# GUDLAVALLERU ENGINEERING COLLEGE

(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)

Seshadri Rao Knowledge Village, GUDLAVALLERU – 521 356

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Minutes of the 32<sup>nd</sup> Meeting of the Governing Body held on 09-06-2017, Friday in the Management Conference Hall.

**32.01** To confirm the minutes of the Meeting of the 31<sup>st</sup> Governing Body held on 25-03-2017.

**Resolution**: The Minutes of the 31<sup>st</sup> Governing Body meeting held on 25-03-2017 have been confirmed.

- **32.02** To consider and finalize the revised Curriculum and Academic Regulations (R17 Regulations) of UG and PG programs to be effective from the academic year 2017-18.
  - **Resolution**: It is resolved and approved the revised curriculum and academic regulations (R17 regulations) of UG and PG Programs to be effective from the academic year 2017-18. The approved course structures of I B.Tech, PG-M.Tech and PG-MBA programs are given in **Annexure A** (See Page No. 2)
- 32.03 Any other item with the permission of the chair. -- NIL --

V - Nagesnan Kar

### Annexure – A

#### Major modifications in the course structures of UG & PG Programs:

#### i) UG – B.Tech Programs

- Providing more choices to the students in the form of Open Electives, Professional Electives, Self Study Courses and Optional Electives with true spirit of implementing the Choice Based Credit System (CBCS).
- Designing basic sciences courses on mathematics, physics and chemistry differently for different branches of engineering or for particular group of branches in order to satisfy the pre-requisites and also cover the related fields of applications.
- > Introducing latest elective courses on cutting edge technologies, particularly in circuit branches.
- Designing optional elective courses from II Year 2<sup>nd</sup> semester to IV year 1<sup>st</sup> semester to enable the interested students to register and pursue for additional credits, mostly in inter disciplinary area.
- Removing the obsolete content in the syllabi of existing courses and including the latest developments in the related field of engineering.
- Making few courses, particularly computer programming courses, as integrated courses with theory and laboratory.
- > Introducing one or two project based theory courses.

#### ii) PG – M.Tech Programs

- ➢ Introducing a course on Research Methodology.
- Introducing two project based theory courses.
- > Introducing latest elective courses on cutting edge technologies.
- Removing the obsolete content in the syllabi of existing courses and including the latest developments in the related field of engineering.

#### **Course Structures**

#### **B.Tech:**

#### I) Civil Engineering

Curriedar Components										
S1.	Course Work-Subject Area	Total No.	% of Total	% of credits						
No.	Course work-Subject Area	of credits	credits	as per UGC						
1	Basic Sciences (BS)	27	15.88	15-20						
2	Humanities and Social Sciences (HSS)	17	10.00	10-15						
3	Engineering Sciences (ES)	27	15.88	10-20						
4	Professional Core (PC)	58	34.13	25-35						
5	Professional Electives (PE)	15	8.82	8-12						
6	Open Electives (OE) & Self Study Course	11	6.47	5-10						
7	Other (Project, Survey Camp, Internship, etc.,)	15	8.82	8-10						
8	Mandatory Non-Credit Courses									

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# I Year 1<sup>st</sup> Semester

Sl. No.	Course Code	Name of the Course / Laboratory			No. of periods per week.		
110.	Code			L	Т	Р	Credits
1	EG2501	Functional English	HSS	4	-	-	3
2	MA2501	Linear Algebra & Differential Equations	BS	4	1	-	4
3	EN2502	Engineer and Society	HSS	3	-	-	2
4	CH2501	Engineering Chemistry	BS	3	-	-	2
5	CT2501	Problem Solving Using C *	BS	4	-	2	4
6	ME2501	Engineering Drawing	ES	1	-	4	3
7	EG2502	Functional English Lab	HSS	-	-	2	1
8	CH2502	Engineering Chemistry Lab	BS	-	_	2	1
			Total :	19	1	10	20

