



**GODAVARI INSTITUTE OF ENGINEERING & TECHNOLOGY**

**(AUTONOMOUS)**

Approved by AICTE, Accredited by NBA & NAAC 'A+' Grade, Recognized under 2(f) and 12(b) of UGC, Permanently Affiliated to JNTUK, Kakinada

**DEPARTMENT OF MECHANICAL ENGINEERING**

**4 Years B.Tech. (Mechanical Engineering) Course Structure: (2019-20)**

# **GRBT-19 COURSE STRUCTURE**

**DEPARTMENT OF MECHANICAL ENGINEERING**



**Godavari institute of Engg & Technology**

Approved By AICTE NAAC 'A+' Grade Recognized by UGC, U/Sec.2(f)&12(B) Permanent affiliation by JNTUKGIET Campus, Chaitanya Knowledge city, NH-16, Rajahmundry, East Godavari, A.P.

**Tel: +91-883-2484828-31** **www.giet.ac.in**





# GODAVARI INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

Approved by AICTE, Accredited by NBA & NAAC 'A+' Grade, Recognized under 2(f) and 12(b) of UGC, Permanently Affiliated to JNTUK, Kakinada

DEPARTMENT OF MECHANICAL ENGINEERING

4 Years B.Tech. (Mechanical Engineering) Course Structure: (2019-20)

## GRBT- 19 COURSE STRUCTURE

Mechanical Engineering

B. Tech. I Semester

S. NO	Course Code	Course Type	Subject Title	Periods per Week			Credits	Internal	External	Total
				L	T	P				
1	19198101	BSC	Mathematics-I	3	0	0	3	30	70	100
2	19198102	HSMC	Communicative English I	3	0	0	3	30	70	100
3	19198103	BSC	Engineering Chemistry	3	0	0	3	30	70	100
4	19199104	ESC	Basic Electrical & Electronics Engineering	3	0	0	3	30	70	100
5	19198105	MC	Professional Ethics & Human Values	2	0	0	0	30*	-	-
6	19198176	ESC	Engineering Graphics	1	0	3	2.5	30	70	100
7	19198111	HSMC	Communicative English Laboratory	0	0	3	1.5	50	50	100
8	19198112	BSC	Engineering Chemistry Laboratory	0	0	3	1.5	50	50	100
9	19199113	ESC	Basic Electrical & Electronics Engineering Lab	0	0	3	1.5	50	50	100
<b>Total</b>				<b>15</b>	<b>0</b>	<b>12</b>	<b>19</b>	<b>300</b>	<b>500</b>	<b>800</b>
<b>BSC = 7.5</b>		<b>ESC=7</b>	<b>HSMC=4.5</b>	<b>MC=0</b>						

 University Nominee ( Dr. B. Balakrishna)	 Subject Expert ( Dr. D. Ravi Kumar)	 Internal Member ( Dr. T. Jayananda Kumar)	 Internal Member ( Dr. D. Santha Rao)
 Internal Member ( Mr. Kedarath M )	 Internal Member ( Mr. B. Joga Rao)	 Internal Member ( Mrs. E. Nirmala Devi)	 Internal Member ( Mr. M. Balakrishna)
 Internal Member ( Mr. R. Krishna Mohan)	 Internal Member ( Mr. P. Veera Raju)	 Internal Member ( Mr. G. Ramakrishna)	 Chairman, BoS ( Dr. M. Sreenivasa Rao)



# GODAVARI INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

Approved by AICTE, Accredited by NBA & NAAC 'A+' Grade, Recognized under 2(f) and 12(b) of UGC, Permanently Affiliated to JNTUK, Kakinada

## DEPARTMENT OF MECHANICAL ENGINEERING

4 Years B.Tech. (Mechanical Engineering) Course Structure: (2019-20)


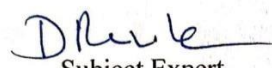

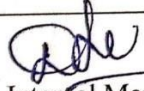

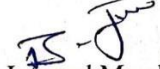
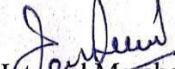
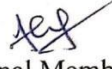


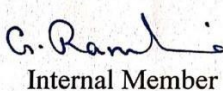
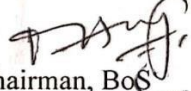
### B. Tech. II Semester

