



**Indira Gandhi Delhi Technical University For Women**  
(Established by Govt. of Delhi vide Act 09 of 2012)  
**Department of Electronics and Communication Engineering**

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**Course Structure for B. Tech ECE-AI**  
(**Electronics & Communication Engineering- Artificial Intelligence**)

**First Year**

<b>First Semester</b>					
<b>S. No.</b>	<b>Code</b>	<b>Subject</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Category</b>
1.	BEC-101	Analog Electronics	3-0-2	4	<b>DCC</b>
2.	BEC-110	Basic Electrical Engineering	3-0-2	4	<b>DCC</b>
3.	BCS-110	Programming in C Language	3-0-2	4	<b>DCC</b>
4.	BAI-101	Intelligent Systems	3-0-0	3	<b>DCC</b>
5.	BAS-109	Applied Mathematics	3-1-0	4	<b>ASH</b>
6.	HMC-110	Communication Skills	3-1-0	4	<b>HMC</b>
		<b>Total</b>		<b>23</b>	
<b>Second Semester</b>					
<b>S. No.</b>	<b>Code</b>	<b>Subject</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Category</b>
1.	BEC-104	Digital Electronics	3-0-2	4	<b>DCC</b>
2.	BEC-106	Signals and Systems	3-0-2	4	<b>DCC</b>
3.	BAI-110	Programming with Python	3-0-2	4	<b>DCC</b>
4.	BAS-106	Environmental Sciences	2-1-2	4	<b>ASH</b>
5.	BAS-108	Probability and Statistics	3-1-0	4	<b>ASH</b>
6.	BAI-108	IT Workshop	1-0-2	2	<b>DCC</b>
		<b>Total</b>		<b>22</b>	

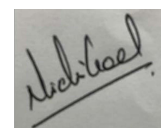
**Second Year**

<b>Third Semester</b>					
<b>S. No.</b>	<b>Course Code</b>	<b>Subject</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Category</b>
1.	BEC-208	Communication Systems	3-0-2	4	<b>DCC</b>
2.	BEC-205	Network Analysis and Synthesis	3-0-2	4	<b>DCC</b>
3.	BAI-205	Neural Networks and Artificial Intelligence	3-0-2	4	<b>DCC</b>
4.	BCS-201	Data Structures	3-0-2	4	<b>DCC</b>
5.	GEC-201	Generic Open Elective	2-0-0 0-0-4 0-2-0	2	<b>GEC</b>
6.	BEC-253	Industrial Training/Internship*	-	1	<b>DCC</b>
7.	BAS-201 BAS-203 BIT-201 BCS-203 BMA-211	Material Science & Engineering Numerical Methods Database Management Systems Discrete Structures Engineering Measurements and Metrology	3-0-2 3-0-2 2-0-4 3-1-0 3-1-0	4	<b>OEC</b>
<b>Total</b>				<b>23</b>	
<b>Fourth Semester</b>					
<b>S. No.</b>	<b>Course Code</b>	<b>Subject</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Category</b>
1.	BEC-202	Linear Integrated Circuits	3-0-2	4	<b>DCC</b>
2.	BEC-206	Electromagnetic Field Theory	3-1-0	4	<b>DCC</b>
3.	BEC-210	Digital Communication Systems	3-0-2	4	<b>DCC</b>
4.	BAI-204	Optimization Techniques and Decision Making	3-0-2	4	<b>DCC</b>
5.	BCS-202 BIT-204 BMA-210 BAS-202 BAS-204 BAI-206	Computer Organization and Architecture Object Oriented Programming Operations Management Nano Structures & Materials in Engg. Optical Engineering Introduction to Data Science	3-0-2 3-0-2 3-1-0 2-1-2 3-0-2 3-0-2	4	<b>OEC</b>
6.	HMC-202	Disaster Management	1-0-2	2	<b>HMC</b>
<b>Total</b>				<b>22</b>	

### Third Year

<b>Fifth Semester</b>					
<b>S. No.</b>	<b>Course Code</b>	<b>Subject</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Category</b>
1.	BEC-303	Control Systems	3-0-2	4	<b>DCC</b>
2.	BEC-311	Digital Signal Processing	3-0-2	4	<b>DCC</b>
3.	BAI-301	Machine Learning	3-0-2	4	<b>DCC</b>
4.	BAI-307	Computer Networks	3-0-2	4	<b>DCC</b>
5.	HMC-303	Professional Ethics and Human Values	3-0-0	3	<b>HMC</b>
6.	BEC-353	Industrial Training/Internship*	-	1	<b>DCC</b>
7.	GEC-301	Generic Open Elective*	2-0-0 0-0-4 0-2-0	2	<b>GEC</b>
<b>Total</b>				<b>22</b>	