\* Integrated course with theory & practice

# I Year 2<sup>nd</sup> Semester

Sl. No.	Course Code	Name of the Course / Laboratory		No. of periods per week.			No. of Credits
110.	Coue				Т	Р	Cicuits
1	EG2503	Professional Communication	HSS	3	-	-	2
2	MA2503	Integral Transforms and Multiple Integrals	BS	3	1	-	3
3	EN2501	Environmental Studies	HSS	3	-	-	2
4	PH2501	Engineering Physics	BS	3	1	-	3
5	CE2501	Engineering Mechanics	ES	4	1	-	4
6	EG2504	Professional Communication Lab	HSS	-	-	4	2
7	PH2503	Computer Aided Drafting Lab	ES	-	-	4	2
8	CH2502	Engineering Physics Lab	BS	-	-	2	1
9	CE2503	Applied Mechanics Lab & Building Trade Practice	ES	-	-	2	1
			Total :	16	3	12	20

# II) Electrical and Electronics Engineering

	Curricular Component										
S1.	Course Work-Subject Area	Total no.	% of Total	% of credits							
No.	Course work-Subject Area	of credits	Credits	as per UGC							
1	Basic Sciences (BS)	27	15.88	15-20							
2	Humanities and Social Sciences (HSS)	17	10.00	10-15							
3	Engineering Sciences (ES)	27	15.88	10-20							
4	Professional Core (PC)	57	33.54	25-35							
5	Professional Electives (PE)	15	8.82	8-12							
6	Open Electives (OE) & Self Study Course	11	6.47	5-10							
7	Other (Project, Internship, etc.)	16	9.41	8-10							
8	Mandatory Non-Credit Courses										

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# I Year 1<sup>st</sup> Semester

Sl. No.	Course code	Name of the Course / Laboratory			No. of periods per week		
190.	coue			L	Т	P	Credits
1	EG2501	Functional English	HSS	4	-	-	3
2	MA2501	Linear Algebra and Differential Equations	BS	4	1	-	4
3	EN2502	Engineer and Society	HSS	3	-	-	2
4	CH2503	Applied Chemistry	BS	3	-	-	2
5	CT2501	Problem Solving using C *	HSS	4	-	2	4
6	ME2501	Engineering Drawing	ES	1	-	4	3
7	EG2502	Functional English Lab	HSS	-	-	2	1
8	CH2504	Applied Chemistry Lab	BS	-	-	2	1
	·	Total:		19	1	10	20

\* Integrated theory & practice course

# I Year 2<sup>nd</sup> Semester

Sl. No.	Course code	] Name of the Course / Laboratory			No. of periods per week		
140.	coue			L	Т	Р	Credits
1	EG2503	Professional Communication	HSS	3	-	-	2
2	MA2504	Integral Transforms & Vector Calculus	BS	4	1	-	4
3	EE2507	Elements of Electrical Circuits	ES	3	1	-	3
4	PH2504	Solid State Physics	BS	4	-	-	3
5	EN2501	Environmental Studies	HSS	3	-	-	2
6	ME2503	Elements of Mechanical Engineering	ES	3	1	-	3
7	EG2504	Professional Communication lab	HSS	-	-	4	2
8	PH2505	Solid State Physics Lab	BS	-	-	2	1
			Total:	20	3	6	20

# **III) Mechanical Engineering**

Currentar Components										
Sl. No.	Course Work-Subject Area	Total no. of credits	% of Total credits	% of credits as per UGC						
1	Basic Sciences (BS)	26	15.30	15-20						
2	Humanities and Social Sciences (HSS)	18	10.59	10-15						
3	Engineering Sciences (ES)	25	14.71	10-20						
4	Professional Core (PC)	59	34.70	25-35						
5	Professional Electives (PE)	15	8.82	8-12						
6	Open Electives (OE) & Self Study Course	11	6.47	5-10						
7	Other (Project, Internship, etc.)	16	9.41	8-10						
8	Mandatory Non-Credit Courses									

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# I Year 1<sup>st</sup> Semester

