

GOVERNMENT COLLEGE OF ENGINEERING, JALGAON													
Department of Mechanical Engineering													
Scheme for Semester I B. Tech. (Mechanical Engineering with Multidisciplinary Minor) with effect from academic year 2023-24 (As per NEP 2020)													
Course Code	Proposed Course Domain	Category	Teaching Scheme*				Evaluation Scheme					Credit	
			L	T	P	Total	Theory			Practical			Total
							MSE	ISA	ESE	ICA	ESE		
SH100AN	Induction Program [Includes Universal Human Values (UHV - I module)]	Mandatory audit course of three weeks duration as per AICTE model curriculum				...	...	...	50	...	50	AU	
SH101N	Engineering Mathematics I	BSC	3	1	...	4	30	10	60	...	...	100	4
SH152N	Engineering Physics	BSC	3	...	...	3	30	10	60	...	...	100	3
ME102N	Basic of Mechanical Engineering	ESC	3	...	...	3	30	10	60	...	...	100	3
CO101N	Fundamental of Computer Science and Engineering	ESC	3	...	...	3	30	10	60	...	...	100	3
IK103N	Essence of Indian Traditional Knowledge	IKS	2	...	...	2	30	10	60	...	...	100	2
ME101N	Mechanical Workshop Practices	VSEC	...	...	4	4	...	...	...	50	...	50	2
SH153N	Engineering Physics Lab	BSC	...	...	2	2	...	...	...	50	...	50	1
ME103N	Basic of Mechanical Engineering Lab	ESC	...	...	2	2	...	...	...	50	...	50	1
CO102N	Fundamental of Computer Science and Engineering Lab	ESC	...	...	2	2	...	...	...	50	...	50	1
LL101N	Liberal Learning Course (NSS and Sports)	LLC	...	...	4	4	...	...	...	50	...	50	2
Total			14	1	14	29	150	50	300	300	0	800	22
L : Lecture		P: Practical				MSE: Mid Semester Examination							
ISA :Internal Sessional Assessment		ESE: End Semester Examination				ICA : Internal Contineous Accessment							

GOVERNMENT COLLEGE OF ENGINEERING, JALGAON													
Department of Mechanical Engineering													
Scheme for Semester II B. Tech. (Mechanical Engineering with Multidisciplinary Minor) with effect from academic year 2023-24 (As per NEP 2020)													
Course Code	Proposed Course Domain	Category	Teaching Scheme*				Evaluation Scheme						Credit
			L	T	P	Total	Theory			Practical		Total	
							MSE	ISA	ESE	ICA	ESE		
SH151N	Engineering Mathematics II	BSC	3	1	...	4	30	10	60	...	...	100	4
SH102N	Engineering Chemistry	BSC	3	...	...	3	30	10	60	...	...	100	3
ME151N	Engineering Graphics	ESC	3	...	...	3	30	10	60	...	...	100	3
ME155N	Mechanics for Mechanical Engineering	ESC	2			2	30	10	60	...	...	100	2
ME152N	Engineering Exploration Workhop	VSEC	...	...	4	4	...	...	...	50	...	50	2
ME154N	Manufacturing Process	PCC	2	...	...	2	30	10	60		...	100	2
SH103N	Engineering Chemistry Lab	BSC	...	...	2	2	...	...	...	50	...	50	1
ME153N	Engineering Graphics Lab	ESC	...	...	2	2	...	...	...	50	...	50	1
SH100N	Ability Enhancement Course-I (English)	AEC-01	1	...	2	3	...	...	...	50	...	50	2
LL102N	Liberal Learning Course (Yoga and Nutrition)	LLC	...	...	4	4	...	...	..	50	...	50	2
Total			14	1	14	29	150	50	300	250	0	750	22
L : Lecture			P: Practical				MSE: Mid Semester Examination						
ISA :Internal Sessional Assessment			ESE: End Semester Examination				ICA : Internal Contineous Accessment						
Exit Option for UG Certificate in Engg/Tech.: 8 credits in work based Vocational Courses or Internship/apprentiship offered during summer Vacation (As per exit policy approved by Board of Studies (Mechanical Engineering) in its meeting held on 06 July, 2023.)													
Note: Students securing CGPA 7.0 and above upto semester-II can opt for Double minor by registering additional courses [Semester-III onwards] and earning these additional 18 credits . Students need to submit written application through respective HoD to Academic and Examination Cell. This double minor track should be different than multidisciplinary minor track opted by students from semester-III as per multidisciplinary Minor (MDM) courses. For example: If Mechanical Engineering student opted for Civil Engineering track for MDM, then he/she should register for additional credits other than Mechnaical and Civil Engineering courses for double minor. Students opting for double minor can not opt for either Honors or Honors with research degree.													

