

## 1.2.1

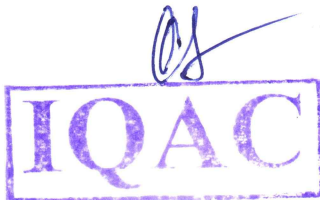
LIST OF NEW COURSES ARE INTRODUCED  
PROGAMME'S DURING 2021-22



DEPARTMENT OF CIVIL ENGINEERING

R20 – REGULATIONS  
B.Tech I Year – I Semester

S.No.	CODE:	SUBJECT NAME	INTERNAL MARKS	EXTERNAL MARKS	TOTAL MARKS	L	T	P	C
1	R20CC1103	Engineering Chemistry	30	70	100	3	0	0	3
2	R20CC1102	Linear Algebra and Calculus	30	70	100	2	1	0	3
3	R20CC1101	Technical and Communicative English-I	30	70	100	3	0	0	3
4	R20CC1107	Engineering Mechanics	30	70	100	2	1	0	3
5	R20CC1105	Problem Solving Using C	30	70	100	3	0	0	3
6	R20CC11L1	Soft skills and Communication SkillsLab-1	15	35	50	0	0	3	1.5
7	R20CC11L5	Engineering ChemistryLab	15	35	50	0	0	3	1.5
8	R20CC11L2	Problem Solving Using CLab	15	35	50	0	0	3	1.5
		<b>Total</b>							<b>19.5</b>



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DEPARTMENT OF CIVIL ENGINEERING

B. Tech I Year II Semester

S.No	CODE	SUBJECT NAME	INTERNAL MARKS	EXTERNAL MARKS	TOTAL MARKS	L	T	P	C
1	R20CC1201	Differential Equations and Vector Calculus	30	70	100	2	1	0	3
2	R20CC1203	Engineering Physics	30	70	100	3	0	0	3
3	R20CC1207	Engineering Drawing	30	70	100	1	0	4	3
4	R20CE1212	Elements of Mechanical and Ele. and Engg.	30	70	100	3	0	0	3
5	R20CE1216	Elements of Building Science	30	70	100	3	0	0	3
6	R20CC12L6	Elements of Mechanical and Ele. and Engg Lab	15	35	50	0	0	3	1.5
7	R20CC12L5	Engineering Physics Lab	15	35	50	0	0	3	1.5
8	R20CC12L4	Engineering Workshop	15	35	50	0	0	3	1.5
9	R20CCMC2	Constitution of India(MC)	15	35	50	2	0	0	0
		<b>Total</b>							<b>19.5</b>



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DEPARTMENT OF CIVIL ENGINEERING

II B. Tech II Year I Semester

S.No	CODE	SUBJECT	Cat. Code	INTERNAL MARKS	EXTERNAL MARKS	TOTAL MARKS	L	T	P	C
1	R20CC2101	Numerical Methods and Transformation	BS	30	70	100	3	0	0	3
2	R20CE2102	Fluid Mechanics	PC	30	70	100	3	0	0	3
3	R20CE2103	Strength of Materials-I	PC	30	70	100	3	0	0	3
4	R20CE2104	Surveying and Geomatics	PC	30	70	100	3	0	0	3
5	R20CE2105	Concrete Technology	PC	30	70	100	3	0	0	3
6	R20CE21L1	Strength Of Materials Lab	PC	15	35	50	0	0	3	1.5
7	R20CE21L2	Computer Aided Building Drawing Lab	PC	15	35	50	0	0	3	1.5
8	R20CE21L3	Surveying Field Work Lab	PC	15	35	50	0	0	3	1.5
9	R20CE21SC1	Building Materials and Construction Technology Lab	SOC	15	35	50	1	0	2	2
10	R20CC21MC1	Environmental Studies	MC	100		100	3	0	0	0
<b>Total Credits</b>										<b>21.5</b>



*M. S. S.*




DEPARTMENT OF CIVIL ENGINEERING

B.TECH II YEAR - II SEMESTER

S.NO	CODE	SUBJECT	Cat. Code	INTERNAL MARKS	EXTERNAL MARKS	TOTAL MARKS	L	T	P	CREDITS
1	R20CC2201	Technical and Communicative English-II	CC	30	70	100	3	0	0	3
2	R20CE2202	Engineering Geology	ES	30	70	100	3	0	0	3
3	R20CE2203	Structural Analysis	PC	30	70	100	3	0	0	3
4	R20CE2204	Strength of Materials-II	PC	30	70	100	3	0	0	3
5	R20CE2205	Hydraulics And Hydraulic Machines	PC	30	70	100	3	0	0	3
6	R20CE22L1	Engineering Geology Lab	EC	15	35	50	0	0	3	1.5
7	R20CE22L2	Fluid Mechanic And Hydraulic Machinery Lab	PC	15	35	50	0	0	3	1.5
8	R20CE22L3	Concrete Technology Lab	PC	15	35	50	0	0	3	1.5
9	R20CE22SC1	Advanced Surveying	SOC		50	50	1	0	2	2
<b>Total Credits</b>										<b>21.5</b>



  
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DEPARTMENT OF CIVIL ENGINEERING

III B. TECH. – I SEMESTER

Sl. No.	Subject Code	Subject	cat code	Internal Marks	External Marks	Total Marks	L	T	P	Credits
<b>COMMON CORE</b>										
1	19BCC5TH01	Entrepreneurship And Innovation	HS	40	60	100	3	0	0	3
<b>PROFESSIONAL CORE</b>										
2	19BCE5TH02	Structural Analysis-II	PC	40	60	100	3	0	0	3
3	19BCE5TH03	Design of Reinforced Concrete Structures	PC	40	60	100	3	0	0	3
4	19BCE5TH04	Soil mechanics	PC	40	60	100	3	0	0	3
5	19BCE5TH05	Concrete technology	PC	40	60	100	3	0	0	3
<b>OPEN ELECTIVE II</b>										
6	19BCC5OE01	Disaster Management	OE	40	60	100	3	0	0	3
7	19BCC5OE02	Green Building & Sustainability	OE	40	60	100	3	0	0	3
<b>LABORATORIES</b>										
8	19BCE5LB01	Soil Mechanics laboratory	PC	20	30	50	0	0	3	1.5
9	19BCE5LB02	Concrete Technology laboratory	PC	20	30	50	0	0	3	1.5
10	19BCC5MC01	Advance Communication Skills Lab	HS				2	0	0	0
<b>Total</b>										<b>21</b>



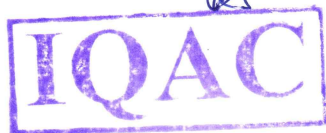
  
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DEPARTMENT OF CIVIL ENGINEERING

