

# CURRICULAM & SCHEME OF EXAMINATIONS

## APPLIED ELECTRONICS & INSTRUMENTATION

### Curricula & Scheme of Examinations for B.Tech

#### Combined I & II Semesters (Common for all branches)

Code	Subject	Hrs / Week			Sessional Marks	University Exam	
		L	T	P/D		Hrs	Marks

#### THEORY

2K6EN101	Engineering Mathematics I	2	1		50	3	100
2K6EN102	Engineering Physics	2			50	3	100
2K6EN103	Engineering Chemistry	2			50	3	100
2K6EN104	Engineering Mechanics	2	1		50	3	100
2K6EN105	Engineering Graphics	1		3	50	3	100
2K6EN106	Basic Civil Engineering	2	1		50	3	100
2K6EN107	Basic Mechanical Engineering	2	1		50	3	100
2K6EN108	Basic Electrical Engineering	2	1		50	3	100
2K6EN109	Basic Electronics and Computer Engineering	2	1		50	3	100

#### PRACTICAL

2K6EN110 P	Basic Engineering Laboratory (Surveying, Fitting, Carpentry, Foundry, Smithy, Welding & Sheet metal)			2	50	-	-
2K6EN111 P	Basic Electrical & Electronics Workshop (Wiring, Soldering & Study of Basic Computer Hardware)			2	50	-	-
<b>TOTAL</b>		<b>17</b>	<b>6</b>	<b>7</b>	<b>550</b>		<b>900</b>

### THIRD SEMESTER

Code	Subject	Hrs / Week			Sessional Marks	University Exam	
		L	T	P/D		Hrs	Marks
<b>THEORY</b>							
2K6AEI 301	Engineering Mathematics II	3	1	-	50	3	100
2K6AEI 302	Humanities	3	1	-	50	3	100
2K6AEI 303	Electrical Engineering	3	1	-	50	3	100
2K6AEI 304	Solid State Devices	3	1	-	50	3	100
2K6AEI 305	Network Theory	3	1	-	50	3	100
2K6AEI 306	Electronics Circuits I	3	1	-	50	3	100
<b>PRACTICAL</b>							
2K6AEI 307 P	Basic Electronics Lab	-	-	3	50	3	100
2K6AEI 308 P	Electrical Engineering Lab	-	-	3	50	3	100
<b>TOTAL</b>		<b>18</b>	<b>6</b>	<b>6</b>	<b>400</b>	<b>-</b>	<b>800</b>

### FOURTH SEMESTER

Code	Subject	Hrs / Week			Sessional Marks	University Exam	
		L	T	P/D		Hrs	Marks
<b>THEORY</b>							
2K6AEI 401	Engineering Mathematics III	3	1	-	50	3	100
2K6AEI 402	Computer Programming	3	1	-	50	3	100
2K6AEI 403	Electrical Measurements and Measuring Instruments	3	1	-	50	3	100
2K6AEI 404	Signals & Systems	3	1	-	50	3	100
2K6AEI 405	Electronic Circuits II	3	1	-	50	3	100
2K6AEI 406	Digital Electronics	3	1	-	50	3	100
<b>PRACTICAL</b>							
2K6AEI 407 P	Electronic Circuits Lab	-	-	3	50	3	100
2K6AEI 408 P	Digital Electronics Lab	-	-	3	50	3	100
<b>TOTAL</b>		<b>18</b>	<b>6</b>	<b>6</b>	<b>400</b>	<b>-</b>	<b>800</b>

## FIFTH SEMESTER

Code	Subject	Hrs / Week			Sessional Marks	University Exam	
		L	T	P/D		Hrs	Marks
<b>THEORY</b>							
2K6AEI 501	Engineering Mathematics IV	3	1	-	50	3	100
2K6AEI 502	Economics & Business Management	3	1	-	50	3	100
2K6AEI 503	Instrumentation Systems	3	1	-	50	3	100
2K6AEI 504	Computer Organization & Architecture	3	1	-	50	3	100
2K6AEI 505	Linear Integrated Circuits	3	1	-	50	3	100
2K6AEI 506	Microprocessors & Microcontrollers	3	1	-	50	3	100
<b>PRACTICAL</b>							
2K6AEI 507 P	Linear Integrated Circuits Lab	-	-	3	50	3	100
2K6AEI 508 P	Computer Programming Lab	-	-	3	50	3	100
<b>TOTAL</b>		<b>18</b>	<b>6</b>	<b>6</b>	<b>400</b>	<b>-</b>	<b>800</b>

