

**DEPARTMENT OF AUTOMOBILE ENGINEERING
GRBT-20 Course Structure**

I B.Tech., I SEMESTER

S.No	Category	Course Code	Course Title	Hrs/Week			Credits	Internal	External	Total
				L	T	P				
1	BSC-1	2011B1101	Mathematics-I	3	0	0	3	30	70	100
2	HSMC-1	2011B1102	Communicative English-I	3	0	0	3	30	70	100
3	BSC-2	2011B1103b	Engineering Chemistry	3	0	0	3	30	70	100
4	ESC-2	2011E1104	Basic Electrical & Electronics Engineering	3	0	0	3	30	70	100
5	ESC-1	2011E1105	Engineering Graphics	1	0	4	3	30	70	100
6	BSC-1	2011B111b	Engineering Chemistry Laboratory	0	0	3	1.5	50	50	100
7	ESCL-1	2011E1112	Basic Electrical & Electronics Engineering Laboratory	0	0	3	1.5	50	50	100
8	ESC-3	2011E1113d	Basic Engineering Workshop	0	0	3	1.5	50	50	100
BSC=7.5 ESC=9 HSMC=3 Total				13	0	13	19.5	300	500	800

I B.Tech., II SEMESTER

S.No	Category	Course Code	Course Title	Hrs/Week			Credits	Internal	External	Total
				L	T	P				
1	BSC-3	2011B2201	Mathematics-II	3	0	0	3	30	70	100
2	BSC-4	2011B2202b	Engineering Physics	3	0	0	3	30	70	100
3	ESC-5	2011E2203a	Engineering Mechanics	3	0	0	3	30	70	100
4	ESC-4	2011C2204a	Fundamentals of Computer Programming	3	0	0	3	30	70	100
5	ESC-6	2011C2205	Fundamentals of Automobile Engineering	3	0	0	3	30	70	100
6	MC-1	2011B2296	Environmental Science	2	0	0	0	30*	-	-
7	BSC-2	2011B2211b	Engineering Physics Laboratory	0	0	3	1.5	50	50	100
8	HSMC-2	2011B2212	Communicative English Laboratory	0	0	3	1.5	50	50	100
9	ESCL-2	2011C2213a	Fundamentals of Computer Programming Laboratory	0	0	3	1.5	50	50	100
BSC=7.5	ESC=10.5	HSMC=1.5 MC=0	Total	17	0	9	19.5	300	500	800

Dr. G. Lingaraju
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(Madras Institute of Tech)

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Manoj Kumar Roy
(Asst. Professor)

D. MadhuSudhakar
(Alumnus, KIA Motors)

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II B.Tech., I SEMESTER

S.No	Category	Course Code	Course Title	Hrs/Week			Credits	Internal	External	Total
				L	T	P				
1	BSC-5	2011B301	Mathematics-III	3	0	0	3	30	70	100
2	FSC-6	201AM302	Metallurgy & Materials Science	3	0	0	3	30	70	100
3	PCC-1	201AM303	Strength of Materials	3	0	0	3	30	70	100
4	PCC-2	201AM304	Fluid Mechanics & Hydraulic Machines	3	0	0	3	30	70	100
5	PCC-3	201AM305	Automobile Chassis Components	3	0	0	3	30	70	100
6	PCC-L1	201AM311	Strength of Materials & Metallurgy Lab	0	0	3	1.5	50	50	100
7	PCC-L2	201AM312	Automobile Chassis Components Lab	0	0	3	1.5	50	50	100
8	PCC-L3	201AM313	Fluid Mechanics & Hydraulic Machines Lab	0	0	3	1.5	50	50	100
9	SOC-1	2011B3381	English for Career	1	0	2	2	-	15+35	50
Total				16	0	11	21.5	300	550	850

