ELECTRONICS & COMMUNICATION ENGINEERING

Courses/Credit Distribution of Electronics & Communication Engineering Department

I. Basic Science Courses (BSC)

Semester I					
Course code	**Course name**	**L**	**T**	**P**	**Credits**
CHN 101	Applied Chemistry	3	0	2	4
Semester II					
Course code	**Course name**	**L**	**T**	**P**	**Credits**
MAN 105	Vector Calculus, Fourier Series and Laplace Transform	3	1	0	4
PYN 106	Electromagnetic Field Theory	3	1/2	2/2	4

II. Engineering Science Courses (ESC)

Semester II					
Course code	**Course name**	**L**	**T**	**P**	**Credits**
ESC 103	Introduction to Manufacturing	2	0	4	4
Semester III					
Course code	**Course name**	**L**	**T**	**P**	**Credits**
ESC 206	Basics of Electrical Science	3	0	2	4
Semester IV					
ESC 202	Information Technology in Engineering	3	0	2	4

III. Departmental Core Courses (DCC)

Course code	**Course name**	**L**	**T**	**P**	**Credits**
ECN101	Introduction To Electronics & Communication Engineering	2	0	0	2
ECN102	Analog Electronic Circuits – I	3	0	2	4
ECN103	Digital Design	3	0	2	4
ECN201	Communication Engineering	3	1	0	4
ECN202	Signals and Systems	3	1	0	4
ECN203	Microprocessor and Applications	3	0	2	4
ECN204	Analog Electronic Circuits – II	3	0	2	4
ECN205	Technical Communication				2
ECN206	Engineering Analysis and Design	3	0	2	4
ECN207	Computer Networks	3	1	0	4
ECN208	VLSI Design	3	0	2	4
ECN209	Digital Signal Processing	3	0	2	4
ECN210	Communication Theory	3	1	0	4
ECN301	Computer Architecture	3	1	0	4
ECN302	Advanced Communication	3	0	2	4
ECN303	Microwave and Radar	3	1/2	2/2	4
ECN304	Wireless Communication	3	0	2	4
ECN305	Embedded Systems	3	0	2	4

IV. Departmental Elective Courses (DEC) – I

Group – I (Any One)

Course code	**Course name**	**L**	**T**	**P**	**Credits**
ECN 401	Control Systems	3	1	0	4
ECN 402	Digital Image Processing	3	1	0	4
ECN 403	Neural Networks and Fuzzy Systems	3	1	0	4
ECN 404	Electronic Measurements and Instrumentation	3	1	0	4

Group – II (Any Two)
Discipline Specialization - I

Course code	Course name	L	T	P	Credits
ECN 405	Antenna and Wave Propagation	3	1	0	4
ECN 406	Audio and Visual Systems	3	1	0	4
ECN 407	Telecommunication Systems	3	1	0	4
ECN 408	Optical Communication	3	1	0	4
ECN 409	Advanced Digital Communication	3	1	0	4
ECN 410	Satellite Communication	3	1	0	4

Discipline Specialization - II

Course code	Course name	L	T	P	Credits
ECN 411	HDL Based System Design	3	1	0	4
ECN 412	MEMS and Microsystems	3	1	0	4
ECN 413	Nano Technology	3	1	0	4
ECN 414	FPGA Based System Design	3	1	0	4
ECN 415	CMOS Analog VLSI Design	3	1	0	4
ECN 416	Foundations of VLSI CAD	3	1	0	4

V. Departmental Honors Courses (DHC) (Tentative list)

Course code	Course name	L	T	P	Credits
ECN 421	Advanced Microprocessor	3	1	0	4
ECN 422	Advanced Digital Signal Processing	3	1	0	4
ECN 423	Information Theory and Coding	3	1	0	4
ECN 424	Low Power VLSI Design	3	1	0	4
ECN 425	Probability and Random Processes	3	1	0	4

VI. Minor Specialization Courses (MSC)

Course code	Course name	L	T	P	Credits
ECN 431	Analog and Digital Electronics	3	1	0	4
ECN 202	Signal and Systems	3	1	0	4
ECN 209	Digital Signal Processing	3	1	0	4
ECN 432	Microprocessor and Microcontroller	3	1	0	4
ECN 433	Communication Systems	3	1	0	4

VII. Open elective Courses (OEC)

Course code	Course name	L	T	P	Credits
ECN461	Virtual Instrumentation	3	1	0	4
ECN403	Neural Networks and Fuzzy Systems	3	1	0	4
ECN462	Microcontrollers and their Applications	3	1	0	4
ECN402	Digital Image Processing	3	1	0	4
ECN 413	Nano Technology	3	1	0	4

TEACHING SCHEME FOR B.E. ELECTRONICS & COMMUNICATION ENGINEERING DEPARTMENT

FIRST YEAR

Semester I

Course code	Subject	Credits	Category
MAN101	Mathematics – I	4	BSC
ECN101	Introduction to Electronics & Communication Engineering	2	DCC
CSN104	Computer Programming (Basic/ Advanced)	4	ESC
CHN101	Applied Chemistry	4	BSC
HSS102/103	Communication Skills (Basics/ Advanced)	2	HSSC
GSC101	Introduction to Environment Science	3	GSC
	Total	19	