## SIXTH SEMESTER

Code	Subject	Hrs / Week			Sessional Marks	University Exam	
		L	T	P/D		Hrs	Marks
<b>THEORY</b>							
2K6AEI 601	Environmental Engg. & Disaster Mngt	3	1	-	50	3	100
2K6AEI 602	Control Systems	3	1	-	50	3	100
2K6AEI 603	Industrial Instrumentation	3	1	-	50	3	100
2K6AEI 604	Digital Signal Processing	3	1	-	50	3	100
2K6AEI 605	Process Dynamics & Controls	3	1	-	50	3	100
2K6AEI 606	Elective I	3	1	-	50	3	100
<b>PRACTICAL</b>							
2K6AEI607P	Industrial Instrumentation Lab	-	-	3	50	3	100
2K6AEI608P	Microprocessors & Microcontrollers Lab	-	-	3	50	3	100
<b>TOTAL</b>		<b>18</b>	<b>6</b>	<b>6</b>	<b>400</b>	<b>-</b>	<b>800</b>

**Elective I**

1. 2K6 AEI 606(A) : DESIGNING WITH VHDL
2. 2K6 AEI 606(B) : HIGH SPEED DIGITAL DESIGN
3. 2K6 AEI 606(C) : LINEAR SYSTEMS ANALYSIS
4. 2K6 AEI 606 (D) : DATA STRUCTURES & ALGORITHMS
5. 2K6 AEI 606 (E) : FUZZY SYSTEMS & APPLICATIONS
5. 2K6 AEI 606 (F) : VLSI SYSTEM DESIGN

## SEVENTH SEMESTER

Code	Subject	Hrs / Week			Sessional	University	
		L	T	P/D		Hrs	Marks
<b>THEORY</b>							
2K6AEI 701	Bio Medical Instrumentation	3	1	-	50	3	100
2K6AEI 702	Computer Control of Process	3	1	-	50	3	100
2K6AEI 703	Industrial Instrumentation II	3	1	-	50	3	100
2K6AEI 704	Digital Instrumentation	3	1	-	50	3	100
2K6AEI 705	Elective II	3	1	-	50	3	100
<b>PRACTICAL</b>							
2K6AEI706P	Process Control Instrumentation Lab	-	-	3	50	3	100
2K6AEI707P	Virtual Instrumentation & Simulation Lab	-	-	3	50	3	100
2K6AEI708P	Mini Project	-	-	4	50	-	-
2K6AEI709P	Physical Edn., Health & Fitness	-	-	-	50	-	-
<b>TOTAL</b>		<b>15</b>	<b>5</b>	<b>10</b>	<b>450</b>	<b>-</b>	<b>700</b>

**Elective II**

- 2K6 AEI705 (A) Fiber Optics & Laser Instrumentation
- 2K6 AEI705 (B) Power Electronics & Drives
- 2K6 AEI705 (C) Instrumentation in petrochemical Industries
- 2K6 AEI705 (D) System Identification & Adaptive Control
- 2K6 AEI705 (E) Robotics Engineering & Applications
- 2K6 AEI705 (F) DSP Processors

## EIGHTH SEMESTER

Code	Subject	Hrs / Week			Sessional	University	
		L	T	P/D		Hrs	Marks
<b>THEORY</b>							
2K6AEI 801	Artificial neural Network & Fuzzy Logic Control	3	1	-	50	3	100
2K6AEI 802	Analytical Instruments	3	1	-	50	3	100
2K6AEI 803	Opto Electronics Instrumentation	3	1	-	50	3	100
2K6AEI 804	Computer Networks & DCS	3	1	-	50	3	100
2K6AEI 805	Elective III	3	1	-	50	3	100
<b>PRACTICAL</b>							
2K6AEI806P	Seminar	-	-	4	50	-	-
2K6AEI807P	Project & Industrial Training*	-	-	6	100	-	-
2K6AEI808P	Viva voce	-	-	-	-	-	100
<b>TOTAL</b>		<b>15</b>	<b>5</b>	<b>10</b>	<b>400</b>	<b>-</b>	<b>600</b>
Aggregate marks for 8 semesters - 8400					<b>3000</b>		<b>5400</b>

**Elective III**

<ul style="list-style-type: none"> <li>2K6 AEI805 (A) Real Time Embedded System</li> <li>2K6 AEI805 (B) Space Instrumentation</li> <li>2K6 AEI805 (C) Piping and Instrumentation</li> <li>2K6 AEI805 (D) Automotive Instrumentation</li> </ul>	<ul style="list-style-type: none"> <li>2K6 AEI805 (E) Power Plant Instrumentation</li> <li>2K6AEI805 (F) Instrumentation System Design</li> </ul> <p style="text-align: right; font-size: small;">*25 Marks is allocated for Industrial Training</p>
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