

# BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI, INDIA

Year wise Course Structure for Bachelor of Engineering (Electronics & Communication) with intermediate exit points

## First Year

I SEMESTER				II SEMESTER			
Course No	Course Title	Units	Hours/week	Course No	Course Title	Units	Hours/week
HU 1001	Technical English	1.0	4	MA 2101	Mathematics-II	1.0	4
PH 1001	Physics-I	1.0	4	EE 2001	Basic Electrical Engineering	1.0	4
CP 2003	Unix & C Programming	1.0	4	CH 2103	Environmental Studies	1.0	4
MA 1101	Mathematics-I	1.0	4	EC 4007	Logic Design	1.0	4
CP 1101	Information Technology	1.0	4	EC 4009	Electronic Instrument & Measurement	1.0	4
ME 1005	Engineering Drawing-I	1.0	4	EC 3001	Basic Electronics	1.0	4
CP 1102	Programming Lab-I (IT)	0.5	2-3	EE 3302	Electrical Engineering Lab.	0.5	2-3
CP 2004	PL-II (Unix & C)	0.5	2-3	PE 1001	Workshop Practice-I	0.5	2-3
PH 1002	Physics Lab -1	0.5	2-3	EC 4008	Logic Design Lab.	0.5	2-3
ME 1006	Engineering Drawing Lab-I	0.5	2-3	EC 3002	Basic Electronics Lab.	0.5	2-3
GA 1001	NCC/NSS/PT & Games/Creative Arts	0.5	2-3	GA 2001	NCC/NSS/PT & Games/ Creative Arts	0.5	2-3
<b>Total Units</b>		<b>8.5</b>	<b>34-39</b>	<b>Total Units</b>		<b>8.5</b>	<b>34-39</b>
<b>Certificate in Electronics and Communication Technology</b>				<b>Cumulative units for Certificate course</b>		<b>17</b>	

## Second Year

III SEMESTER				IV SEMESTER			
CP 3005	OOPS in C++	1.0	4	EC 4005	Discrete & Integrated Analog Circuit	1.0	4
EE 3001	Introduction to System Theory	1.0	4	ME 1001	Engineering Mechanics	1.0	4
CH 1101	Engineering Chemistry	1.0	4	EC 5021	Semiconductor Devices	1.0	4
MA 3101	Mathematics-III	1.0	4	EC 4011	Analog Communication System	1.0	4
PH 3003	Physics-II	1.0	4	CP 4003	Scientific Computing	1.0	4
ME 2003	Engineering Graphics-II	1.0	4	EE 4311	Principles of Electrical Machines	1.0	4
ME 2002	Engineering Graphics-II Lab.	0.5	2-3	EC 4006	Integrated Circuit Lab	0.5	2-3
PE 3304	Workshop Practice-II	0.5	2-3	ME 1002	Engineering Mechanics Lab.	0.5	2-3
CH 1002	Chemistry Lab.	0.5	2-3	EC 4012	Communications Lab-I	0.5	2-3
CP 3006	PL-III (C++)	0.5	2-3	CP 4002	Scientific Computing Lab.	0.5	2-3
GA 3001	NCC/NSS/PT & Games/Creative Arts	0.5	2-3	GA 4001	NCC/NSS/PT & Games/Creative Arts	0.5	2-3
<b>Total Units</b>		<b>8.5</b>	<b>34-39</b>	<b>Total Units</b>		<b>8.5</b>	<b>34-39</b>
<b>Diploma in Electronics and Communication Technology</b>				<b>Cumulative units Diploma course</b>		<b>34</b>	

### Third Year

V SEMESTER				VI SEMESTER			
EC 5015	Industrial Electronics	1.0	4	EC 6023	Microprocessor & Microcomputer	1.0	4
EC 5017	Pulse and digital Circuits	1.0	4	EC 6025	Electromagnetic Theory	1.0	4
EC 5019	Digital Communication System	1.0	4	EC 6027	Data Communication	1.0	4
ME 3106	Thermal Engineering	1.0	4	EC 6029	Fiber Optics Communication System	1.0	4
CP 4007	Data and File Structure	1.0	4	CP 6005	Operating System Concept	1.0	4
EE 4309	Network Theory	1.0	4	EE 6307	Linear Control Theory	1.0	4
EC 5016	Instrumentation Laboratory-I	0.5	2-3	EC 6024	Microprocessor Lab	0.5	2-3
EC 5018	Pulse & Digital Circuit Lab	0.5	2-3	EC 6008	Fiber Optics Communication Lab	0.5	2-3
EC 5050	Communication Laboratory-II	0.5	2-3	EC 6032	Project	0.5	2-3
CP 4008	Data Structure Lab	0.5	2-3	EE 6308	Control Lab	0.5	2-3
Total Units		8	32-36	Total Units		8	32-36
<b>Advanced Diploma in Electronics and Communication Technology</b>				<b>Cumulative units in Advanced Diploma</b>			
				50			

### Fourth Year

VII SEMESTER				VIII SEMESTER			
EC7001	Intelligent Instrumentation	1.0	4	EC8001	Telecommunication Switching Circuits	1.0	4
EC7003	Antenna & wave Propagation	1.0	4	EC8003	Video Transmission & Reception	1.0	4
EC7005	Microwave Engineering	1.0	4	EC8005	Satellite Communication System	1.0	4
EE5307	Digital Signal Processing	1.0	4	MB6001	Principle Of Management	1.0	4
	Elective - I	1.0	4		Elective –III	1.0	4
	Elective-II	1.0	4		Elective –IV	1.0	4
EC7002	Instrumentation Lab-II	0.5	2-3	EC8004	Advanced Communication Lab	0.5	2-3
EC7006	Microwave Lab	0.5	2-3	EC8012	Circuits & Devices and VLSI Design	0.5	2-3
EE5308	Digital Signal Processing Lab	0.5	2-3	EC8012	Project	1.0	4-6
EC7010	Project	0.5	2-3				
	List Of Electives(Choose any two)				List of Electives(Choose any two)		
EC7009	Bioelectronics Instrumentation	1.0	4	EC8007	Radar Engineering	1.0	4
EC7007	Computer Communication & Archi.	1.0	4	EC8009	Optical Fiber Network	1.0	4
EC7011	Statistical Theory of communication	1.0	4	EC8011	VLSI Design	1.0	4
EC7013	Mobile & cellular communication	1.0	4	EC8013	Speech processing	1.0	4
EC7015	Microelectronics Engineering	1.0	4	EC8015	Advanced Microprocessors Architecture	1.0	4
EC7017	Artificial Intelligence & intell Autom	1.0	4	EC8017	Digital signal Processing Architecture	1.0	4
EC7019	Computer Hardware	1.0	4	EC8019	Int & Prog of Micro Controllers	1.0	4
CP5023	Database Management System-I	1.0	4	CP8027	Digital Image Processing	1.0	4
CP7027	Soft Computing	1.0	4	CP7035	Pattern Recognition	1.0	4
Total Units		8	32-36	Total Units		8	32-36
<b>Bachelor degree in Electronics and Communication</b>				<b>Cumulative units for Bachelor degree</b>			
				66			