BRAINWARE UNIVERSITY
SCHOOL OF ENGINEERING
DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
Programme Structure: B.Tech. in Electronics & Communication Engineering 2019

Mandatory Induction Program (Duration: 3 weeks)

- Physical activity
- Creative Arts
- Universal Human Values
- Literary
- Proficiency Modules
- Lectures by Eminent People
- Visits to local Areas
- Familiarization to Dept./Branch & Innovations

Different components of Mandatory Induction Program will be implemented as per the guidelines of AICTE

SEMESTER – I

Course Code	Course Name	L – T – P	Credits	Total Marks
BSC(ECE)101	Calculus	3 – 1 – 0	4	100
BSC(ECE)102	Physics	2 – 1 – 0	3	100
ESC(ECE)101	Basic Electrical Engineering	2 – 1 – 0	3	100
	Practical			
BSC(ECE)192	Physics Lab	0 – 0 – 3	1.5	100
ESC(ECE)191	Basic Electrical Engineering Lab	0 – 0 – 3	1.5	100
ESC(ECE)192	Engineering Graphics and Design Lab	1 – 0 – 4	3	100
MC-1	NSS	0 – 0 – 1	0	0
	Total		**16**	**600**

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SEMESTER – II

Course Code	Course Name	L – T – P	Credits	Total Marks
HSMC(ECE)201	English -I	2 – 0 – 0	2	100
HSMC(ECE)202	Universal Human Values and Ethics	3 – 0 – 0	3	100
BSC(ECE)201	Linear Algebra and Differential Equations	3 – 1 – 0	4	100
BSC(ECE)202	Chemistry	2 – 1 – 0	3	100
ESC(ECE)201	Programming for Problem Solving	3 – 0 – 0	3	100
	Practical			
HSMC(ECE)291	English-I Lab	0 – 0 – 2	1	100
BSC(ECE)292	Chemistry Lab	0 – 0 – 3	1.5	100
ESC(ECE)291	Programming for Problem Solving Lab	0 – 0 – 3	1.5	100
ESC(ECE)292	Workshop/ Manufacturing Practices Lab	1– 0 – 3	3	100
MC-2	Environmental Science	1 – 0 – 0	0	0
	Total		**22**	**9f00**

SEMESTER – III

Course Code	Course Name	L – T – P	Credits	Total Marks
BSC(ECE)301	Physics –II: Electromagnetism and Field Theory	3 – 0 – 0	3	100
ESC(ECE)301	Data Structures and Algorithm	2 – 0 – 0	2	100
PCC-EC301	Electronic Devices	3 – 0 – 0	3	100
PCC-EC302	Digital System Design	3 – 0 – 0	3	100
PCC-EC303	Signals and Systems	3 – 0 – 0	3	100
PCC-EC304	Network Theory	3 – 0 – 0	3	100
	Practical			
HSMC(ECE)391	English Lab	0 – 0 – 2	1	100

ESC(ECE)391	Data Structures and Algorithm Lab	0 – 0 – 4	2	100
PCC-EC391	Electronic Devices Lab	0 – 0 – 2	1	100
PCC-EC392	Digital System Design Lab	0 – 0 – 2	1	100
MC-3	Constitution of India/Essence of Indian Traditional Knowledge	1 – 0 – 0	0	0
	Total		**22**	**1000**

SEMESTER – IV

Course Code	Course Name	L – T – P	Credits	Total Marks
HSMC(ECE)401	Engineering Economics and Industrial Management	3 – 0 – 0	3	100
BSC(ECE)401	Biology	1 – 1– 0	2	100
PCC-EC401	Analog and Digital Communication	3 – 0 – 0	3	100
PCC-EC402	Analog Circuits	3 – 0 – 0	3	100
PCC-EC403	Microcontrollers	3 – 0 – 0	3	100
	Practical			
PCC-EC491	Analog and Digital Communication Lab	0 – 0 – 2	1	100
PCC-EC492	Analog Circuits Lab	0 – 0 – 2	1	100
PCC-EC493	Microcontrollers Lab	0 – 0 – 2	1	100
HSMC(ECE)491	English Lab	0 – 0 – 2	1	100
	Total		**18**	**900**