III B. TECH. – II SEMESTER

Sl. No.	Subject Code	Subject	eat code	Internal Marks	External Marks	Total Marks	L	T	P	Credits
<b>PROFESSIONAL CORE</b>										
1	19BCE6TH01	Design And Drawing Of Steel Structures	PC	40	60	100	3	0	0	3
2	19BCE6TH02	Irrigation & Water Resources Engineering	PC	40	60	100	3	0	0	3
3	19BCE6TH03	Foundation Engineering	PC	40	60	100	3	0	0	3
4	19BCE6TH04	Transportation Engineering	PC	40	60	100	3	0	0	3
<b>PROFESSIONAL ELECTIVE-I</b>										
5	19BCE6PE05	Advanced Design Of Concrete Structures	PE	40	60	100	3	0	0	3
6	19BCE6PE06	Numerical Methods In Civil Engineering	PE	40	60	100	3	0	0	3
7	19BCE6PE07	Groundwater Hydrology	PE	40	60	100	3	0	0	3
8	19BCE6PE08	Alternative Construction Technology	PE	40	60	100	3	0	0	3
<b>OPEN ELECTIVE III</b>										
9	19BCC6OE01	Solid And Hazardous Waste Management	OE	40	60	100	3	0	0	3
10	19BCC6OE02	Ground Water Development And Management	OE	40	60	100	3	0	0	3
<b>LABORATORIES</b>										
11	19BCE6LB01	Transportation Engineering Laboratory	PC	20	30	50	0	0	3	1.5
12	19BCE6MP	Mini Project	PR	20	30	50	0	0	3	1.5
13	19BCE6LB02	Field Work With Digital Technologies	PR	20	30	50	0	0	3	1.5
<b>Total</b>										<b>22.5</b>

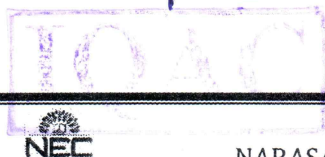


  
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DEPARTMENT OF CIVIL ENGINEERING

IV B.TECH- I SEMESTER COURSE STRUCTURE

S.No	Subject Name	Cat. Code	L	T	P	Internal Marks	External Marks	Total Marks	Credits
1	Estimation Costing & Valuation	PC	3	1	-	40	60	100	3
2	Environmental Engineering-II	PC	3	1	-	40	60	100	3
3	Construction Technology & Management	HS	4	-	-	40	60	100	3
4	Open Elective-III (See The List Of Open Electives)	OE	4	-	-	40	60	100	3
5	<b>Professional Elective-II</b>	PE							
	Matrix Methods Of Structural Analysis								
	Advanced Design Of R C Structures								
	Earth And Earth Retaining Structures		3	1	-	40	60	100	3
	Highway Geometric Design								
	Open Channel Hydraulics								
	Advanced Surveying								
6	<b>Professional Elective-III</b>	PE							
	Numerical Methods In Civil Engineering								
	Theory Of Elasticity								
	Pavement Materials And Construction								
	Air Pollution And Control		3	1	-	40	60	100	3
	Photogrammetry And Remote Sensing								
	Advanced Design Of Steel Structures								
	Bridge Engineering								
7	Environmental Engineering Lab	PC	-	-	3	25	50	75	2
8	Mini Project On Planning, Analysis & Design Of G+2 building	PRC	-	-	3	25	50	75	2



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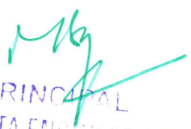


DEPARTMENT OF CIVIL ENGINEERING

IV B.TECH- II SEMESTER COURSE STRUCTURE

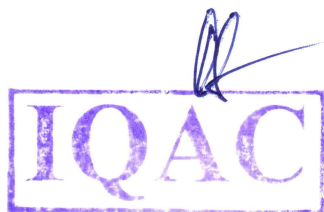
S.No	Subject Name	Cat. Code	L	T	P	Internal Marks	External Marks	Total Marks	Credits
1	Business Management Concepts For Engineers	PC	4	-	-	40	60	100	3
2	<b>Professional Elective-IV</b>	PE							
	Pre-Stressed Concrete Structures								
	Advanced Foundation Engineering.								
	Pavement Design								
	Earthquake Resistant Design Of Structures		3	1	-	40	60	100	3
	Industrial Waste Water Treatment								
	Pre-Fabricated Structures								
3	<b>Professional Elective-V</b>	PE							
	Finite Element Analysis								
	Reinforced Earth Structures								
	Urban Transport Planning								
	Geographic Information System		3	1	-	40	60	100	3
	Water Resources Engineering								
4	Project Work	PRC	-	-	-	80	120	200	10
	Practical Training/Intern Ship	PRC	-	-	-	40	60	100	03
	<b>TOTAL</b>		<b>10</b>	<b>2</b>	<b>-</b>	<b>240</b>	<b>360</b>	<b>600</b>	<b>22</b>

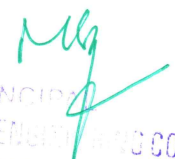


  
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DEPARTMENT OF CIVIL ENGINEERING

Open Elective – III	Department Offering the Subject	No. of periods per week		No. of Credits
		L	T	
Subject Title				
Operations Research (Other Than Me)	ME	4	-	3
Robotics	ME	4	-	3
Energy Audit, Conservation & Management (Other Than Eee)	EEE	4	-	3
Non-Conventional Energy Resources (Other Than EEE)	EEE	4	-	3
Introduction To Embedded Systems (Other Than ECE)	ECE	4	-	3
Global Positioning System	ECE	4	-	3
Computer Networks (Other Than CSE & ECE)	CSE	4	-	3
Web Animation And Interactivity Using Flash	CSE	4	-	3
Web Services	CSE	4	-	3
Water Shed Management.	CE	4	-	3
Solid And Hazardous Waste Management (Other Than CE).	CE	4	-	3



  
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II B.TECH. – I SEMESTER

S.No.	Subject Code	Subject	Cat. Code	Internal Marks	External Marks	Total Marks	L	T	P	Credits
1	<del>19BCC3TH01</del>	<del>Numerical Methods &amp; Transformations</del>	<del>BS</del>	<del>40</del>	<del>60</del>	<del>100</del>	<del>3</del>	-	-	<del>3</del>
2	19BEE3TH02	Electronic Devices and Circuits	ES	40	60	100	3	-	-	3
3	19BEE3TH03	Electrical Circuit Analysis - II	PC	40	60	100	3	-	-	3
4	19BEE3TH04	Electrical Machines-I	PC	40	60	100	3	-	-	3
5	19BEE3TH05	Electro Magnetic Fields	PC	40	60	100	3	-	-	3
6	19BEE3TH06	Analog Electronics	PC	40	60	100	3	-	-	3
7	19BEE3LB01	Electronic Devices and Circuits Lab	ES	20	30	50	-	-	3	1.5
8	19BEE3LB02	Electrical Circuit Analysis Lab	PC	20	30	50	-	-	3	1.5
9	19BCC3MC02	Community Service	MC	-	-	-	-	-	-	-
		<b>Total</b>		<b>280</b>	<b>420</b>	<b>700</b>	<b>18</b>	<b>-</b>	<b>6</b>	<b>21</b>



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**II B. Tech. - I SEMESTER**

