## SCHOOL OF ELECTRONICS

## 1. PROGRAMME CODE:EC4A

## 2. PROGRAMME TITLE: B Sc (Electronics)/B Sc (Computer Science)

## 3. OBJECTIVES

- Graduates should be employable in industry, academia or government.
- Graduates should be imparted necessary knowledge and leadership skills for a successful professional career.
- Graduates should learn to adapt in a world of constantly evolving and innovative technology.
- Graduates should be enabled enough to collaborate with others to solve problems with creative thinking and effective communication.

#### 4. Combination:

The programme may have following combination

- A. Electronics, Physics, Mathematics
- B. Electronics, Computer Science, Mathematics

## 5. ELIGIBILITY

12<sup>th</sup> (10+2)with Science stream and Mathematics (compulsory) from a recognized Board with minimum 50 % marks.

## 6. AGE LIMIT

As decided by the University or State Govt. for U.G. programmes

#### 7. ADMISSION PROCEDURE

Admission will be done through Common Entrance Test (CET-2019).

8. SEATS:30(in each Combination : Refer4)

Course	Total	UR_	UR_F	ST_O	ST_	SC_O	SC_F	OBC_	OBC_	NRI	PH	JKR	JKM		EW
	Seats	ОР		Р	F	Р		OP	F						
														Т	NT
B.Sc.	30	9	5	4	2	3	2	3	1	1	1	1	1	1	1

UR\_OP-Unreserved Open, UR\_F-Unreserved Female, ST\_OP-Scheduled Tribe Open, ST\_F-Scheduled Tribe Female, SC\_OP-Scheduled Caste Open, SC\_F-Scheduled Caste Female, OBC\_OP-OBC Open, OBC\_F-OBC Female, NRI-Non Residing Indian, PH-Physically Handicapped, JKR-Jammu & Kashmir Resident, JKM-Jammu & Kashmir Migrant, EWT-Employee Ward Teaching, EWNT-Employee Ward Non Teaching

## 9. DURATION: SixSemesters (Three Years)

Semester	Academic	Development	Students'		Examination	Total (I	Rs.)
	Fee	&	Services Fee		Fee		
		Maintenance	Boys Girls			Boys	Girls
		Fee					
First	15000	7500	3300	3111	2500	28300	28111
Second	15000	7500	2911	2722	2500	27911	27722
Third	15000	7500	3300	3111	2500	28300	28111
Fourth	15000	7500	2911	2722	2500	27911	27722
Fifth	15000	7500	3300	3111	2500	28300	28111
Sixth	15000	7500	2911	2722	2500	27911	27722

#### **10.FEE STRUCTURE (2020-22)**

- In addition, students need to pay Caution money (Refundable) of Rs. 4000/- in First Semester
- If a student repeats a paper(s) in a semester, an additional fee of Rs.500/- per paper shall be payable.
- For NRI/ FN/ PIO Candidates, a fee of US\$ 3500 Per Annum shall be payable on yearly basis. They will have to pay a refundable deposit of US\$ 500 once at the time of admission.
- Hostel & mess facility are available on chargeable basis which shall extra to the fee mentioned above.
- In addition, students are required to pay Alumni fee of Rs. 500/- per semester

#### **11. Learning Outcomes:**

Upon graduating, a student shall imbibe the following gaits:

- 1. An ability to apply knowledge of computing and mathematics in Electronics
- 2. An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution.
- 3. An ability to design, implements, and evaluate a computer-based system, process, component, or program to meet desired needs.

#### **12.** Curricular Scheme (CBCS):

Following is the proposed indicative scheme for the B Sc/B Sc (Electronics) programme for the Two combinations proposed. The courses shall be floated and opted based on Choice Based Curriculum Scheme (CBCS) for the three combinations. Additionally, the scheme/curriculum/Syllabi is subject to periodic revision

Semes	ter l		26 Credits			
Sr. No.	Course Code	Course Name	Lecture (L) Hr	Tutorial (T) Hr	Practical (P) Hr	Credi t
1	EL11101	Computer Organization	3	1		4
2	EL11102	Mathematics	3	1		4
3	EL11103	Components and Networks	3	1		4

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4	EL11104	Foundation Course - Hindi Language	2	0		2
5	EL11105	English Language	2	0		2
6	EL11106	Entrepreneurship and Development-I	2	0		2
7	EL11201	Computer Org. & MS Office Laboratory	0	0	2	2
8	EL11203	Electronics Laboratory	0	0	2	2
9	EL11401	Comprehensive Viva				4