S. NO	Course Code		Subject Title	Periods per Week			Credits	Internal	External	Total
				L	T	P				
1	19198201	BSC	Mathematics-II	3	0	0	3	30	70	100
2	19198202	HSMC	Communicative English II	3	0	0	3	30	70	100
3	19198203	BSC	Engineering Physics and its Applications	3	0	0	3	30	70	100
4	19199204	ESC	Problem Solving & Programming in C	2	1	0	3	30	70	100
5	19198205	MC	Environmental Studies	2	0	0	0	30*	-	-
6	19198206	ESC	Engineering Mechanics	2	1	0	3	30	70	100
7	19198211	HSMC	Communicative English Laboratory -II	0	0	3	1.5	50	50	100
8	19198212	BSC	Engineering Physics Laboratory	0	0	3	1.5	50	50	100
9	19199213	ESC	Problem Solving & Programming Laboratory using C	0	0	3	1.5	50	50	100
10	19198214	ESC	Basic Engineering Workshop	0	0	3	1.5	50	50	100
<b>Total</b>				<b>15</b>	<b>2</b>	<b>12</b>	<b>21</b>	<b>350</b>	<b>550</b>	<b>900</b>
<b>BCS=7.5</b>		<b>ESC=9</b>	<b>HSMC=4.5</b>	<b>MC=0</b>						

 University Nominee ( Dr. B. Balakrishna)	 Subject Expert ( Dr. D. Ravi Kumar)	 Internal Member ( Dr. T. Jayananda Kumar)	 Internal Member ( Dr. D. Santha Rao)
 Internal Member ( Mr. Kedarath M )	 Internal Member ( Mr. B. Joga Rao )	 Internal Member ( Mrs. E. Nirmala Devi )	 Internal Member ( Mr. M. Balakrishna )
 Internal Member ( Mr. R. Krishna Mohan )	 Internal Member ( Mr. P. Veera Raju )	 Internal Member ( Mr. G. Ramakrishna )	 Chairman, BOS ( Dr. M. Sreenivasa Rao )

**B. Tech. III Semester**

S. NO	Course Code		Subject Title	Periods per Week			Credits	Internal	External	Total
				L	T	P				
1	19139301	BSC	Mathematics-III	3	0	0	3	30	70	100
2	19130302	ESC	Metallurgy & Materials Science	3	0	0	3	30	70	100
3	19130303	PCC	Mechanics of Solids	2	1	0	3	30	70	100
4	19130304	PCC	Kinematics of Machinery	2	1	0	3	30	70	100
5	19130305	PCC	Thermodynamics	2	1	0	3	30	70	100
6	19130306	PCC	Fluid Mechanics & Hydraulic Machinery	3	0	0	3	30	70	100
7	19130387	MC	Design Thinking & Product Innovation	2	0	0	0	30*	-	-
8	19130311	PCC	Mechanics of Solids & Metallurgy lab	0	0	3	1.5	50	50	100
9	19130312	PCC	Fluid Mechanics & Hydraulic Machinery Lab	0	0	3	1.5	50	50	100
<b>Total</b>				<b>17</b>	<b>3</b>	<b>6</b>	<b>21</b>	<b>280</b>	<b>520</b>	<b>800</b>
<b>BCS = 3</b>		<b>ESC = 3</b>	<b>PCC = 15</b>							

 University Nominee ( Dr. B. Balakrishna)	 Subject Expert ( Dr. D. Ravi Kumar)	 Internal Member ( Dr. T. Jayananda Kumar)	 Internal Member ( Dr. D. Santha Rao)
 Internal Member ( Mr. Kedarath M )	 Internal Member ( Mr. B. Joga Rao )	 Internal Member ( Mrs. E. Nirmala Devi )	 Internal Member ( Mr. M. Balakrishna )
 Internal Member ( Mr. R. Krishna Mohan )	 Internal Member ( Mr. P. Veera Raju )	 Internal Member ( Mr. G. Ramakrishna )	 Chairman, BOS ( Dr. M. Sreenivasa Rao )



# GODAVARI INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

Approved by AICTE, Accredited by NBA & NAAC 'A+' Grade, Recognized under 2(f) and 12(b) of UGC, Permanently Affiliated to JNTUK, Kakinada