S. No.	Subject Code	Subject	Cat. Code	L	T	P	Internal Marks	External Marks	Total Marks	Credits
1	R20CC2101	Numerical Methods and Transformations	BSC	2	1	0	30	70	100	3
2	R20EE2102	Electrical Circuit Analysis-II	PCC	2	1	0	30	70	100	3
3	R20EE2103	Electrical Machines-I	PCC	2	1	0	30	70	100	3
4	R20EE2104	Electromagnetic Fields	PCC	2	1	0	30	70	100	3
5	R20EE2105	Analog Electronics	PCC	3	0	0	30	70	100	3
6	R20EE21L1	Electrical Circuit Analysis Lab	PCC	0	0	3	15	35	50	1.5
7	R20EE21L2	Electrical Machines-I Lab	PCC	0	0	3	15	35	50	1.5
8	R20EE21L3	Analog Electronics Lab	PCC	0	0	3	15	35	50	1.5
9	R20EE21SC1	PLC Automation	SC	0	0	4	-	50	50	2
10	R20CC21MC1	Environmental Studies (MC)	MC	2	-	-	-	-	-	-
		<b>Total</b>		<b>13</b>	<b>4</b>	<b>13</b>	<b>195</b>	<b>505</b>	<b>700</b>	<b>21.5</b>


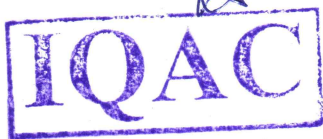



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## II B. Tech. - II SEMESTER

S. No.	Subject Code	Subject	Cat. Code	L	T	P	Internal Marks	External Marks	Total Marks	Credits
1	R20CC2201	Technical and Communicative English – II	HSMC	3	0	0	30	70	100	3
2	R20CC2202	Complex Variables , Probability and Statistics	BSC	2	1	0	30	70	100	3
3	R20EE2203	Control Systems	PCC	2	1	0	30	70	100	3
4	R20EE2204	Electrical Machines-II	PCC	2	1	0	30	70	100	3
5	R20EE2205	Digital Electronics	PCC	3	0	0	30	70	100	3
6	R20EE22L1	Control System Lab	PCC	0	0	3	15	35	50	1.5
7	R20EE22L2	Electrical Machines Lab-II	PCC	0	0	3	15	35	50	1.5
8	R20EE22L3	Digital Electronics Laboratory	PCC	0	0	3	15	35	50	1.5
9	R20EE22SC1	Numerical Techniques using MATLAB	SC	0	0	4	-	50	50	2
		<b>Total</b>		<b>12</b>	<b>3</b>	<b>13</b>	<b>195</b>	<b>505</b>	<b>700</b>	<b>21.5</b>

  
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**II B.TECH. – II SEMESTER**

S.No.	Subject Code	Subject	Cat. Code	Internal Marks	External Marks	Total Marks	L	T	P	Credits
1	19BCC4TH01	Complex Variables, Probability & Statistics	BS	40	60	100	3	-	-	3
2	19BEE4TH02	Problem Solving with Python	ES	40	60	100	3	-	-	3
3	19BEE4TH03	Digital logic and circuits	PC	40	60	100	3	-	-	3
4	19BEE4TH04	Electrical Machines-II	PC	40	60	100	3	-	-	3
5		<b>Open Elective-I</b>	OE	40	60	100	3	-	-	3
6	19BCC4LB01	English Communication Skills Lab-II	HS	20	30	50	-	-	3	1.5
7	19BEE4LB02	Python Lab	ES	20	30	50	-	-	3	1.5
8	19BEE4LB03	Electrical Machines Lab-I	PC	20	30	50	-	-	3	1.5
9	19BEE4LB04	Analog and Digital Circuits Lab	PC	20	30	50	-	-	3	1.5
10	19BCC4MC02	Quantitative Aptitude and Reasoning	MC	-	-	-	3	-	-	-
		<b>Total</b>		<b>280</b>	<b>420</b>	<b>700</b>	<b>18</b>	<b>-</b>	<b>12</b>	<b>21</b>



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III B.TECH. – I SEMESTER

S.No.	Subject Code	Subject	Cat. Code	Internal Marks	External Marks	Total Marks	L	T	P	Credits
1	19BEE5TH01	Control Systems	PC	40	60	100	3	-	-	3
2	19BEE5TH02	Power Electronics	PC	40	60	100	3	-	-	3
3	19BEE5TH03	Electrical Transmission System	PC	40	60	100	3	-	-	3
4	19BEE5TH04	Electrical Measurements	PC	40	60	100	3	-	-	3
5	19BEE5PE05	<b>Professional Elective-I</b> a. Special Electrical Machines	PE	40	60	100	3	-	-	3
	19BEE5PE06	b. Intellectual Property Rights								
	19BEE5PE07	c. Signals and System								
	19BEE5PE08	d. Electrical Energy Conservation and Auditing								
6		<b>Open Elective-II</b>	OE	40	60	100	3	-	-	3
7	19BEE5LB01	Electrical Machines Lab-II	PC	20	30	50			3	1.5
8	19BEE5LB02	Power Electronics Lab	PC	20	30	50			3	1.5
9	19BEE5LB03	Control System & Measurements Lab	PC	20	30	50			3	1.5
10	19BCC5MC01	Advanced Communication Skills	MC	-	-	-	-	-	3	-
		<b>Total</b>		<b>300</b>	<b>450</b>	<b>750</b>	<b>18</b>	<b>-</b>	<b>12</b>	<b>22.5</b>

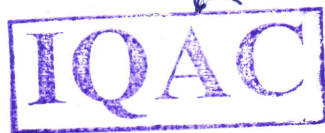


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III B.TECH. – II SEMESTER

S.No.	Subject Code	Subject	Cat. Code	Internal Marks	External Marks	Total Marks	L	T	P	Credits
1	19BCC6TH01	Entrepreneurship and Innovation	HS	40	60	100	3	-	-	2
2	19BEE6TH02	Microprocessor & Microcontrollers	PC	40	60	100	3	-	-	3
3	19BEE6TH03	Internet of Things	ES	40	60	100	2	1	-	3
4	19BEE6TH04	Power System Analysis	PC	40	60	100	3	-	-	3
5	19BEE6PE05	<b>Professional Elective-II</b> a. Flexible AC Transmission Systems	PE	40	60	100	3	-	-	3
	19BEE6PE06	b. Advanced Power Electronic Converters								
	19BEE6PE07	c. Control of Electrical Drives								
	19BEE6PE08	d. Electrical Machine Design								
6		<b>Open Elective-III</b>	OE	40	60	100	3	-	-	3
7	19BEE6LB01	Microprocessors and Microcontrollers Lab	PC	20	30	50			3	1.5
8	19BEE6LB02	Process Automation Lab (Skill Lab)	PR	20	30	50			3	1
9	19BEE6MP	Mini Project	PR	50	-	50	-	-	3	1.5
		<b>Total</b>		<b>330</b>	<b>420</b>	<b>750</b>	<b>18</b>	<b>-</b>	<b>9</b>	<b>21</b>