#### Semester II

Sr. No.	Course Code	Course Name	Lecture (L) Hr	Tutorial (T) Hr	Practical (P) Hr	Credit
1	EL12101	Programming & Problem Solving through C.	3	1		4
2	EL12102	Mathematics	3	1		4
3	EL12103	Electronic Devices	3	1		4
4	EL12104	Foundation Course - Hindi Language	2	0		2
5	EL12105	English Language	2	0		2
6	EL12106	Entrepreneurship and Development-II	2	0		2
7	EL12201	C Language Laboratory	0	0	2	2
8	EL12203	Electronics Laboratory	0	0	2	2
9	EL12401	Comprehensive Viva				4

#### Somostor III

Semest	ter III	r III 26 Credits				
Sr. No.	Course Code	Course Name	Lecture (L) Hr	Tutorial (T) Hr	Practical (P) Hr	Credit
1	EL13101	Data Structure using C Lang	3	1		4
2	EL13102	Mathematics	3	1		4
3	EL13103	Analog Electronics and OpAmp.	3	1		4
4	EL13104	Foundation Course - Hindi Language	2	0		2
5	EL13105	English Language	2	0		2
6	EL13106	Environmental Studies-I	2	0		2
7	EL13201	Data Structure using C Laboratory	0	0	2	2
8	EL13203	Electronics Laboratory	0	0	2	2
9	EL13401	Comprehensive Viva				4

#### **Semester IV**

## 26 Credits

26 Credits

Sr. No.	Course Code	Course Name	Lecture (L) Hr	Tutorial (T) Hr	Practical (P) Hr	Credit
1	EL14101	Data Base Management System	3	1		4
2	EL14102	Mathematics	3	1		4
3	EL14103	Digital Electronics	3	1		4
4	EL14104	Foundation Course - Hindi Language	2	0		2
5	EL14105	English Language	2	0		2
6	EL14106	Environmental Studies-II	2	0		2
7	EL14201	Data Base Management System Laboratory	0	0	2	2
8	EL14203	Electronics Laboratory	0	0	2	2
9	EL14401	Comprehensive Viva				4

Semes	nester V 26 Credits					
Sr. No.	Course Code	Course Name	Lecture (L) Hr	Tutorial (T) Hr	Practical (P) Hr	Credit
1	EL15101	Object Oriented Programming using C++	3	1		4
2	EL15102	Mathematics	3	1		4
3	EL15103	Microprocessor and Interfacing	3	1		4
4	EL15104	Foundation Course - Hindi Language	2	0		2

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5	EL15105	English Language	2	0		2
6	EL15106	Basics of Computer & IT-I	2	0		2
7	EL15201	C++ Laboratory	0	0	2	2
8	EL15203	Electronics Laboratory	0	0	2	2
9	EL15401	Comprehensive Viva				4

28 Credits

#### Semester VI

Sr. No.	Course Code	Course Name	Lecture (L) Hr	Tutorial (T) Hr	Practic al (P) Hr	Credit
1	EL16101	Computer Networks	3	1		4
2	EL16102	Mathematics	3	1		4
3	EL16103	Electronics Communication and Instrumentations	3	1		4
4	EL16104	Foundation Course - Hindi Language	2	0		2
5	EL16105	English Language	2	0		2
6	EL16106	Basics of Computer & IT-II	2	0		2
7	EL16201	Computer Networks Laboratory	0	0	2	2
8	EL16203	Electronics Laboratory	0	0	2	2
9	EL16501	Internship (Project)			2	2
10	EL16401	Comprehensive Viva				4

Note: The above course contents/scheme can be modified as per requirement from time to time in accordance with University Ordinance No. 14.

#### **13. PROGRAMME OUTCOMES**

PO aims at to create an educational environment to mould the students to meet the challenges of modern Electronics & Communication industry through state of the art technical knowledge and innovative experimental approaches. Following are the expected programme outcomes.

- 1. Analyze , plan and apply the acquired knowledge in basic sciences and mathematics in solving Electronics and Communication Engineering problems with technical, economic, environmental and social contexts.
- 2. Design, build and test analog & digital electronic systems for given specifications.
- 3. Architect modern communication systems to meet stated requirements.
- 4. Work in a team using technical knowhow, common tools and environments to achieve project objectives.
- 5. Communicate effectively, demonstrate leadership qualities and exhibit professional conduct in their career.
- 6. Engage in lifelong learning, career enhancement and adapt to changing professional and societal needs.
- 7. In addition the course caters to the requirements of providing complete exposure to NET/SET syllabus for Electronics farmed by the U.G.C.

#### **14. JOB OPPORTUNITIES**

Ability for employment

- **1. Internship: Students may serve as internee in many**Electronics and communication industries for completion of six month project work.
- 2. Placement
  - (a) As R &D Design Engineer in the Electronics domain
  - (b) As system engineer in telecommunication industry

Ability creation for pursuing higher education and research in the areas of Electronics