SEMESTER – V

Course Code	Course Name	L – T – P	Credits	Total Marks
PCC-EC501	Electromagnetic Waves	3 – 0 – 0	3	100
PCC-EC502	Computer Architecture	3 – 0 – 0	3	100

PCC-EC503	Probability Theory and Stochastic Process	3 – 0 – 0	3	100
PCC-EC504	Digital Signal Processing	3 – 0 – 0	3	100
PEC-ECEL501	A. Speech and Audio Processing B. Power Electronics C. Scientific Computing	3 – 0 – 0	3	100
OEC501	A. Data Base Management Systems B. Software Engineering	3 – 0 – 0	3	100
	Practical			
PCC-EC591	Electromagnetic Waves Lab	0 – 0 –2	1	100
PCC-EC593	Digital Signal Processing Lab	0 – 0 – 2	1	100
OEC591	Open Elective Lab	0 – 0 – 2	1	100
	Total		**21**	**900**

SEMESTER – VI

Course Code	Course Name	L – T – P	Credits	Total Marks
PCC-EC601	Control Systems	3 – 0 – 0	3	100
PCC-EC602	Computer Network	3 – 0 – 0	3	100
PCC-EC603	VLSI Devices & Design	3 – 0 – 0	3	100
OEC601	A. Electronic Instrumentation and Measurement B. Cryptography and network security	3 – 0 – 0	3	100
PEC-ECEL601	A. Nano Electronics B. Biomedical Electronics C. Introduction to MEMS	3 – 0 – 0	3	100
HSMC(ECE) 601	Entrepreneurship	3 – 0 – 0	3	100
	Practical			
PCC-EC692	Computer Networks Lab	0 – 0 – 2	1	100

PCC-EC693	VLSI Design Lab	0 – 0 – 2	1	100
PCC-EC694	Electronic Measurement Lab	0 – 0 – 2	1	100
PROJ-EC685	Mini Project/ Electronic Design Workshop	0 – 0 – 4	2	100
	Total		**23**	**1000**

SEMESTER – VII

Course Code	Course Name	L – T – P	Credits	Total Marks
PEC-ECEL701	A. Microwave Theory and Techniques B. Wavelet Analysis	3 – 0 – 0	3	100
PEC-ECEL702	A. Fiber Optic Communications B. Antenna and Propagation	3 – 0 – 0	3	100
PEC-ECEL703	A. Satellite Communication B. Wireless Sensor Network	3 – 0 – 0	3	100
OEC701	A. Artificial Intelligence and Machine Learning B. Cloud Computing	3 – 0 – 0	3	100
	Practical			
PROJ-EC781	Project Stage- I	0 – 0 – 10	4	100
EC782	Seminar	0 – 0 – 2	1	100
	Total		**17**	**600**

SEMESTER – VIII

Course Code	Course Name	L – T – P	Credits	Total Marks
PEC-ECEL801	A. Embedded System B. High Speed Electronics C. Error Correcting Codes	3 – 0 – 0	3	100
PEC-ECEL802	A. Mobile Communication and Networks B. Digital Image and Video Processing	3 – 0 – 0	3	100

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	C. Mixed Signal Design			
OEC801	A. Renewable Energy B. Power generation and economics	3 – 0 – 0	3	100
OEC802	A. Material Science B. Sensors and Transducers	3 – 0 – 0	3	100
	Practical			
PROJ-EC881	Project Stage -II and Dissertation	0 – 0 – 18	8	100
EC882	Grand Viva		1	100
	Total		**22**	**600**

Total Marks: 6500 **Total Credits: 160**

N.B. A student will be eligible to get Under Graduate degree with Honours or additional Minor Engineering, if he/she completes an additional 20 credits. These could be acquired through MOOCs.
The said course is however optional and the student is entitled to acquire such credits during the entire period of study.