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II B.TECH – I SEMESTER

S. No	Subject	Course Code	Cat. Code	Internal Marks	External Marks	Total Marks	L	T	P	Credits
1	Numerical Methods and Transformations	R20CC2101	BS	30	70	100	2	1	0	3
2	Fluid Mechanics and Hydraulic Machinery	R20ME2102	PC	30	70	100	2	1	0	3
3	Metrology and Instrumentation	R20ME2103	PC	30	70	100	3	0	0	3
4	Thermodynamics	R20ME2104	PC	30	70	100	2	1	0	3
5	Mechanics of Solids	R20ME2105	PC	30	70	100	2	1	0	3
6	FMHM Lab	R20ME21L1	PC	15	35	50	0	0	3	1.5
7	MOS and Metallurgy Lab	R20ME21L2	PC	15	35	50	0	0	3	1.5
8	Metrology and Instrumentation Lab	R20ME21L3	PC	15	35	50	0	0	3	1.5
9	Solid Modelling	R20ME21L4	SC	15	35	50	0	0	4	2
10	Environmental Studies	R20CCMC2	MC	-	-	-	2	0	0	0
<b>Total</b>										<b>21.5</b>



  
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II B.TECH- II SEMESTER

S. No	Subject	Course Code	Cat. Code	Internal Marks	External Marks	Total Marks	L	T	P	Credits
1	Applied Thermodynamics	R20ME2204	ES	30	70	100	2	1	0	3
2	Complex Variables Probability and Statistics	R20CC2202	BS	30	70	100	2	1	0	3
3	Kinematics of Machinery	R20ME2202	PC	30	70	100	3	0	0	3
4	Manufacturing Technology	R20ME2203	PC	30	70	100	3	0	0	3
5	Technical and Communicative English - II	R20CC2201	HS	30	70	100	3	0	0	3
6	Machine Drawing Lab	R20ME22L1	PC	15	35	50	0	0	3	1.5
7	Applied Thermodynamics Lab	R20ME22L2	PC	15	35	50	0	0	3	1.5
8	Manufacturing Technology Lab	R20ME22L3	PC	15	35	50	0	0	3	1.5
9	Computer Aided Engineering Practice	R20ME22L4	SC	15	35	50	0	0	4	2
<b>Total</b>										<b>21.5</b>
10	Honors/Minor Courses	-	HC	30	70	100	4	0	0	4



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III B.TECH- I SEMESTER

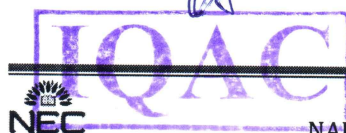
S.No.	Subject	Sub Code	Cat. Code	Internal Marks	External Marks	Total Marks	L	T	P	Credits
1	Business Management Concepts for Engineers	19BME5TH02	HS	40	60	100	3	-	-	3
2	Metal Cutting & Machine Tools	19BME5TH03	PC	40	60	100	3	-	-	3
3	Heat Power Engineering	19BME5TH04	PC	40	60	100	2	1	-	3
4	Design of Machine Elements -I	19BME5TH05	PC	40	60	100	2	1	-	3
5	Entrepreneurship and Innovation	19BCC5TH01	HS	40	60	100	2	-	-	2
6	<b>Open Elective-2</b>		OE	40	60	100	3	-	-	3
7	Engineering Skills Lab	19BME5LB01	PR	20	30	50	-	-	3	1.5
8	Metal Cutting & Machine Tools Lab	19BME5LB02	PC	20	30	50	-	-	3	1.5
9	Heat Power Engineering Lab	19BME5LB03	PC	20	30	50	-	-	3	1.5
<b>Total</b>										<b>21.5</b>



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III B.TECH- II SEMESTER

S.No.	Subject	Sub Code	Cat. Code	Internal Marks	External Marks	Total Marks	L	T	P	Credits
1	Design of Machine Elements -II	19BME6TH02	PC	40	60	100	2	1	-	3
2	Heat Transfer	19BME6TH03	PC	40	60	100	2	1	-	3
3	Dynamics of Machinery	19BME6TH04	PC	40	60	100	2	1	-	3
4	Complex Variables, Probability & Statistics	19BME6TH01	BS	40	60	100	2	1	-	3
5	<b>Professional Elective-1</b>		PE	40	60	100	2	1	-	3
	Automobile Engineering	19BME6PE05								
	Refrigeration and air conditioning	19BME6PE06								
	Operations Research	19BME6PE07								
	Unconventional Machining Processes	19BME6PE08								
6	<b>Open Elective-3</b>		OE	40	60	100	3	-	-	3
7	Heat Transfer Lab	19BME6LB01	PC	20	30	50	-	-	3	1.5
8	Machine Dynamics Lab	19BME6LB02	PC	20	30	50	-	-	3	1.5
9	Mini Project	19BME6MP	PR	20	30	50	-	-	3	1.0
10	Advanced Communication Skills	19BCC6MC01	MC	-	-	-	3	-	-	0
<b>Total</b>										<b>22.0</b>

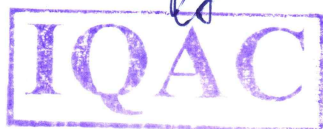



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II B.TECH. – I SEMESTER


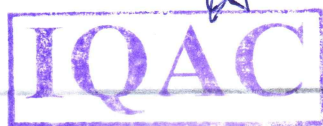
S.No.	Subject Code	SUBJECT	Cat. Code	L	T	P	INTERNAL MARKS	EXTERNAL MARKS	TOTAL MARKS	CREDITS
1	R20CC2101	Numerical Methods and Transformations	BS	2	1	0	30	70	100	3
2	R20EC2102	Electronic Devices and Circuits	PC	3	0	0	30	70	100	3
3	R20EC2103	Signals and Systems	PC	2	1	0	30	70	100	3
4	R20EC2104	Switching Theory and Logic Design	PC	3	0	0	30	70	100	3
5	R20EC2105	Linear Control Systems	PC	3	0	0	30	70	100	3
6	R20EC21L1	Electronic Devices and Circuits Lab	PC	0	0	3	15	35	50	1.5
7	R20EC21L2	Signals and Systems Lab	PC	0	0	3	15	35	50	1.5
8	R20EC21L3	Digital Logic Design Lab	PC	0	0	3	15	35	50	1.5
9	R20EC21S C1	Design of Systems using Arduino and Raspberry Pi	SC	0	0	4		50	50	2
10	R20CC21M C1	Environmental Studies	MC	2	0	0				0
Total				15	02	13	195	505	700	21.5




  
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**II B.TECH. – II SEMESTER**

S.No.	Subject Code	SUBJECT	Cat. Code	L	T	P	INTERNAL MARKS	EXTERNAL MARKS	TOTAL MARKS	CREDITS
1	R20EC2202	Internet of Things	ES	3	0	0	30	70	100	3
2	R20EC2203	Analog and Digital Communications	PC	3	0	0	30	70	100	3
3	R20EC2204	Electronic Circuits and Pulse Circuits	PC	3	0	0	30	70	100	3
4	R20EC2205	Electromagnetic Waves and Transmission Lines	PC	3	0	0	30	70	100	3
5	R20CC2201	Technical and Communicative English-II	HS	3	0	0	30	70	100	3
6	R20EC22L1	Internet of Things Lab	ES	0	0	3	15	35	50	1.5
7	R20EC22L2	Analog and Digital Communications Lab	PC	0	0	3	15	35	50	1.5
8	R20EC22L3	Electronic Circuits and Pulse Circuits Lab	PC	0	0	3	15	35	50	1.5
9	R20EC22SC1	Design and Simulation of Electronic Circuits	SC	0	0	4		50	50	2
10		Internship two months (Mandatory) during summer vacation								
	Total			15	0	13	195	505	700	21.5
	<b>Honors/minor course</b>			>4	4	0				4

