AMITY UNIVERSITY
RAJASTHAN

PROGRAMME STRUCTURE

Electronics & Communication Engineering

Bachelor of Technology

(Electronics & Communication Engineering)

Programme Code: BEC(2020-2024)

Duration – 4 Years Full Time

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PROGRAMME STRUCTURE
Electronics & Communication Engineering

Program Outcomes (POs)
ELECTRONICS AND COMMUNICATION ENGG.

PLO.1-An ability to apply and understand the knowledge of mathematics, science and engineering.

PL0.2-Knowledge and understanding of mathematics through differential and integral calculus, and basic sciences and engineering topics (including computing science) necessary to analyze and design complex electrical and electronic devices, software, and systems containing embedded hardware and software components and their design.

PLO.3-Develop and deploy engineering/technological solutions using latest techniques & tools/CAD (VHDL, MATLAB, Or-cad, VLSI, Antenna Design) imbibing concern for eco-system, and an attitude to serve society & humanity at large.

PLO.4-Graduateswill successfully engage themselves in practice of multidisciplinary engineering or relevant fields; They will pursue wide-spectrum careers appropriately as technologists,innovators, consultants, managers & entrepreneurs and will advance in their profession.

PLO.5-An ability to design and conduct experiments as well as to analyze and interpret data.

PLO.6-An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, health and safety.

PLO7-An ability to identify, formulate, and solve engineering problems.

PLO8-Knowledge of probability and statistics, including applications appropriate to the electrical engineering (Electronics, Communication, Processing and Embedded technology)

Credit Summary

Sem	Core course CC	Domain Electives DE	Values Added VAC	Open Electives	NTCC	Total
I	24	-	4	-	--	28
II	22	-	4	3	-	29
III	20	3	4	3	---	29
IV	16	3	4	3	---	26
V	12	3	4	3	6	28
VI	16	3	4	3	--	20
VII	12	-	4	3	6	25
VIII	8	3	--	--	12	23

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Semester I						
Code	**Course**	**Category**	**L**	**T**	**P**	**Credits**
Core Courses						
AM 101	Applied Mathematics – I	CC	3	1	-	4
AP 102	Applied Physics - I – Fields & Waves	CC	2	1		3
AC 103	Applied Chemistry	CC	2	1		3
BME 104	Element of Mechanical Engineering	CC	2	1		3
BCS 104	Introduction to Computers & Programming in C	CC	2	1		3
BEE 105	Basic Electrical Engg.	CC	2	1		3
Practical Courses						
AP 122	Applied Physics lab	CC	-	-	2	1
AC 123	Applied Chemistry lab	CC	-	-	2	1
BME 124	Element of Mechanical Engineering lab	CC	-	-	2	1
BCS 124	Programming in C lab	CC	-	-	2	1
BEE 125	Basic Electrical Engg.Lab	CC	-	-	2	1
Value AddedCourses						
BCS 101	English	VA	1	-	-	1
BSS 104	Behavioral Science-I		1	-	-	1
FLT 101	French		2	-	-	2
FLG 101	German					
FLS 101	Spanish					
FLC 101	Chinese					
Total						28

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Semester II						
Code	**Course**	**Category**	**L**	**T**	**P**	**Credits**
Core Courses						
AM 201	Applied Mathematics – II	CC	3	1	-	4
AP 202	Applied Physics - II – Modern Physics	CC	2	1		3
BCS 203	Object Oriented Programming using C++	CC	2	1		3
BME 204	Engineering Mechanics	CC	2	1		3
BME 205	Engineering Graphics	CC	1			1
EVS 001	Environmental Studies	CC	3	1	-	4
Practical Courses						
AP 222	Applied Physics - II – Modern Physics lab	CC	-	-	2	1
BCS 223	Object Oriented Programming using C++lab	CC	-	-	2	1
BME 224	Engineering Mechanics lab	CC	-	-	2	1
BME 225	Engineering Graphics lab	CC	-	-	2	1
Open Elective-I						
	OPEN ELECTIVE – I	OE	3	-	-	3
Value AddedCourses						
BCS 201	English	VA	1	-	-	1
BSS 204	Behavioural Science – II (Problem Solving and Creative Thinking	VA	1	-	-	1
FLT 201 FLG 201 FLS 201 FLC 201	Foreign Language – II French German Spanish Chinese	VA	2	-	-	2
Total						**29**

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Semester III

Code	Course	Category	L	T	P	Credits
Core Courses						
AM 301	Applied Mathematics – III	CC	3	-	-	3
BEC 302	Analog Electronics-I	CC	3	1	-	4
BEC 303	Circuits & Systems	CC	3	1	-	4
BEC304	Signal & Systems	CC	2	1	-	3
BEC305	Java Programming	CC	3	-	-	3
Practical Courses						
BEC322	Analog Electronics-I Lab	CC	-	-	2	1
BEC 323	Circuits & Systems Lab	CC	-	-	2	1
BEC 325	Java Programming Lab	CC	-	-	2	1
Domain Elective-I: Studentmust select one course from the following courses						
BEC 306	Electromagnetic Properties of Materials	DE	2	1		3
BEC 307	Measurements & Instrumentation	DE	2	1		3
Open Elective						
	OPEN ELECTIVE – II	OE	3		-	3
Value AddedCourses						
BCS 301	Communication Skills – I	VA	1	-	-	1
BSS 304	Behavioral Science-III (Interpersonal Communication)	VA	1	-	-	1
FLT 301 FLG 301 FLS 301 FLC 301	Foreign Language – III French German Spanish Chinese	VA	2	-	-	2
Total						**30**