S. Course No. Code		Name of the Course / Laboratory			No.of periods per week		
INU.	Coue			L	Т	Р	Credits
1	EG2501	Functional English	HSS	4	-	-	3
2	MA2501	Linear Algebra & Differential Equations	BS	4	1	-	4
3	PH2502	Physics for Engineers	BS	3	1	-	3
4	EN2501	Environmental Studies	HSS	4	-	-	2
5	CT2501	Problem Solving Using C *	BS	4	-	2	4
6	ME2505	Engineering Graphics	ES	1	-	4	3
7	EG2502	Functional English Lab	HSS	-	-	2	1
8	PH2503	Engineering Physics Lab	BS	-	-	2	1
			Total:	19	2	10	21

\* Integrated theory & practice course

# I Year 2<sup>nd</sup> Semester

S. No.	Course	Course Code Name of the Course / Laboratory				No.of periods per week		
110.	Coue	L	Т	Р	Credits			
1	EG2503	Professional Communication	HSS	3	-		2	
2	MA2503	Integral Transforms and Multiple Integrals	BS	3	1		3	
3	EN2502	Engineer & Society	HSS	3	-		2	
4	CH2505	Industrial Chemistry	BS	3	-		3	
5	CE2501	Engineering Mechanics	ES	4	1		4	
6	ME2506	Computer Aided Engineering Drawing	ES	-	-	2	1	
7	ME2507	Engineering Workshop	ES	-	-	2	1	
8	EG2504	Professional Communication Lab	HSS	-	-	4	2	
9	ME2508	Fuels and Lubricants & Engineering	BS			2	1	
9	WIE2308	Mechanics Lab	60	-	-		1	
	Total:			16	2	10	19	

### **IV) Electronics and Communication Engineering**

Sl. No.	Course Work-Subject Area	Total no. of credits	% of Total credits	% of credits as per UGC
1	Basic Sciences (BS)	26	15.30	15-20
2	Humanities and Social Sciences (HSS)	10-15		
3	Engineering Sciences (ES)	26	15.30	10-20
4	Professional Core (PC)	59	34.70	25-35
5	Professional Electives (PE)	15	8.82	8-12
6	Open Electives (OE) & Self Study Course	11	6.47	5-10
7	Other (Project, Internship, etc.)	16	9.41	8-10
8	Mandatory Non-Credit Courses	-	-	-

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# I Year 1<sup>st</sup> Semester

S. No.	Course Code	Name of the Course / Laboratory			No. of Periods per week		
INO.	Code			L	Т	Р	Credits
1	EG2501	Functional English	HSS	4	-	-	3
2	MA2501	Linear Algebra & Differential Equations	BS	4	1	-	4
3	EN2502	Engineer & Society	HSS	3	-	-	2
4	PH2504	Solid-State Physics	BS	4	-	-	3
5	CT2502	Problem Solving through Computer Programming	ES	4	-	-	3
6	EG2502	Functional English Lab	HSS	-	-	2	1
7	PH2505	Solid-State Physics Lab	BS	-	-	2	1
8	CT2503	Computer Programming Lab	ES	-	-	4	2
			Total :	19	1	8	19

# I Year 2<sup>nd</sup> Semester

S. No.	Course Code	Name of the Course / Laboratory			No. of Periods per week		
110.	Coue		L	Т	Р	Credits	
1	EG2503	Professional Communication	HSS	3	I	I	2
2	MA2504	Integral Transforms and Vector Calculus	BS	4	1	-	4
3	CH2503	Applied Chemistry	BS	3	-	-	2
4	EN2501	Environmental Studies	HSS	3	I	I	2
5	EE2504	Linear Electrical Networks	ES	3	I	I	2
6	MA2505	Numerical Methods & Complex Analysis	BS	3	1	-	3
7	ME2501	Engineering Drawing	ES	1	-	4	3
8	EG2504	Professional Communication Lab	HSS	-	-	4	2
9	CH2504	Applied Chemistry Lab	BS	-	_	2	1
		]	<b>Fotal</b> :	20	2	10	21