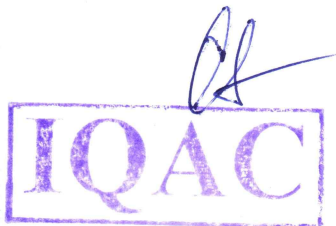
  
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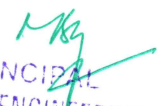


**DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING**

**III B.TECH. – I SEMESTER**

S.No.	SUBJECT	Cat. Code	INTERNAL MARKS	EXTERNAL MARKS	TOTAL MARKS	L	T	P	CREDITS
1	Linear & Digital IC Applications	PC	40	60	100	3	-	-	3
2	Entrepreneurship and Innovation	HS	40	60	100	2	-	-	2
3	Pulse and Digital Circuits	PC	40	60	100	3	-	-	3
4	Control Systems	PC	40	60	100	3	-	-	3
5	Computer Organization and Microprocessors	PC	40	60	100	3	-	-	3
6	<b>Open Elective – II</b>	OE	40	60	100	3	-	-	3
	i. Fundamentals of Image Processing (Other than ECE)								
	ii. Consumer Electronics								
7	LDICA Lab	PC	20	30	50	-	-	3	1.5
8	EC & PDC Lab	PC	20	30	50	-	-	3	1.5
9	Skill Lab	OE	20	30	50	-	-	3	1.5
<b>Total</b>			<b>300</b>	<b>450</b>	<b>750</b>	<b>17</b>	<b>-</b>	<b>9</b>	<b>21.5</b>

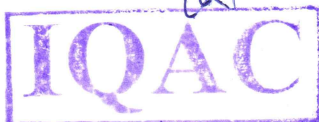



  
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**DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING**

**III B.TECH. – II SEMESTER**

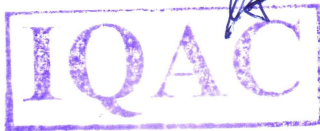
S. No.	SUBJECT	Cat. Code	INTERNAL MARKS	EXTERNAL MARKS	TOTAL MARKS	L	T	P	CREDIT S
1	Antennas and Wave Propagation	PC	40	60	100	3	-	-	3
2	Digital Signal Processing	PC	40	60	100	3	-	-	3
3	Microcontrollers and Embedded Systems	PC	40	60	100	3	-	-	3
4	Object Oriented Programming through Java	ES	40	60	100	3	-	-	3
5	<b>Open Elective – III</b> i. Introduction to Embedded Systems (Other than ECE) ii. Global Positioning System(GPS)	OE	40	60	100	3	-	-	3
6	<b>Professional Elective– I:</b> i. Electronic Measurements and Instrumentation ii. Data Communication and Computer Networks iii. Embedded System Design with Advanced Processors iv. Statistical Methods in AI	PE	40	60	100	3	-	-	3
7	MP & MC Lab	PC	20	30	50	-	-	3	1.5
8	Object Oriented Programming through Java Lab	ES	20	30	50	-	-	3	1.5
9	Mini Project	PR	20	30	50	-	-	2	1
10	Advanced Communication Skills	MC	-	-	-	-	-	3	-
<b>Total</b>			<b>300</b>	<b>450</b>	<b>750</b>	<b>18</b>	<b>-</b>	<b>11</b>	<b>22</b>

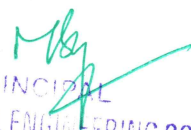


  
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S. NO	SUBJECT	Cat. Code	L	T	P	INTERNAL MARKS	EXTERNAL MARKS	TOTAL MARKS	CREDITS
1	Design and Analysis of Algorithms	PC	3	1	-	40	60	100	3
2	OOAD through UML	PC	4	-	-	40	60	100	3
3	Compiler Design	PC	4	-	-	40	60	100	3
4	Computer Networks	PC	3	1	-	40	60	100	3
5	<b>Professional Elective –</b> 1. Microprocessors and Multicore systems 2. Distributed Data Bases 3. Software Requirements & Estimation 4. Network Management Systems	PE	4	-	-	40	60	100	3
6	Operating Systems & Compiler Design Lab	PC	-	-	3	25	50	75	2
7	UML Lab	PC	-	-	3	25	50	75	2
8	Network & Unix Programming Lab	ES	-	-	3	25	50	75	2
9	Mini Project – I	PW	-	-	-	25	50	75	2
10	Quantitative Aptitude and Reasoning - II	MC	3	-	-	-	-	-	-
	Total		21	2	9	300	500	800	23

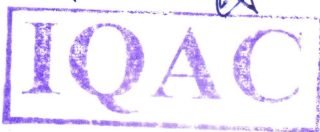


  
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III B.TECH. – II SEMESTER

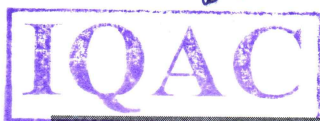
S. NO.	SUBJECT	Cat. Code	L	T	P	INTERNAL MARKS	EXTERNAL MARKS	TOTAL MARKS	CREDITS
1	Cryptography and Network Security	PC	4	-	-	40	60	100	3
2	Data Warehousing and Data Mining	PC	4	-	-	40	60	100	3
3	Advanced Java and Web Technologies	PC	4	-	-	40	60	100	3
4	<b>Professional Elective – II:</b> 1. Advanced Computer Architecture 2. E-Commerce 3. Software Development Methodology 4. Wireless Networks & Mobile Computing 5. Dot Net Technologies	PE	4	-	-	40	60	100	3
5	<b>Open Elective – I:</b> (See the List of Open Electives)	OE	4	-	-	40	60	100	3
6	Free Open Source Software (FOSS) Python Lab	PC	-	-	3	25	50	75	2
7	Advanced Java and Web Technologies Lab	PC	-	-	3	25	50	75	2
8	Data Mining Lab	PC	-	-	3	25	50	75	2
9	Mini Project- II	PW	-	-	-	25	50	75	2
10	Advanced Communication Skills	MC	3	-	-	-	-	-	-
	Total		22	-	9	300	500	800	23



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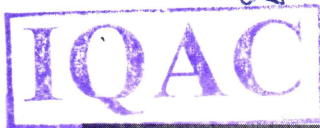
**II B.TECH. – I SEMESTER**

