way, it provides better opportunities to start a new venture, employability in Public and Private Sectors, BSNL (TTA), RRB, including ISRO, mainly as, ground Air Traffic Controllers in Airport Authorities, Production companies, and Hardware designers in Private Electronics Companies. Apart from this, a student will become an Entrepreneur and provide jobs to other job seekers.

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