# V) Computer Science and Engineering

Sl. No.	Course Work-Subject Area	Total no. of credits	% of Total credits	% of credits as per UGC
1	Basic Sciences (BS)	26	15.30	15-20
2	Humanities and Social Sciences (HSS)	17	10.00	10-15
3	Engineering Sciences (ES)	26	15.30	10-20
4	Professional Core (PC)	59	34.70	25-35
5	Professional Electives (PE)	15	8.82	8-12
6	Open Electives & Self Study Course	11	6.47	5-10
7	Other (Project, Internship, etc.)	16	9.41	8-10
8	Mandatory Non-Credit Courses	-	-	-

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# I Year 1<sup>st</sup> Semester

SI.	Course	Name of the Course / Laboratory			Per week		Total
No.	Code	·		L	Т	Р	Credits
1	EG2501	Functional English	HSS	4	-	-	3
2	MA2502	Linear Algebra & Integral transforms	BS	4	1	-	4
3	CH2506	Chemistry	BS	4	-	-	3
4	EN2501	Environmental Studies	HSS	3	-	-	2
5	EE2506	Basic Electrical Engineering	ES	3	-	-	2
6	CT2502	Problem Solving through Computer Programming	ES	4	-	-	3
7	EG2502	Functional English Lab	HSS	-	-	2	1
8	CT2503	Computer Programming Lab	ES	-	-	4	2
			Total :	22	1	6	20

# I Year 2<sup>nd</sup> Semester

SI.	Course	Name of the Course / Laboratory			Periods Week	s Per	Total
No.	Code	·		L	Т	Р	Credits
1	EG2503	Professional Communication	HSS	3	-	-	2
2	MA2506	Numerical Methods and Differential Equations	BS	4	1	-	4
3	PH2506	Applied Physics	BS	4	-	-	3
4	EN2502	Engineer and Society	HSS	3	-	-	2
5	EC2501	Elements of Electronics Engineering	ES	3	1	-	3
6	CT2504	Python Programming *	ES	3	-	2	3
7	EG2504	Professional Communication Lab	HSS	-	-	4	2
8	PH2507	Applied Physics Lab	BS	-	-	2	1
		r	Fotal :	20	2	8	20

\* Integrated theory & practice course

### VI) Information Technology

Sl. No.	Course Work-Subject Area	Total no. of credits	% of Total credits	% of credits as per UGC
1	Basic Sciences (BS)	26	15.30	15-20
2	Humanities and Social Sciences (HSS)	17	10.00	10-15
3	Engineering Sciences (ES)	26	15.30	10-20
4	Professional Core (PC)	59	34.70	25-35
5	Professional Electives (PE)	15	8.82	8-12
6	Open Electives & Self Study Course	11	6.47	5-10
7	Other (Project, Internship, etc.)	16	9.41	8-10
8	Mandatory Non-Credit Courses	-	_	-

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# I Year 1<sup>st</sup> Semester

Sl. No.	Course Code	Name of the Course / Laboratory		No. of Periods Per Week			Total No. of	
110.	Coue			L	Т	Р	Credits	
1	EG2501	Functional English	HSS	4	-	-	3	
2	MA2502	Linear Algebra and Integral Transforms	BS	4	1	-	4	
3	PH2506	Applied Physics	BS	4	-	-	3	
4	EN2501	Environmental Studies	HSS	3	-	-	2	
5	CT2502	Problem Solving through Computer Programming	ES	4	-	-	3	
6	EG2502	Functional English Lab	HSS	-	-	2	1	
7	PH2507	Applied Physics Lab	BS	_	-	2	1	
8	CT2503	Computer Programming Lab	ES	-	-	4	2	
			Total :	19	1	8	19	

# I Year 2<sup>nd</sup> Semester

SI.	Course	Name of the Course / Laboratory			No. of Periods Per Week			
No.	Code			L	Т	Р	Credits	
1	EG2503	Professional Communication	HSS	3	-	-	2	
2	MA2506	Numerical Methods and Differential	BS	4	1	-	4	
3	CH2506	Chemistry	BS	4	-	-	3	
4	EN2502	Engineer and Society	HSS	3	-	-	2	
5	EC2501	Elements of Electronics Engineering	ES	3	1	-	3	
6	CT2504	Python Programming *	ES	3	-	2	3	
7	EG2504	Professional Communication Lab	HSS	-	-	4	2	
8	EC2502	Elements of Electronics Engineering Lab	ES	-	-	4	2	
			Total :	20	2	8	21	