S.No	Subject Code	SUBJECT	Cat. Code	INTERNAL MARKS	EXTERNAL MARKS	TOTAL MARKS	L	T	P	CREDITS
1	19BCC3TH01	Business Management Concept for Engineers	HS	40	60	100	3			3
2	19BCI3TH02	Front End Web Technologies	ES	40	60	100	3	-	-	3
3	19BCI3TH03	OOPs Through Java	PC	40	60	100	2	1	-	3
4	19BCI3TH04	Mathematical Foundations of Computer Science	BS	40	60	100	3	-	-	3
5	19BCI3TH05	Data Structures	PC	40	60	100	3	-	-	3
6	19BCI3TH06	Computer Organization	PC	40	60	100	3	-	-	3
7	19BCI3LB01	Data Structures Lab	PC	20	30	50	-	-	3	1.5
8	19BCI3LB02	Front End Web Technologies Lab	ES	20	30	50	-		3	1.5
9	19BCI3LB03	Java Programming Lab	PC	20	30	50	-	-	3	1.5
10	19BCCMC02	Community Service	MC	-	-	-	-	-		0
<b>TOTAL</b>										<b>22.5</b>



**II B.TECH. – II SEMESTER**

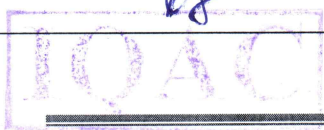
S.No	Subject Code	SUBJECT	Cat. Code	INTERNAL MARKS	EXTERNAL MARKS	TOTAL MARKS	L	T	P	CREDITS
1	19BCI4TH01	Database Management Systems	PC	40	60	100	2	1	-	3
2	19BCI4TH02	Formal Languages and Automata Theory	PC	40	60	100	3	-	-	3
3	19BCS4TH03	Design and Analysis of Algorithms	PC	40	60	100	3	-	-	3
4	19BCS4TH04	Software Engineering	PC	40	60	100	3	-	-	3
5		<b>Open Elective - I</b>	OE	40	60	100	3	-	-	3
6	19BCS4LB03	Mobile Applications Development Lab	PC	20	30	50	-	-	3	1.5
7	19BCC4LB01	English Communication Skills Lab - II	HS	20	30	50	-	-	3	1.5
8	19BCI4LB02	Data Base Management Systems Lab	PC	20	30	50	-	-	3	1.5
9	19BCC4MC02	QAR	MC	-	-	-	3	-	-	0
<b>TOTAL</b>										<b>19.5</b>





**III B.TECH. – I SEMESTER**

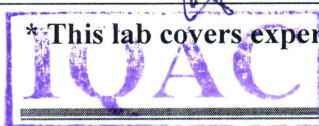
S.No	Subject Code	SUBJECT	Cat. Code	INTERNAL MARKS	EXTERNAL MARKS	TOTAL MARKS	L	T	P	CREDITS
1	19BCI5TH01	Operating Systems	PC	40	60	100	3	-	-	3
2	19BCS5TH03	Computer Networks	PC	40	60	100	3	-	-	3
3	19BCI5TH02	Compiler Design	PC	40	60	100	3	-	-	3
4	19BCS5TH04	OOAD through UML	PC	40	60	100	3	-	-	3
5	19BCS5TH05	Advanced Java and Web Technologies	PC	40	60	100	3	-	-	3
6	19BCS5TH05 19BCS5TH08 19BCS5TH09 19BCI5TH07	<b>Professional Elective – I</b> a. DWDM b. Computer Graphics c. Software Testing Methodology d. Microprocessors and Multicore systems	PE	40	60	100	3	-	-	3
7	19BCS5LB01	OS and UML Lab	PC	20	30	50	-	-	3	1.5
8	19BCS5LB02	Advanced Java and Web Technologies Lab	PC	20	30	50	-	-	3	1.5
9	19BCS5LB03	<b>PE-I LAB</b>	HS	20	30	50	-	-	3	1.5
10	19BCS5MP01	Mini Project	PR	20	30	50	-	-	-	1
11	19BCC5MC01	Advanced Communication Skills	MC	-	-	-	3	-	-	0
<b>TOTAL</b>										<b>23.5</b>



**III B.TECH. – II SEMESTER**


S.No	Subject Code	SUBJECT	Cat. Code	INTERNAL MARKS	EXTERNAL MARKS	TOTAL MARKS	L	P	CREDITS
1	19BCS6TH02	Artificial Intelligence	PC	40	60	100	3	-	3
2	19BCS6TH03	Cryptography and Network Security	PC	40	60	100	3	-	3
3	19BCC6TH01	Entrepreneurship and Innovation	HS	40	60	100	2	-	2
4		Open Elective – II	OE	40	60	100	3	-	3
5	19BCS6PE04 19BCS6PE05 19BCS6PE06 19BCS6PE07	<u>Professional Elective – II</u> a. Big Data Analytics b. Network Programming c. Agile with SCRUM d. Mobile Computing	PE	40	60	100	3	-	3
6	19BCS6LB01	Cryptography and Network Security Lab	PC	20	30	50	-	3	1.5
7	19BCS6LB02	PE-II LAB	PC	20	30	50	-	3	1.5
8	19BCS6LB03	R PROGRAMMING LAB	ES	20	30	50	-	3	1.5
9	19BCS6LB04	Artificial Intelligence Lab	HS	20	30	50	-	3	1.5
<b>TOTAL</b>									<b>20</b>

\* This lab covers experiments related to CNS and of the chosen PE-II



NEC

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**R20 COURSE STRUCTURE**

**II B.TECH - I SEMESTER**

S.No	Subject Code	SUBJECT	Cat. Code	INTERNAL MARKS	EXTERNAL MARKS	TOTAL MARKS	L	T	P	CREDITS
1	R20CC2102	Mathematical Foundations of Computer Science	BS	30	70	100	2	1	0	3
2	R20CC2103	OOPs through Java	PC	30	70	100	3	0	0	3
3	R20CC2104	Data Structures	PC	30	70	100	3	0	0	3
4	R20CI2101	Computer Organization	PC	30	70	100	3	0	0	3
5	R20CC2105	Front End Web Technologies	PC	30	70	100	3	0	0	3
6	R20CC21L1	Data Structures Lab	PC	15	35	50	0	0	3	1.5
7	R20CC21L2	OOPs through Java Lab	PC	15	35	50	0	0	3	1.5
8	R20CC21L3	Front End Web Technologies Lab	ES	15	35	50	0	0	3	1.5
9	R20CC21SC1	Data Science Lab	SOC	-	50	50	0	0	4	2
10	R20CCMC2	Constitution of India	MC	-	-	-	2	0	0	0
										<b>21.5</b>

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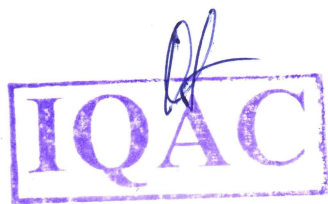