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Semester IV						
Code	**Course**	**Category**	**L**	**T**	**P**	**Credits**
Core Courses						
BEC 401	Digital Circuits & Systems-I	CC	3	-		3
BEC 402	Analog Electronics-II	CC	3	-		3
BEC 403	Communication Systems	CC	3	-	-	3
BEE 404	Control System	CC	3	-		3
Practical Courses						
BEC 421	Digital Circuits & Systems-I Lab	CC			2	1
BEC 422	Analog Electronics-II Lab	CC			2	1
BEC 423	Communication Systems Lab	CC			2	1
BEE 424	Control System Lab	CC			2	1
Domain Elective-II: Student has to select one course from the following courses						
BEC 405	Computer Oriented Numerical Methods	DE	2	1		3
BEC 406	Electromagnetic Field Theory	DE	2	1		3
Open Elective						
	OPEN ELECTIVE – III	OE	3			3
Value AddedCourses						
BCS 401	Communication Skills – II	VA	1	-	-	1
BSS 404	Behavioral Science-IV (Relationship Management)	VA	1	-	-	1
FLT 401 FLG 401 FLS 401 FLC 401	Foreign Language – IV French German Spanish Chinese	VA	2	-	-	2
Total						**26**

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Semester V						
Code	**Course**	**Category**	**L**	**T**	**P**	**Credits**
Core Courses						
BEC 501	Microprocessor and Microcontroller Systems	CC	3	-		3
BEC 502	Digital Circuits & Systems-II	CC	3	-	-	3
BEC 503	Digital Communications	CC	3	-		3
BEC 550	Practical Training (Evaluation)	CC	-	-	-	6
Practical Courses						
BEC 521	Microprocessor and Micro Controller Lab	CC			2	1
BEE 528	MATLAB theory and practices	CC	-	-	2	1
BEC 522	Digital Circuits & Systems-II Lab	CC			2	1
Domain Elective-III: Student has to select one course from the following courses						
BEC 505	Telecommunication Networks	DE	3			3
BEC 506	Operating Systems	DE	3			3
BEE 505	Computer System Architecture	DE	3			3
Open Elective						
	OPEN ELECTIVE – IV	OE	3			3
Value Added Courses						
BCS 501	Communication Skills – III	VA	1	-	-	1
BSS 504	Behavioral Science-V (Understanding self for effectiveness	VA	1	-	-	1
FLT 501 FLG 501 FLS 501 FLC 501	Foreign Language – V French German Spanish Chinese	VA	2	-	-	2
Total						28

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Semester VI						
Code	**Course**	**Category**	**L**	**T**	**P**	**Credits**
Core Courses						
BEC 601	VLSI Design	CC	3	-		3
BEC 602	Digital Signal Processing	CC	3	-		3
BEC 603	Microwave Engineering	CC	3	-		3
BEE 601	Power Electronics	CC	3	-	-	3
Practical Courses						
BEC 621	VLSI Design lab	CC			2	1
BEC 622	Digital Signal Processing lab	CC			2	1
BEC 623	Microwave Engineering lab	CC			2	1
BEE 621	Power Electronics Lab	CC		-	2	1
Domain Elective-IV: Student has to select one course from the following courses						
BEC 605	Measurement & Measuring Instruments	DE	3			3
BEC 606	Data Structures and IT	DE	3			3
BEC 607	Information Theory & Coding	DE	3			3
Open Elective						
	OPEN ELECTIVE – V	OE	3			3
Value AddedCourses						
BCS 601	Communication Skills – IV	VA	1	-	-	1
BSS 604	Behavioural Science - VI (Stress and Coping Strategies)	VA	1	-	-	1
FLT601 FLG 601 FLS 601 FLC 601	Foreign Language – VI French German Spanish Chinese	VA	2	-	-	2
Total						**26**

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Semester VII						
Code	**Course**	**Category**	**L**	**T**	**P**	**Credits**
Core Courses						
BEC 701	Radar & Satellite Communications	CC	3	-		3
BEC 702	Digital Image Processing	CC	3	-		3
BEC 703	Analog CMOS IC Design	CC	3	-		3
Practical Courses						
BEC 721	Radar & Satellite Communications Lab	CC			2	1
BEC 722	Digital Image Processing lab	CC			2	1
BEC 723	Analog CMOS IC Design lab	CC			2	1
BEC 750	Industrial Training (Evaluation)	CC				3
	Seminar	CC				3
Open Elective						
	OPEN ELECTIVE – VI	OE	3			3
Value AddedCourses						
BCS 701	Communication Skills – V	VA	1	-	-	1
BSS 704	Understanding self for effectiveness – VII	VA	1	-	-	1
FLT 701 FLG 701 FLS 701 FLC 701	Foreign Language – VII French German Spanish Chinese	VA	2	-	-	2
	TOTAL					**25**

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Semester VIII						
Code	**Course**	**Category**	**L**	**T**	**P**	**Credits**
Core Courses						
BEC 801	Antenna & Wave Propagation	CC	3	-	-	3
BEC 802	Embedded System Design and Device Driver Development	CC	3	-		3
Practical Courses						
BEC 822	Embedded System Design and Device Driver Development lab	CC		-	2	1
BEC 821	Antenna & Wave Propagation Lab	CC		-	2	1
BEC 861	Project	CC				12
Domain Elective-V: Student must select one course from the following courses						
BEC 803	Instrumentation	DE	3			3
BEC 804	Nanoscience & Nanotechnology	DE	3			3
BEC 805	Robotics & Automation	DE	3			3
	Total					**23**

Total credit	**216**