\* Integrated theory & practice course

## M.Tech:

### I) Structural Engineering

Sl. No.	Name of the Course / Laboratory		No.of	No. of Credits	
110.			L	Р	Cicuits
1	Computational methods in Engineering *	BS	3	2	3
2	Structural Dynamics	ES	4	-	3
3	Theory of Elasticity	PC	4	-	3
4	Advanced Design of Concrete Structures **	PC	3	2	3
5	Stability of Structures	PC	4	-	3
6	<ul> <li>Professional Elective – I</li> <li>i) Advanced Concrete Technology</li> <li>ii) Ground Improvement Techniques</li> <li>iii) Structural Optimization</li> </ul>	PE	4	-	3
7	Advanced Concrete Technology and Structural Engg. Lab	PC	-	4	2
		Total :	22	8	20

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SI. No.	Name of the Course / Laboratory		No.of periods per week		No. of Credits	
110.			L	Р	Creans	
1	Research Methodology	HSS	4	-	3	
2	Earthquake Resistant Design **	PC	3	2	3	
3	Finite Element Analysis *	PC	3	2	3	
4	Theory of Plates and Shells	PC	4	-	3	
5	<ul> <li>Professional Elective – II</li> <li>i) Advanced Design of Steel Structures</li> <li>ii) Prestressed Concrete</li> <li>iii) Fracture Mechanics of Concrete</li> </ul>	PE	4	-	3	
6	<ul> <li>Professional Elective – III</li> <li>i) Design of Substructures</li> <li>ii) Design of Bridge Structures</li> <li>iii) High Rise Buildings</li> </ul>	PE	4	-	3	
7	Computer Applications in Structural Engg Lab	PC	-	4	2	
8	Seminar	Р	-	-	2	
		otal :	22	8	22	

# III Semester

Sl.	Sl. Name of the Course / Laboratory			periods week	No. of Credits	
110.				L	Р	Creans
1	Term paper		Р	-	4	2
2	Dissertation (Initiated in third semester)		Р	-	-	-
	Tota	l :		-	4	02

### **IV** Semester

Sl. No.	SI. Name of the Course / Laboratory		No.of periods per week		No. of Credits
1	Dissertation (Carried out in third & fourth semesters)	Р	-	52	26
	Total :		-	52	26

**\*\*** Project Based theory course

### **II)** Power Electronics and Electric Drives

Sl. No.	Name of the Course / Laboratory		No.of periods per week		No. of Credits	
110.			L	Р	Creans	
1	Linear and Non-Linear Optimization Techniques	BS	4	-	3	
2	Digital Signal Processing & Field Programmble Gate Arrive **	PC	3	2	3	
3	Analysis of Power Electronic Converters	PC	4	-	3	
4	Electrical Machine Modeling and Analysis	PC	4	-	3	
5	Modern Control Theory	PC	4	-	3	
6	<ul> <li>Professional Elective – I</li> <li>i) Power Semiconductor Devices &amp; Protection</li> <li>ii) Special Machines and control</li> <li>iii) HVDC Transmission systems</li> </ul>	PE	4	-	3	
7	Power Electronic System Simulation Lab		-	4	2	
			23	6	20	

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Sl. No.	Name of the Course / Laboratory		No.of periods per week		No. of Credits	
110.			L	Р	Credits           3           3           3           3           3	
1	Research Methodology	HSS	4	-	3	
2	Advanced Digital Control Systems	ES	4	-	3	
3	Switched Mode Power Converters **	PC	3	2	3	
4	Advanced Electric Drives	PC	4	-	3	
5	<ul> <li>Professional Elective – II</li> <li>i) Renewable Energy Systems Energy Storage</li> <li>ii) Application of power Electronics to Power Systems</li> <li>iii) Custom Power Devices</li> </ul>	PE	4	-	3	
6	<ul> <li>Professional Elective – III</li> <li>i) Digital Signal Processing and Applications</li> <li>ii) Robotics&amp; Control</li> <li>iii) Smart Grids</li> </ul>	PE	4	-	3	
7	Power Electronics and Electric Drives Lab	PC	-	4	2	
8	Seminar	Р	-	-	2	
			23	6	22	