**DEPARTMENT OF MECHANICAL ENGINEERING**

**4 Years B.Tech. (Mechanical Engineering) Course Structure: (2019-20)**

## B. Tech. IV Semester

S. No	Course Code		Subject Title	Periods per Week			Credits	Internal	External	Total
				L	T	P				
1	19139401	BSC	Numerical Methods and Probability & Statistics	3	0	0	3	30	70	100
2	19130402	PCC	Dynamics of Machinery	3	0	0	3	30	70	100
3	19130403	PCC	Thermal Engineering -I	3	0	0	3	30	70	100
4	19130404	PCC	Production Technology	3	0	0	3	30	70	100
5		OEC	<b>Open Elective-1</b>	3	0	0	3	30	70	100
	19131465a		Environmental Pollution & Control							
	19132465a		Utilization of Electrical Energy							
	19134465a		Internet of Things							
	19135465a		Operating Systems							
	19136465a		Elements of Mining Technology							
	19137465a		Basic Automobile Engineering							
6	19130411	PCC	Computer Aided Machine Drawing Practice	1	0	3	2.5	50	50	100
7	19130412	PCC	Thermal Engineering Lab.	0	0	3	1.5	50	50	100
8	19130413	PCC	Production Technology Lab	0	0	3	1.5	50	50	100
9	19130421	PR	Community Service Oriented Project	0	0	1	0.5	100	-	100
<b>Total</b>				<b>16</b>	<b>0</b>	<b>10</b>	<b>21</b>	<b>380</b>	<b>520</b>	<b>900</b>
<b>BCS = 3</b>		<b>ESC = 0</b>	<b>PCC = 14.5</b>	<b>OEC = 3</b>	<b>PR = 0.5</b>					

 University Nominee ( Dr. B. Balakrishna)	 Subject Expert ( Dr. D. Ravi Kumar)	 Internal Member ( Dr. T. Jayananda Kumar)	 Internal Member ( Dr. D. Santha Rao)
 Internal Member ( Mr. Kedarath M )	 Internal Member ( Mr. B. Joga Rao )	 Internal Member ( Mrs. E. Nirmala Devi )	 Internal Member ( Mr. M. Balakrishna )
 Internal Member ( Mr. R. Krishna Mohan )	 Internal Member ( Mr. P. Veera Raju )	 Internal Member ( Mr. G Ramakrishna )	 Chairman, BOS ( Dr. M. Sreenivasa Rao )



# GODAVARI INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

Approved by AICTE, Accredited by NBA & NAAC 'A+' Grade, Recognized under 2(f) and 12(b) of UGC, Permanently Affiliated to JNTUK, Kakinada

**DEPARTMENT OF MECHANICAL ENGINEERING**

**4 Years B.Tech. (Mechanical Engineering) Course Structure: (2019-20)**

## B. Tech. V Semester

S. No	Course Code		Subject Title	Periods per Week			Credits	Internal	External	Total
				L	T	P				
1	19130501	PCC	Design of Machine Members	2	1	0	3	30	70	100
2	19130502	PCC	Thermal Engineering -II	2	1	0	3	30	70	100
3	19130503	PCC	Metal Cutting & Machine Tools	3	0	0	3	30	70	100
4		PEC	<b>Department Elective-1</b>	3	0	0	3	30	70	100
	19130564A		A. Fuels Combustion and Emission control							
	19130564B		B. Tribology							
	19130564C		C. Industrial Robotics							
19130564D	D. Advanced Materials									
5		OEC	<b>Open Elective-2</b>	3	0	0	3	30	70	100
	19131565a		Solid Waste Management							
	19132565a		Energy management							
	19134565a		Digital Image Processing							
	19135565a		Information Security							
	19136565a		Disaster Management in Mining							
19137565a	Hybrid and Electric Vehicles									
6	19193511	PCC	Theory of Machines Lab.	0	0	3	1.5	50	50	100
7	19193512	PCC	Machine Tools Lab.	0	0	3	1.5	50	50	100
8	19139513	HSMC	Soft Skills	0	0	3	1.5	50	50	100
9	19130521	PR	Mini Project-1/Study Project/Internship	0	0	0	1.5	100	-	100
<b>Total</b>				<b>14</b>	<b>1</b>	<b>9</b>	<b>21</b>	<b>400</b>	<b>500</b>	<b>900</b>
<b>PEC = 3</b>		<b>HSMC = 1.5</b>	<b>PCC = 12</b>	<b>OEC = 3</b>	<b>PR=1.5</b>					