<b>Sixth Semester</b>					
<b>S. No.</b>	<b>Course Code</b>	<b>Subject</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Category</b>
1.	BEC-306	VLSI Design	<b>3-0-2</b>	4	<b>DCC</b>
2.	BEC-308	Microprocessors & Microcontrollers	3-0-2	4	<b>DCC</b>
3.	BEC-318	Digital Image Processing	3-0-2	4	<b>DCC</b>
4.	DEC-3xx	Departmental Elective Course – 1	3-0-2	4	<b>DEC</b>
5.	DEC- 3xx	Departmental Elective Course –2	3-0-2	4	<b>DEC</b>
6.	HMC-302 HMC-304 HMC-306 HMC-308	Principles of Management Marketing Management Financial Management Human Resource Management	2-0-0 2-0-0 2-0-0 2-0-0	2	<b>HMC</b>
<b>Total</b>				<b>22</b>	



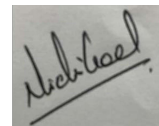
### Fourth Year

<b>Seventh Semester</b>					
<b>S. No.</b>	<b>Course Code</b>	<b>Subject</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Category</b>
1.	BEC-403	Wireless and Mobile Communication	3-0-2	4	<b>DCC</b>
2.	BAI-401	Multimodal Data Processing	3-0-2	4	<b>DCC</b>
3.	BAI-40x	Deep Learning	3-0-2	4	<b>DCC</b>
4.	DEC-4xx	Departmental Elective Course –3	3-0-2	4	<b>DEC</b>
5.	DEC-4xx	Departmental Elective Course –4	3-0-2	4	<b>DEC</b>
6.	BEC-451	Minor Project	0-0-8	4	<b>DCC</b>
7.	BEC-453	Industrial Training/Internship*	-	1	<b>DCC</b>
<b>Total</b>				<b>25</b>	

<b>Eighth Semester</b>					
<b>S. No.</b>	<b>Course Code</b>	<b>Subject</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Category</b>
1.	BAI-410	Recent Trends in AI	3-0-2	4	<b>DCC</b>
2.	DEC-4xx	Departmental Elective Course –5	3-0-2	4	<b>DEC</b>
3.	DEC-4xx	Departmental Elective Course –6	3-0-2	4	<b>DEC</b>
4.	BEC-452	Industrial Project/R&D Project/ Start-up Project	0-0-16	8	<b>DCC</b>
5.	GEC-402	Generic Open Elective	0-2-0 0-0-4 2-0-0	2	<b>GEC</b>
<b>Total</b>				<b>22</b>	

\*All Industrial Training/Internship will be done in summer break of previous academic session. The assessment for the same will be done within the first two weeks of opening of academic session by the Department.

\* The list of departmental electives is tentative. Before the commencement of the academic semester, any elective alongwith their L-T-P structure can be added or dropped from the respective elective basket depending upon the academic requirement or current industry trend.



**List of Departmental Elective Courses**

Category	Course Code	Subject	L-T-P	Credits
<b>Departmental Elective Course-1</b>	BEC-312	Antenna Design	3-0-2	4
	BEC-314	FPGA & Verification	3-0-2	4
	BAI-302	Natural Language Processing	3-0-2	4
	BAI-306	Cloud computing & IoT	3-0-2	4
	BAI-308	Blockchain Technologies	3-0-2	4
	BAI-310	Quantum Computing	3-0-2	4
<b>Departmental Elective Course-2</b>	BEC-304	Information Theory & Coding	3-0-2	4
	BEC-316	Power Electronics	3-0-2	4
	BAI-312	Antenna Design	3-0-2	4
	BAI-314	Information Retrieval	3-0-2	4
	BAI-316	Recommender Systems	3-0-2	4
<b>Departmental Elective Course-3</b>	BEC-401	Microwave Techniques	3-0-2	4
	BEC-409	VLSI Technology	3-0-2	4
	BAI-403	Computer Vision	3-0-2	4
	BAI-405	Speech Technology	3-0-2	4
	BAI-407	Pattern Recognition	3-0-2	4
<b>Departmental Elective Course-4</b>	BEC-411	Introduction to Smart Grid	3-0-2	4
	BAI-409	Conversational AI	3-0-2	4
	BAI-411	Parallel and Distributed AI	3-0-2	4
	BAI-413	AI and Humanity	3-0-2	4
	BIT-407	Big Data Analytics	3-0-2	4
<b>Departmental Elective Course -5</b>	BEC- 402	Embedded Systems	3-0-2	4
	BEC- 404	Bio-medical Electronics and Imaging	3-0-2	4
	BEC-406	Optical Communication & Networks	3-0-2	4
	BAI-402	Augmented Reality and Virtual Reality	3-0-2	4
	BAI-404	Social Media Analysis	3-0-2	4
	BAI-406	AI for Games	3-0-2	4
<b>Departmental Elective Course-6</b>	BEC-414	Multimedia Communications	3-0-2	4
	BAI-408	Multi-agent Systems	3-0-2	4
	BAI-410	Internet of Things	3-0-2	4
	BAI-412	Embedded Systems	3-0-2	4
	BAI-414	Bioinformatics and Computational Genomics	3-0-2	4
	BAI-416	AI in Healthcare	3-0-2	4