Semester II

Course code	Subject	Credits	Category
MAN105	Vector Calculus, Fourier Series and Laplace Transform / Mathematics – II	4	BSC
HSS101	Ethics and Self Awareness	2	HSSC
PYN106	Electromagnetic Field Theory	4	BSC
ESC103	Introduction to Manufacturing	4	ESC
ECN102	Analog Electronic Circuits – I	4	DCC
ECN103	Digital Design	4	DCC
	Total	22	

SECOND YEAR

Semester I

Course code	Subject	Credits	Category
ESC 206	Basics of Electrical Sciences	4	ESC
ECN 201	Communication Engineering	4	DCC
ECN 202	Signals and Systems	4	DCC
ECN 203	Microprocessor and Applications	4	DCC
ECN 204	Analog Electronic Circuits – II	4	DCC
	Economics	3	HSSMEC
ECN 205	Technical Communication	2	DCC
	Total	25	

Semester II

Course code	Subject	Credits	Category
ECN206	Engineering Analysis and Design	4	DCC
ESC202	Information Technology in Engineering	4	ESC
ECN207	Computer Networks	4	DCC
ECN208	VLSI Design	4	DCC
ECN209	Digital Signal Processing	4	DCC
ECN210	Communication Theory	4	DCC
ECN221	Educational Tour	Non-credit	DCC
	Total	24	

THIRD YEAR

Semester I

Course code	Subject	Credits	Category
ECN301	Computer Architecture	4	DCC
ECN302	Advanced Communication	4	DCC
ECN303	Microwave and Radar	4	DCC
ECN304	Wireless Communication	4	DCC
ECN305	Embedded Systems	4	DCC
ECN321	Minor Project	4	DCC
	Total	24	

Semester II

Course code	Subject	Credits	Category
ECN331	Internship*	20	DCC
	Total	20	

*Internship Seminar presentations may be held a week before the date of Registration in Semester-I of Fourth Year

FOURTH YEAR

Semester I

Course code	Subject	Credits	Category
	Open Elective	4	GSEC/MEC
	Departmental Elective Course – I	4	DEC
	Departmental Elective Course – II	4	DEC
ECN441	Major Project*	2*	DCC
	Minor Specialization Course – I Departmental Honours Course – I	4	MSC/DHC
	Minor Specialization Course – II Departmental Honours Course – II	4	MSC/DHC
	Total	14/22	

*Evaluation needs to be carried out in next semester

Semester II

Course code	Subject	Credits	Category
	Business Environment and Business Laws	3	HSSMEC
	Departmental Elective Course – III	4	DEC
ECN451	Major Project	6	DCC
	Minor Specialization Course – III Departmental Honour Course – III	4	MSC/DHC
	Minor Specialization Course - IV Departmental Honour Course – IV	4	MSC/DHC
	Minor Specialization Course - V Departmental Honour Course – V	4	MSC/DHC
	Total	13/25	DHC

COURSES OFFERED BY APPLIED SCIENCE DEPARTMENT TO ALL DEPARTMENTS

I. Departmental Elective courses (DEC)

Group-I

Course code	Course name	L	T	P	Credits
CHN 401	Modern Instrumental Methods Of Chemical Analysis	3	1	0	4
PYN 401	Advanced Physics	3	1	0	4
PYN 402	Crystal Physics	3	1	0	4
PYN 403	Solid State Physics	3	1	0	4
MAN 401	Operation Research	3	1	0	4
MAN 402	Optimization Techniques	3	1	0	4

II. Minor Specialization Courses For 7th Semester

Course Code	Course Name	L	T	P	Credits
Humanities Section					
HSM 401	Principles of Management	2	2	0	4
HSM 402	Business Environment and Business Laws	2	2	0	4
HSM 431	Managing Innovation and Change	2	2	0	4
Chemistry Section					
CHN 431	Inorganic Chemistry	3	0	3	4
CHN 432	Organic Chemistry	3	0	3	4
Physics Section					
PYN 431	Quantum Mechanics	3	1	0	4
PYN 432	Statistical Physics	3	1	0	4
Mathematics Section					
MAN 431	Algebra	3	1	0	4
MAN 432	Number Theory	3	1	0	4

Minor Specialization Courses For 8th Semester

Course Code	Course Name	L	T	P	Credits
Humanities Section					
HSM 404	Financial Management	2	2	0	4
HSM 405	Marketing Management	2	2	0	4
HSM 406	Human Resource Management	2	2	0	4
HSM 432	Business Research	2	2	0	4
Chemistry Section					
CHN 433	Physical Chemistry / Analytical Chemistry	3	1	0	4
CHN 434	Environmental Chemistry	3	1	0	4
CHN 435	Recent Advances in Chemical Sciences	3	1	0	4
Physics Section					
PYN 433	Nuclear Physics	3	1	0	4
PYN 434	Experimental Nuclear Physics	3	1	0	4
PYN 435	X-Ray Crystallography	3	1	0	4
Mathematics Section					
MAN 433	Fourier Series and Integral Transforms	3	1	0	4
MAN 434	Calculus of Variations	3	1	0	4
MAN 435	Algebraic Coding Theory	3	1	0	4