**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

**R20 COURSE STRUCTURE**

**II B.TECH – II SEMESTER**

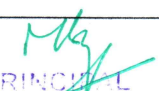
S.No.	Subject Code	SUBJECT	Cat. Code	INTERNAL MARKS	EXTERNAL MARKS	TOTAL MARKS	L	T	P	CREDITS
1	R20CC2201	Technical and Communicative English -II	HS	30	70	100	3	0	0	3
2	R20CC2203	Database Management Systems	PC	30	70	100	3	0	0	3
3	R20CC2204	Formal Languages and Automata Theory	PC	30	70	100	3	0	0	3
4	R20CS2205	Software Engineering	PC	30	70	100	3	0	0	3
5	R20CC22OE01	Open Elective –I	OE	30	70	100	3	0	0	3
6	R20CC22L1	Database Management Systems Lab	PC	15	35	50	0	0	3	1.5
7	R20CS22L2	Software Engineering and UML Lab	PC	15	35	50	0	0	3	1.5
8	R20CS22L3	Mobile Application Development Lab	PC	15	35	50	0	0	3	1.5
9	R20CC22SC2	Artificial Intelligence	SOC	-	50	50	0	0	4	2
<b>TOTAL</b>										<b>21.5</b>



  
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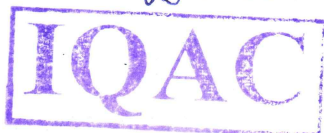
III B.TECH. – I SEMESTER

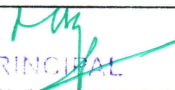
S.No	Subject Code	SUBJECT	Cat. Code	INTERNAL MARKS	EXTERNAL MARKS	TOTAL MARKS	L	T	P	CREDITS
1	19BCI5TH01	Operating Systems	PC	40	60	100	3	-	-	3
2	19BIT5TH03	Design and Analysis of Algorithms	PC	40	60	100	3	-	-	3
3	19BIT5TH04	Software Engineering	PC	40	60	100	3	-	-	3
4	19BIT5TH05	Cryptography and Network Security	PC	40	60	100	3	-	-	3
5	19BIT5TH08	Web Development Using MEAN Stack	PC	40	60	100	3	-	-	3
6	19BCI5TH06 19BCI5TH02 19BIT5TH09 19BCI5TH07	<b>Professional Elective – I</b> a. Data warehousing and Data Mining. b. Compiler Design c. Software Requirements & Estimation d. Microprocessors and Multicore systems	PE	40	60	100	3	-	-	3
7	19BIT5LB01	Mobile Application Development Lab	PC	20	30	50	-	-	3	1.5
8	19BIT5LB02	Web Development Using MEAN Stack Lab	PC	20	30	50	-	-	3	1.5
9	19BIT5LB03	PE – I Lab	HS	20	30	50	-	-	3	1.5
10	19BIT5LB04	UML Lab	PC	20	30	50	-	-	3	1.5
11	19BCC5MC01	Advanced Communication Skills	MC	-	-	-	3	-	-	0
<b>TOTAL</b>										<b>24</b>

  
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**III B.TECH. - II SEMESTER**

S.No	Subject Code	SUBJECT	Cat. Code	INTERNAL MARKS	EXTERNAL MARKS	TOTAL MARKS	L	T	P	CREDITS
1	19BIT6TH02	Artificial Intelligence and Machine Learning	ES	40	60	100	3	-	-	3
2	19BIT6TH03	Block chain Technologies	PC	40	60	100	3	-	-	3
3	19BCC6TH01	Entrepreneurship and Innovation	HS	40	60	100	2	-	-	2
4	Open Elective - II		OE	40	60	100	3	-	-	3
5	19BIT6PE04 19BIT6PE05 19BIT6PE06 19BIT6PE07	<b>Professional Elective - II</b> a. Big Data Analytics b. Computer Graphics c. Software Project Management d. Advanced Computer Architecture	PE	40	60	100	3	-	-	3
6	19BIT6LB01	AI and ML Lab	ES	20	30	50	-	-	3	1.5
7	19BIT6LB02	PE - II Lab	PC	20	30	50	-	-	3	1.5
8	19BIT6LB03	R Programming Lab	PC	20	30	50	-	-	3	1.5
9	19BIT6MP	Mini Project	PR	20	30	50	-	-	2	1
<b>TOTAL</b>										<b>19.5</b>



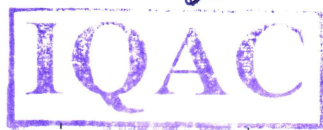
  
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**R20 COURSE STRUCTURE**

**II B.TECH - I SEMESTER**

S.No	Subject Code	SUBJECT	Cat. Code	INTERNAL MARKS	EXTERNAL MARKS	TOTAL MARKS	L	T	P	CREDIT S
1	R20CC2102	Mathematical Foundations of Computer Science	BS	30	70	100	2	1	0	3
2	R20CC2103	OOPs through Java	PC	30	70	100	3	0	0	3
3	R20CC2104	Data Structures	PC	30	70	100	3	0	0	3
4	R20CI2101	Computer Organization	PC	30	70	100	3	0	0	3
5	R20CC2105	Front End Web Technologies	PC	30	70	100	3	0	0	3
6	R20CC21L1	Data Structures Lab	PC	15	35	50	0	0	3	1.5
7	R20CC21L2	OOPs through Java Lab	PC	15	35	50	0	0	3	1.5
8	R20CC21L3	Front End Web Technologies Lab	ES	15	35	50	0	0	3	1.5
9	R20CC21SC1	Data Science Tools	SOC	-	50	50	1	0	2	2
10	R20CCMC2	Constitution of India	MC	-	-	-	2	0	0	0
										<b>21.5</b>




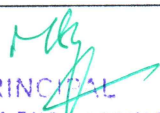
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**R20 COURSE STRUCTURE**

**II B.TECH – II SEMESTER**

S.No.	Subject Code	SUBJECT	Cat. Code	INTERNAL MARKS	EXTERNAL MARKS	TOTAL MARKS	L	T	P	CREDITS
1	R20CC2201	Technical and Communicative English -II	HS	30	70	100	3	0	0	3
2	R20CC2203	Database Management Systems	PC	30	70	100	3	0	0	3
3	R20CC2204	Software Engineering	PC	30	70	100	3	0	0	3
4	R20IT2202	Design Analysis of Algorithms	PC	30	70	100	3	0	0	3
5	R20IT2205	Computer Networks	OE	30	70	100	3	0	0	3
6	R20CC22L1	Database Management Systems Lab	PC	15	35	50	0	0	3	1.5
7	R20CC22L2	Mobile Application Development Lab	PC	15	35	50	0	0	3	1.5
8	R20IT22L3	SE and UML Lab	PC	15	35	50	0	0	3	1.5
9	R20CC22SC2	Artificial Intelligence Tools	SOC	-	50	50	1	0	2	2
<b>TOTAL</b>										<b>21.5</b>



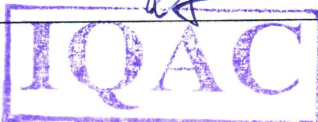
  
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DEPARTMENT OF CSE (AI)