II B.Tech., II SEMESTER

S.No	Category	Course Code	Course Title	Hrs/Week			Credits	Internal	External	Total
				L	T	P				
1	BSC-6	2011B401	Probability & Statistics	3	0	0	3	30	70	100
2	PCC-4	201AM402	Thermodynamics	3	0	0	3	30	70	100
3	PCC-5	201AM403	Automobile Engines	3	0	0	3	30	70	100
4	FSC-2	201ME404	Industrial Engineering & Management	3	0	0	3	30	70	100
5	PCC-6	201AM405	Automobile Electrical & Autronics	3	0	0	3	30	70	100
6	ESC-L4	201AM411	Automobile Assembly Drawing Lab	0	0	3	1.5	50	50	100
7	PCC-L6	201AM412	IC Engines & Fuels Lab	0	0	3	1.5	50	50	100
8	PCC-L7	201AM413	Automobile Electrical & Autronics Lab	0	0	3	1.5	50	50	100
9	SOC-2	201CS481A	Programming with Python	1	0	2	2	-	15+35	50
10	MC-2	201CE491	Constitution of India	2	0	0	0	30*	70*	100*
Total				18	0	11	21.5	300	550	850
Honor course &/Minor course (Optional)							4			
Summer Internship after second year (to be evaluated during 5 th sem)										

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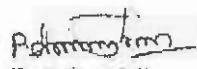
D. Madhusudhakar (Alumnus, KIA Motors)

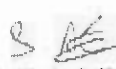
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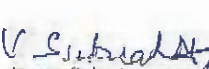
III B.Tech., I SEMESTER

S.No	Category	Course Code	Course Title	Hrs/Week			Credits	Intern al	External	Total
				L	T	P				
1	PCC-7	20IAM501	Kinematics of Machinery	3	0	0	3	30	70	100
2	PCC-8	20IAM502	Production Technology	3	0	0	3	30	70	100
3	PCC-9	20IAM503	Design of Automotive Elements	3	0	0	3	30	70	100
4	PEC-1	20IAM564A 20IAM564B 20IAM564C 20IAM564D	1. Hybrid, Electric & Fuel Cell Vehicles 2. Two and Three Wheelers 3. Vehicle Body Engineering & Safety 4. Measurements and Control Systems	3	0	0	3	30	70	100
5	OEC/JOE-1		Open Elective-I (See enclosed table)	3	0	0	3	30	70	100
6	PCC-L8	20IAM511	Production Technology Lab	0	0	3	1.5	50	50	100
7	PCC-L9	20IAM512	Auto Scanning and Vehicle Testing Lab	0	0	3	1.5	50	50	100
8	SOC-3	20IAM581	Electric Vehicle Design & Assembling	0	1	2	2	-	15+35	50
9	MC-3	20IMB591	IPR and Patents	2	0	0	0	30*	70*	100*
10	Proj	20IAM531 20IAM521	Internship-I/ Mini Project/ Study Project	0	0	0	1.5	100	-	100
Total				16	0	11	21.5	350	500	850

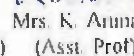

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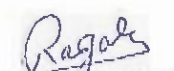

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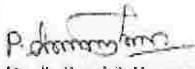
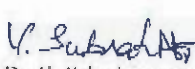
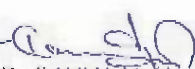
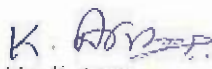
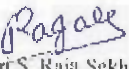
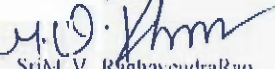
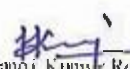

Minoj Kumar Roy
(Asst. Professor)


D. Madhusudhakar
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S.No	Category	Course Code	Course Title	Hrs/Week			Credits	Internal	External	Total
				L	T	P				
1	PCC-I0	20IAM601	Dynamics of Machinery	3	0	0	3	30	70	100
2	PCC-II	20IAM602	Heat Transfer	3	0	0	3	30	70	100
3	PCC-I2	20IAM603	Automotive Pollution & Control	3	0	0	3	30	70	100
4	PEC-2	20IAM664A	1. CFD for Automobile Applications	3	0	0	3	30	70	100
		20IAM664B	2. Alternative Energy Sources for Automobiles							
		20IAM664C	3. Noise Vibrations and Harshness							
		20IAM664D	4. Vehicle Maintenance							
5	OEC/JOE-2		Open Elective-2 (See enclosed table)	3	0	0	3	30	70	100
6	PCC-L10	20IAM611	Theory of Machines Lab	0	0	3	1.5	50	50	100
7	PCC-L11	20IAM612	Vehicle Maintenance Lab	0	0	3	1.5	50	50	100
8	PCC-L12	20IAM613	Heat Transfer Lab	0	0	3	1.5	50	50	100
9	SOC-4	20IAM681	Accident Analysis	0	1	2	2	-	15+35	50
10	MC-4	20IIB691	Quantitative Aptitude and Reasoning	2	0	0	0	30*	70*	100*
Total				18	0	11	21.5	300	550	850
Summer Internship after third year (to be evaluated during 7 th sem)										