 University Nominee ( Dr. B. Balakrishna)	 Subject Expert ( Dr. D. Ravi Kumar)	 Internal Member ( Dr. T. Jayananda Kumar)	 Internal Member ( Dr. D. Santha Rao)
 Internal Member ( Mr. Kedarath M )	 Internal Member ( Mr. B. Joga Rao )	 Internal Member ( Mrs. E. Nirmala Devi )	 Internal Member ( Mr. M. Balakrishna )
 Internal Member ( Mr. R. Krishna Mohan )	 Internal Member ( Mr. P. Veera Raju )	 Internal Member ( Mr. G Ramakrishna )	 Chairman, BoS ( Dr. M. Sreenivasa Rao )



# GODAVARI INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

Approved by AICTE, Accredited by NBA & NAAC 'A+' Grade, Recognized under 2(f) and 12(b) of UGC, Permanently Affiliated to JNTUK, Kakinada

**DEPARTMENT OF MECHANICAL ENGINEERING**

**4 Years B.Tech. (Mechanical Engineering) Course Structure: (2019-20)**

## B. Tech. VI Semester

S. No	Course Code		Subject Title	Periods per Week			Credits	Internal	External	Total
				L	T	P				
1	19130601	PCC	Design of Transmission Elements	2	1	0	3	30	70	100
2	19130602	PCC	Industrial Engineering & Management	3	0	0	3	30	70	100
3	19130603	PCC	Heat Transfer	2	1	0	3	30	70	100
4	19130604	PCC	Metrology and Instrumentation	3	0	0	3	30	70	100
5		PEC	<b>Department Elective-2</b>	3	0	0	3	30	70	100
	19130665A		A. Refrigeration and Air Conditioning							
	19130665B		B. Mechatronics							
	19130665C		C. Advanced Foundry and Welding Technology							
	19130665D		D. Non Destructive Evaluation							
6		OEC	<b>Open Elective 3</b>	3	0	0	3	30	70	100
	19131666a		a. Global Environment Problems & Policies							
	19132666a		b. Renewable Energy Resources							
	19134666a		c. Data Communication							
	19135666a		d. Human Computer Interaction							
	19136666a		e. Remote sensing & GIS in Mining							
	19137666a		f. Modern Vehicle Technology							
7	19139687	MC	Constitution of India	2	0	0	0	30*	-	-
8	19130611	PCC	Heat Transfer Lab	0	0	3	1.5	50	50	100
9	19130612	PCC	Metrology and Instrumentation Lab	0	0	3	1.5	50	50	100
<b>Total</b>				<b>18</b>	<b>2</b>	<b>6</b>	<b>21</b>	<b>280</b>	<b>520</b>	<b>800</b>
<b>PEC = 3</b>		<b>HSMC = 0</b>	<b>PCC = 15</b>	<b>OEC = 3</b>	<b>PR=0</b>					

 University Nominee ( Dr. B. Balakrishna)	 Subject Expert ( Dr. D. Ravi Kumar)	 Internal Member ( Dr. T. Jayananda Kumar)	 Internal Member ( Dr. D. Santha Rao)
 Internal Member ( Mr. Kedarath M )	 Internal Member ( Mr. B. Joga Rao )	 Internal Member ( Mrs. E. Nirmala Devi )	 Internal Member ( Mr. M. Balakrishna )
 Internal Member ( Mr. R. Krishna Mohan )	 Internal Member ( Mr. P. Veera Raju )	 Internal Member ( Mr. G. Ramakrishna )	 Chairman, BoS ( Dr. M. Sreenivasa Rao )



# GODAVARI INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

Approved by AICTE, Accredited by NBA & NAAC 'A+' Grade, Recognized under 2(f) and 12(b) of UGC, Permanently Affiliated to JNTUK, Kakinada

**DEPARTMENT OF MECHANICAL ENGINEERING**

4 Years B.Tech. (Mechanical Engineering) Course Structure: (2019-20)

## B. Tech. VII Semester




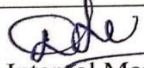

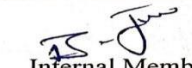
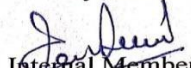