R20 COURSE STRUCTURE

II B.TECH - I SEMESTER

No	Subject Code	SUBJECT	Cat. Code	INTERNAL MARKS	EXTERNAL MARKS	TOTAL MARKS	L	T	P	CREDIT S
	R20CC2102	Mathematical Foundations of Computer Science	BS	30	70	100	2	1	0	3
	R20CC2103	OOPs through Java	PC	30	70	100	3	0	0	3
	R20CC2104	Data Structures	PC	30	70	100	3	0	0	3
	R20AI2101	Data Science	PC	30	70	100	3	0	0	3
	R20CC2105	Front End Web Technologies	PC	30	70	100	3	0	0	3
	R20CC21L1	Data Structures Lab	PC	15	35	50	0	0	3	1.5
	R20CC21L2	OOPs through Java Lab	PC	15	35	50	0	0	3	1.5
	R20CC21L3	Front End Web Technologies Lab	ES	15	35	50	0	0	3	1.5
	R20CC21SC1	Data Science Tools	SOC	-	50	50	1	0	2	2
0	R20CCMC2	Constitution of India	MC	-	-	-	2	0	0	0
										21.5



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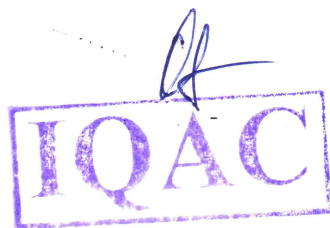



DEPARTMENT OF CSE (AI)

R20 COURSE STRUCTURE

II B.TECH – II SEMESTER

Sr.	Subject Code	SUBJECT	Cat. Code	INTERNAL MARKS	EXTERNAL MARKS	TOTAL MARKS	L	T	P	CREDITS
	R20CC2201	Technical and Communicative English -II	HS	30	70	100	3	0	0	3
	R20CC2203	Database Management Systems	PC	30	70	100	3	0	0	3
	R20AI2202	Automata and Compiler Design	PC	30	70	100	3	0	0	3
	R20CC2204	Software Engineering	PC	30	70	100	3	0	0	3
	R20AI2205	Introduction to Artificial Intelligence	PC	30	70	100	3	0	0	3
	R20CC22L1	Database Management Systems Lab	PC	15	35	50	0	0	3	1.5
	R20CS22L2	Mobile Application Development Lab	PC	15	35	50	0	0	3	1.5
	R20AI22L3	AI Lab	PC	15	35	50	0	0	3	1.5
	R20CC22SC2	IOT	SOC	-	50	50	1	0	2	2
<b>TOTAL</b>										<b>21.5</b>



  
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**DEPARTMENT OF MCA**

**. I SEMESTER**

S. No.	Course Code	Course Name	Cat	L	T	P	Credits
1	R20MCA101	C Programming and Data Structures	PC	3	1	0	4
2	R20MCA102	Computer Organization	PC	3	0	0	3
3	R20MCA103	Database Management Systems	PC	3	0	0	3
4	R20MCA104	Operating Systems	PC	3	0	0	3
5	R20MCA105	Mathematical and Statistical Foundations	BS&H	3	0	0	3
6	R20MCA1L1	C Programming and Data Structures Lab	PC	0	0	4	2
7	R20MCA1L2	Data Base Management Systems Lab	PC	0	0	4	2
8	R20MCA1L3	Operating Systems and Linux Lab	PC	0	0	4	2
Total				15	1	12	22

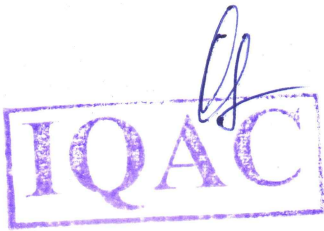



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**DEPARTMENT OF MCA**

**II SEMESTER**

S. No.	Course Code	Course Name	Cat	L	T	P	Credits
1	R20MCA201	Computer Networks	PC	3	0	0	3
2	R20MCA202	Object oriented Programming using JAVA	PC	3	0	0	3
3	R20MCA203	Software Engineering	PC	3	0	0	3
4	R20MCA204	Design and Analysis of Algorithms	PC	3	0	0	3
5	<b>Program Elective-1</b>		PC / PE	3	0	0	3
	R20MCA205	1. Artificial Intelligence					
	R20MCA206	2. Advanced Unix Programming					
	R20MCA207	3. Data Warehousing and Data mining					
	R20MCA2MC	4. MOOCs-1 (NPTEL/SWAYAM/ COURSERA) Any recommended course					
6	R20MCA2L1	Object Oriented Programming using JAVA Lab	PC	0	0	4	2
7	R20MCA2L2	Statistical Programming with R Lab	PC	0	0	4	2
8	R20MCA2L3	Employability Skills Lab	BS&H	0	0	2	1
		<b>Total</b>		15	0	10	20



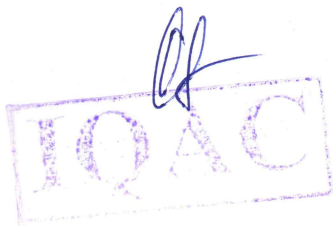
  
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**III SEMESTER**

S. No.	Course Code	Course Name	Cat	L	T	P	Credits
1	R20MCA301	Machine Learning with Python	PC	3	0	0	3
2	R20MCA302	Web Technologies	PC	3	0	0	3
3	R20MCA303	Network Security and Cryptography	PC	3	0	0	3
4	<b>Program Elective-2</b>		PE	3	0	0	3
	R20MCA304	Cloud Computing					
	R20MCA305	Digital Image Processing					
	R20MCA306	Internet of Things					
	R20MCA307	Unified Modeling Language					
	R20MCA3MC	MOOCs-2 (NPTEL/SWAYAM/ COURSERA) Any recommended course					
5	R20MCA308	Human Resource Management	MS	3	0	0	3
6	R20MCA3L1	Machine Learning with Python Lab	PC	0	0	4	2
7	R20MCA3L2	Web Technologies Lab	PC	0	0	4	2
8	R20MCA3L3	Network Security, Cryptography & UML Lab	PC	0	0	4	2
9	R20MCA3MNC	Employability Skills-2	AC	1	0	0	0
10	R20MCA3MP	Internship / Industry Oriented Mini Project	PW				1
<b>Total</b>				<b>16</b>	<b>0</b>	<b>12</b>	<b>22</b>

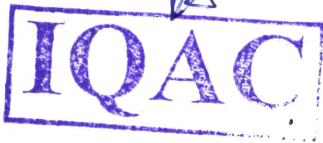


  
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IV SEMESTER

S. No.	Course Code	Course Name	Cat	L	T	P	Credits
<b>Program Elective-3</b>							
1	R20MCA401	Block Chain technology	PE	3	0	0	3
	R20MCA402	Design Patterns					
	R20MCA403	E-Commerce					
	R20MCA4MC1	MOOCs-3 (NPTEL/SWAYAM/ COURSERA) 1. Full Stack Technologies 2. Any recommended course					
<b>Program Elective-4</b>							
2	R20MCA404	Big Data Analytics	PE	3	0	0	3
	R20MCA405	Cyber Security					
	R20MCA406	Human Computer Interaction					
	R20MCA4MC2	MOOCs-4 (NPTEL/SWAYAM) 1. Data Science 2. Any recommended course					
3		Project Work/ Dissertation- R20MCA4PW	PW	0	0	0	10
			Total	6	0	0	16



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