     
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IV B.Tech., I SEMESTER

S.No	Category	Course Code	Course Title	Hrs/Week			Credits	Internal	External	Total
				L	T	P				
1	PEC-3	201AM761A 201AM761B 201AM761C 201AM761D	1. Metal Cutting and Machine Tools 2. Automobile HVAC 3. Special Purpose Vehicles 4. Vehicle Infotronics	3	0	0	3	30	70	100
2	PEC-4	201AM762A 201AM762B 201AM762C 201AM762D	1. Automobile Certification and Homologation 2. Finite Element Analysis 3. Vehicle Transport Management 4. Electronic Engine & Vehicle Management Systems	3	0	0	3	30	70	100
3	PEC-5	201AM763A 201AM763B 201AM763C 201AM763D	1. Automobile Control Systems and Ergonomics 2. Vehicle Dynamics 3. CAD/CAM 4. Smart, Autonomous and Connected Vehicles	3	0	0	3	30	70	100
4	OEC/JOE-3		Open Elective-3 (See enclosed table)	3	0	0	3	30	70	100
5	OEC/JOE-4		Open Elective-4 (See enclosed table)	3	0	0	3	30	70	100
6	HS&SSE	201AM706	UHV 2 Understanding Harmony	3	0	0	3	30	70	100
7	SOC-5	201AM781	Additive Manufacturing	0	1	2	2	-	15+35	50
8	Proj	201AM731 201AM721	Internship-2/ Mini Project/ Study Project	0	0	0	3	100	-	100
Total				19	0	2	23	280	470	750

IV B.Tech., II SEMESTER

S.No	Category	Course Code	Course Title	Hrs/Week			Credits	Internal	External	Total
				L	T	P				
1	Major Project	201AM841	Project work	0	0	0	12	60	140	200
Total				0	0	0	12	60	140	200

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Open Elective Courses/Job Oriented Electives:

	Open Elective-1 (III-1)	Open Elective-2 (III-2)	Open Elective-3 (IV-1)	Open Elective-4 (IV-2)
CIVIL Engineering	Environmental Pollution & Control (20ICE565a)	Solid Waste Management (20ICE665a)	Building Technology (20ICE764a)	Safety Engineering (20ICE765a)
EEE	Fundamentals of Utilization of Electrical Energy (20IEE565a)	Concepts of Power System Engineering (20IEE665a)	Fundamentals of smart grid technologies (20IEE764a)	Basics of Electrical Measurements and Instrumentation (20IEE765a)
MECH	Robotics (20IME565a)	Introduction to MEMS (20IME665a)	Nano Technology and its Applications (20IME764a)	Introduction to Operations Research (20IME765a)
ECE	Microprocessors and its Interfacing (20IEC565a)	IoT and its Applications (20IEC665a)	Introduction to Embedded Systems (20IEC764a)	Fundamentals of Digital Image Processing (20IEC765a)
CSE, CSC, CSM	Foundations of Operating Systems (20ICS565a)	Fundamentals of Databases (20ICS665a)	Information Security (20ICS764a)	Human Computer Interaction (20ICS765a)
Automobile Engineering	Basic Automobile Engineering (20IAM565a)	Hybrid and Electric Vehicles (20IAM665a)	Modern Vehicle Technology (20IAM764a)	Alternative Energy Resources for Automotives (20IAM765a)
MINING Engineering	Elements of Mining Technology (20IMM565a)	Open Pit Slope Analysis and Design (20IMM665a)	Mining and its importance (20IMM764a)	Remote Sensing & GIS in Mining (20IMM765a)
Petroleum	Fundamentals of Petroleum Engineering (20IPT565a)	Basic Concepts in Petroleum Drilling Engineering (20IPT665a)	Introduction to Petroleum Production Engineering (20IPT764a)	Basic Concepts in Petroleum Reservoir Engineering (20IPT765a)
MBA	Principles of Management (20IMB565a)	Operations Management (20IMB665a)	Entrepreneurship for Engineers (20IMB764a)	Digital Marketing (20IMB765a)

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