### **III** Semester

SI.	Sl. No. Name of the Course / Laboratory		-	periods week	No. of Credits
110.					Creans
1	Term paper	Р	-	4	2
2	Dissertation (Initiated in third semester)	Р	-	-	-
	Total :		-	4	02

#### **IV** Semester

SI.	Sl. Name of the Course / Laboratory			periods week	No. of Credits
110.			L	Р	Cicuits
1	Dissertation (Carried out in third & fourth semesters)	Р	-	52	26
	Total :		-	52	26

### \*\* Project Based theory course

# III) Machine Design

S. No.	Course Title		No.of periods per week		No. of Credits
110.		L	Р	Creans	
1	Computational Methods in Engineering	BS	4	-	3
2	Advanced Mechanics of Solids	ES	4	-	3
3	Analysis and Synthesis of Mechanisms	PC	4	-	3
4	Mechanical Vibrations **	PC	3	2	3
5	Gear Engineering	PC	4	-	3
6	Professional Elective – I				
	i) Product Design	PE	4		2
	ii) Rotor Dynamics	PE	4	-	2
	iii) Experimental Stress Analysis				
7	Machine Dynamics Lab	PC	-	4	3
	Г	'otal :	23	6	20

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S. No.	Course Title			periods week	No. of Credits
110.		L	Р	Creans	
1	Research Methodologies	HSS	4	-	3
2	Finite Element Methods **	PC	3	2	3
3	Geometrical Modeling	PC	4	-	3
4	Design for Manufacturing and Assembly	PC	4	-	3
5	<ul> <li>Professional Elective – II</li> <li>i) Fracture Mechanics</li> <li>ii) Condition Monitoring</li> <li>iii) Rapid Tooling and Prototyping</li> </ul>	PE	4	-	3
6	<ul> <li>Professional Elective – III</li> <li>i) Theory of Elasticity</li> <li>ii) Computational Fluid Dynamics</li> <li>iii) Tribology</li> </ul>	PE	4	-	3
7	Modeling and Analysis Lab	PC	-	4	2
8	Seminar	PC	-	-	2
		<b>Fotal</b> :	23	6	22

### **III** Semester

SI.	Sl. No. Name of the Course / Laboratory			No.of periods per week	
110.			L	Р	Credits
1	Term paper	Р	-	4	2
2	Dissertation (Initiated in third semester)	Р	-	-	-
	Total :		-	4	2

### **IV** Semester

SI. No.	DI. Name of the Course / Laboratory			periods week	No. of Credits
1,00			L	Р	Cicuits
1	Dissertation (Carried out in third & fourth semesters)	Р	-	52	26
	Total :		-	52	26

**\*\*** Project Based theory course

# IV) Embedded Systems

SI. No.	Name of the Course / Laboratory		No.of periods per week		No. of Credits
190.		L	Р	Creatis	
1	Linear and Non-Linear Optimization Techniques	BS	4	-	3
2	FPGA Design**	PC	3	1	3
3	Advanced Digital Signal Processing	PC	4	-	3
4	Embedded Networking	PC	4	-	3
5	Real Time Operating Systems	PC	4	-	3
6	<ul> <li>Professional Elective – I</li> <li>i) Advanced Microcontrollers</li> <li>ii) Sensors and Actuators</li> <li>iii) Low Power VLSI</li> </ul>	PE	4	-	3
7	FPGA Lab	PC	-	4	2
	T	otal :	23	6	20