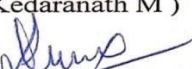
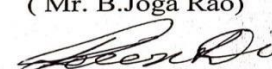
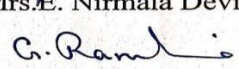
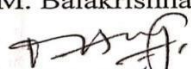
S. No	Course Code		Subject Title	Periods per Week			Credits	Internal	External	Total
				L	T	P				
1	19130701	PCC	Finite Element Methods	3	0	0	3	30	70	100
2	19130702	PCC	CAD/CAM	3	0	0	3	30	70	100
3		PEC	<b>Department Elective-3</b>	3	0	0	3	30	70	100
	19130763A		A. Power Plant Engineering							
	19130763B		B. Mechanical Vibrations							
	19130763C		C. Automobile Engineering							
	19130763D		D. Advanced Machining Processes							
4		PEC	<b>Department Elective-4</b>	3	0	0	3	30	70	100
	19130764A		A. Gas Dynamics & Jet Propulsions							
	19130764B		B. Micro Electro Mechanical Systems							
	19130764C		C. Design for Manufacturing							
	19130764D		D. Automation in Manufacturing							
5		OEC	<b>Open Elective-4</b>	3	0	0	3	30	70	100
	19139765a		a. Managerial Economics and Financial Analysis							
	19139765b		b. Entrepreneurship Qualities for Engineers							
	19139765c		c. Principles of Management							
	19139765d		d. Financial Management for Engineers							
	19139765e		e. Operations management							
	19139765f		f. Digital Marketing							
	19139765g		g. Total Quality Management							
	19139765h		h. Organizational Behaviour							
	19139765i		i. Human Resource Management							
6	19139786	MC	Intellectual Property Rights and Patents	2	0	0	0	30*	-	-
7	19130711	PCC	CAD/CAM Lab	0	0	3	1.5	50	50	100
8	19130721	PR	Mini Project - 2/Internship	0	0	0	2	100		100
9	19130781	PR	Fabrication Project	0	0	5	2.5	100		100
<b>Total</b>				<b>17</b>	<b>0</b>	<b>8</b>	<b>21</b>	<b>430</b>	<b>400</b>	<b>800</b>
<b>PEC = 6</b>		<b>MC = 0</b>	<b>PCC = 7.5</b>	<b>OEC = 3</b>	<b>PR=4.5</b>					

 University Nominee (Dr. B. Balakrishna)	 Subject Expert (Dr. D. Ravi Kumar)	 Internal Member (Dr. T. Jayananda Kumar)	 Internal Member (Dr. D. Santha Rao)
 Internal Member (Mr. Kedarath M)	 Internal Member (Mr. B. Joga Rao)	 Internal Member (Mrs. E. Nirmala Devi)	 Internal Member (Mr. M. Balakrishna)
 Internal Member (Mr. R. Krishna Mohan)	 Internal Member (Mr. P. Veera Raju)	 Internal Member (Mr. G Ramakrishna)	 Chairman, BoS (Dr. M. Sreenivasa Rao)

**B. Tech. VIII Semester**

S. No	Course Code		Subject Title	Periods per Week			Credits	Internal	External	Total
				L	T	P				
1	19139801	HSMC	Operations Research	3	0	0	3	30	70	100
2		PEC	<b>Department Elective-5</b>	3	0	0	3	30	70	100
	19130862A		A. Computational Fluid Dynamics							
	19130862B		B. Nano Technology							
	19130862C		C. Additive Manufacturing							
	19130862D	D. Production Planning and Control								
3	19130841	PR	Project	0	0	18	9	80	120	200
<b>Total</b>				<b>6</b>	<b>0</b>	<b>18</b>	<b>15</b>	<b>140</b>	<b>260</b>	<b>400</b>
<b>PEC =3</b>		<b>PR = 9</b>	<b>HSMC = 3</b>							

**NOTE:-**
**L - LECTURE**
**T - THEORY**
**P - PRACTICAL**
**C - CREDITS**

 University Nominee ( Dr. B. Balakrishna)	 Subject Expert ( Dr. D. Ravi Kumar)	 Internal Member ( Dr. T. Jayananda Kumar)	 Internal Member ( Dr. D. Santha Rao)
 Internal Member ( Mr. Kedarath M )	 Internal Member ( Mr. B. Joga Rao)	 Internal Member ( Mrs. E. Nirmala Devi)	 Internal Member ( Mr. M. Balakrishna)
 Internal Member ( Mr. R. Krishna Mohan)	 Internal Member ( Mr. P. Veera Raju)	 Internal Member ( Mr. G. Ramakrishna)	 Chairman, BoS ( Dr. M. Sreenivasa Rao)