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SI.	Name of the Course / Laboratory		No.of periods per week		No. of
No.			L	Р	Credits
1	Research Methodologies	HSS	4	-	3
2	Advanced Embedded Systems **	PC	3	2	3
3	CMOS Analog and Digital Design	PC	4	-	3
4	Internet of Things	ES	4	-	3
5	<ul> <li>Professional Elective – II</li> <li>i) SoC Design</li> <li>ii) Embedded C</li> <li>iii) Hardware Description Languages</li> </ul>	PE	4	-	3
6	<ul> <li>Professional Elective – III</li> <li>i) Micro Electro Mechanical Systems</li> <li>ii) Hardware Software Co-Design</li> <li>iii) Fabrication Process</li> </ul>	PE	4	-	3
7	Embedded Systems Lab	PC	-	4	2
8	Seminar	PC	-	-	2
	Total		23	6	22

### **III** Semester

SI. No.	Nama at the Course / Laboratory		No.of p per w		No. of Credits
110.				Р	Creans
1	Term paper	Р	-	4	2
2	Dissertation (Initiated in third semester)	Р	-	-	-
	Total :		-	4	2

### **IV** Semester

Sl. No.	Name of the Course / Laboratory			No.of periods per week		No. of Credits
				L	P	
1	Dissertation (Carried out in third & fourth semesters)		Р	-	52	26
		Total :		-	52	26

**\*\*** Project Based theory course

### V) Computer Science and Engineering

SI. No	Sl. Name of the Course / Laboratory		No.of periods per week		No. of Credits	
110.		L	Р	Cicuits		
1	Statistics with R Programming	BS	4	-	3	
2	Advanced Data Structures & Algorithm Analysis	ES	4	-	3	
3	Advanced Operating System	PC	4	_	3	
4	Object Oriented Software Engineering	PC	4	_	3	
5	Business Intelligence **	PC	3	2	3	
6	<ul> <li>Professional Elective – I</li> <li>i) Digital Image Processing</li> <li>ii) Wireless Networks</li> <li>iii) E-Commerce</li> </ul>	PE	4	-	3	
7	Software Lab-I (ADSA & R-Programming)	PC	_	4	2	
		Total :	23	6	20	

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Sl. No.	Name of the Course / Laboratory			No.of periods per week	
110.			L	Р	Credits
1	Research Methodologies	HSS	4	-	3
2	Information Security	PC	4	-	3
3	Advanced Computer Architecture	PC	4	-	3
4	Data Analytics **	PC	3	2	3
5	<ul> <li>Professional Elective – II</li> <li>i) Machine Learning</li> <li>ii) Scripting Languages</li> <li>iii) Software Testing Methodologies</li> </ul>	PE	4	-	3
6	<ul> <li>Professional Elective – III</li> <li>i) Soft Computing</li> <li>ii) Cloud Computing</li> <li>iii) Internet of Things</li> </ul>	PE	4	-	3
7	Software Lab-2 (Information security & Data Analytics Lab)	PC	-	4	2
8	Seminar	Р	-	_	2
		Total :	23	6	22

### **III** Semester

Sl. No.	Name of the Course / Laboratory		No.of periods per week		No. of Credits
1	Term paper	Р	-	4	2
2	Dissertation (Initiated in third semester)	Р	-	_	-
	Total :		-	4	2

### **IV** Semester

Sl. No.	Name of the Course / Laboratory		No.of periods per week		No. of Credits
			L	Р	
1	Dissertation (Carried out in third & fourth semesters)	Р	-	52	26
	Total :		-	52	26

**\*\*** Project Based theory course

# VI) Computer Networks and Information Security

Sl. No.	Name of the Course / Laboratory	No.of periods per week		Total Credits	
110.			L	Р	Creans
1	Advanced Discrete Mathematical Structures	BS	4	-	3
2	Advanced Data Structures and Algorithms	ES	4	-	3
3	Advanced Computer Networks **	PC	3	2	3
4	Cryptography and Crypt Analysis	PC	4	-	3
5	Operating System Security	PC	4	-	3
6	<ul> <li>Professional Elective – I</li> <li>i) Cyber Laws</li> <li>ii) Database Security</li> <li>iii) Distributed Systems</li> </ul>	PE	4	-	3
7	Software Lab-1	PC	-	4	2
	Т	'otal :	23	6	20

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S.	Nama at the Course				Total
No.			L	Р	Credits
1	Research Methodologies	HSS	4	-	3
2	Computer Security Audit and Assurance	PC	4	-	3
3	Biometric Security **	PC	3	2	3
4	Security in E-Commerce	PC	4	-	3
5	<ul> <li>Professional Elective – II</li> <li>i) Computer Forensics and Cyber Security</li> <li>ii) Big Data Analytics</li> <li>iii) Secure Web Technologies</li> </ul>	PE	4	-	3
6	<ul> <li>Professional Elective – III</li> <li>i) Cloud Computing</li> <li>ii) Ethical Hacking</li> <li>iii) Software Reliability and Metrics</li> </ul>	PE	4	-	3
7	Software Lab-2	PC	-	4	2
8	Seminar	Р	-	2	2
	TOTAL	•	24	6	22

#### **III** Semester

Sl. No.	Name of the Course / Laboratory		No.of periods per week		No. of Credits
			L	P	
1	Term paper	Р	0	4	2
2	Dissertation (Initiated in third semester)	Р	-	-	-
	Total :		0	4	2

### **IV** Semester

Sl. No.	Name of the Course / Laboratory		No.of periods per week		No. of Credits
110.			L	Р	creatis
1	Dissertation (Carried out in third & fourth semesters)	Р	0	52	26
	Total :		0	52	26

### \*\* Project Based theory course

### **MBA:**

S. No.	Name of the Course / Laboratory		period week	s per	No. of Credits	
INU.		L	Т	Р	Creatis	
1	Perspectives of Management	4	-	-	3	
2	Managerial Economics	4	-	-	3	
3	Accounting for Managers	4	-	-	3	
4	Business Communication	4	-	-	3	
5	Business Environment and Legislation	4	-	-	3	
6	Quantitative Analysis for Business Decisions	3	1	-	3	
7	Business Law	4	-	-	3	
8	Information Technology Lab for Business Management	-	-	4	2	
	Total :	27	1	4	23	

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S. No.	Name of the Course / Laboratory	No.of	period week	ls per	No. of Credits
110.		L	Т	Р	Creuits
1	Financial Management	4	-	-	3
2	Marketing Management	4	-	-	3
3	Human Resource Management	4	-	-	3
4	Production & Operations Management	4	-	-	3
5	Business Research Methods	3	1	-	3
6	International Business	4	-	-	3
7	Organizational Behaviour	4	-	-	3
	Total :	27	1	-	21

### **III** Semester

S. No.	Name of the Course / Laboratory			No.of periods per week		No. of Credits	
190.		L	Т	Р	Creans		
1	Business Policy & Strategic Management	4	-	-	3		
2	Logistics & Supply Chain Management	4	-	-	3		
3	E- Business	4	-	-	3		
4	Business Ethics & Corporate Governance	4	-	-	3		
5	Elective Subject –I	4	-	-	3		
6	Elective Subject –II	4	-	-	3		
7	Elective Subject –III	4	-	-	3		
8	Elective Subject –IV	4		-	3		
	Total :	32	-	-	24		

### **IV** Semester

S. No.	Name of the Course / Laboratory	No.of	period week	s per	No. of Credits
190.		L	Т	Р	Creans
1	Entrepreneurship & Project Management	4	-	-	3
2	Elective Subject –I	4	-	-	3
3	Elective Subject –II	4	-	-	3
4	Elective Subject –III	4	-	-	3
5	Elective Subject –IV	4	-	-	3
6	Project Report	-	-	12	6
7	Comprehensive Viva - Voce	-	-	-	1
		Total			22

### **Electives:**

III Semester	IV Semester
Marketing:	
Advertising and Brand Management	Marketing of Services
Consumer Behaviour	Sales and Distribution Management
Finance:	
Security Analysis and Portfolio Mgmt.	Financial Derivatives
International Financial Management	Financial Institutions and Services
HR: Training and Development Industrial Relations and Labour Laws	Compensation Management Management of Change and Development

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