GOVERNMENT COLLEGE OF ENGINEERING, JALGAON													
Department of Mechanical Engineering													
Scheme for Semester III B. Tech. (Mechanical Engineering with Multidisciplinary Minor) with effect from academic year 2023-24 (As per NEP 2020)													
Course Code	Proposed Course Domain	Category	Teaching Scheme				Evaluation Scheme						Credit
			L	T	P	Total	Theory			Practical		Total	
							MSE	ISA	ESE	ICA	ESE		
ME201N	Strength of Materials	PCC	2	...	...	2	30	10	60	...	...	100	2
ME202N	Engg. Thermodynamics	PCC	3	...	...	3	30	10	60	...	...	100	3
ME203N	Fluid Mechanics and Fluid Power Engg	PCC	3	...	...	3	30	10	60	...	...	100	3
ME204N	Engg. Thermodynamics Lab	PCC	...	...	2	2	...	...	...	30	20	50	1
ME205N	Fluid Mechanics and Fluid Power Engg. Lab	PCC	...	...	2	2	...	...	...	30	20	50	1
ME206N	Community Engineering Project	CEP (ELC)	...	...	2	2	...	...	...	30	20	50	2
XXMYYYN	Multi Disciplinary Minor-I	MDM-I (MDC)	2	...	...	2	30	10	60	...	...	100	2
ME207N	Open Elective-I	OE-I	3	1	...	4	30	10	60	...	...	100	4
SH201N	Project and Financial Management	HSSM (EEMC)	2	...	...	2	30	10	60	...	...	100	2
SH203N	Environmental Science	VEC	2	...	...	2	30	20	...	...	...	50	2
Total			17	1	6	24	210	80	360	90	60	800	22
L : Lecture			P: Practical				MSE: Mid Semester Examination						
ISA :Internal Sessional Assessment			ESE: End Semester Examination				ICA : Internal Contineous Accessment						
Open Elective-I													
X.Total Quality Management													
Y. Reliability Engineering													

GOVERNMENT COLLEGE OF ENGINEERING, JALGAON

Department of Mechanical Engineering

Scheme for Semester IV B. Tech. (Mechanical Engineering with Multidisciplinary Minor) with effect from academic year 2023-24 (As per NEP 2020)

Course Code	Proposed Course Domain	Category	Teaching Scheme				Evaluation Scheme						Credit
			L	T	P	Total	Theory			Practical		Total	
							MSE	ISA	ESE	ICA	ESE		
ME251N	Machine Drawing and Computer Graphics	PCC	2	...	...	2	30	10	60	...	...	100	2
ME252N	Kinematics of Machine	PCC	2	...	...	2	30	10	60	...	...	100	2
ME253N	Material Science and Engineering Metallurgy	PCC	2	...	...	2	30	10	60	...	...	100	2
ME254N	Machine Drawing and Computer Graphics Lab	PCC	...	...	4	4	...	...	...	30	20	50	2
ME255N	Kinematics of Machines Lab	PCC	...	...	2	2	...	...	...	30	20	50	1
ME256N	Material Science and Engineering Metallurgy Lab	PCC	...	...	2	2	...	...	...	30	20	50	1
XXMYYYN	Multi Disciplinary Minor-II	MDM-II (MDC)	2	...	...	2	30	10	60	...	...	100	2
ME257N	Open Elective-II	OE-II	2	...	...	2	30	10	60	...	...	100	2
ME258N	Mechanical Engineering Workshop	VSEC	...	...	4	4	...	...	...	50	...	50	2
SH205N	मराठी लेखनकौशल्य (Writing Skills)*	AEC (HSSM)	2	...	...	2	30	20	...	...	...	50	2
SH202N	Entrepreneur Develoepmnt	HSSM (EEMC)	2	...	...	2	30	10	60	...	...	100	2
SH204N	Universal human Values -II	VEC (HSSM)	2	...	...	2	30	70	...	...	...	100	2
Total			16	0	12	28	240	150	360	140	60	950	22

* Students are permitted to earn credits of this course for any other Modern Indian Language (other than English) through MOOC courses, as per credit transfer policy of the inst

L : Lecture	P: Practical	MSE: Mid Semester Examination
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Open Elective-II		
X.Introduction to Robotics		
Y.Hybrid Vechiles		

Exit Option for UG Diploma in Engg/Tech.: 8 credits in Skill based Vocational Courses/Internship/apprentiship/MiniProject offered during summer vacation after Second Year (As per exit policy approved by Board of Studies (Mechanical Engineering) in its meeting held on 06 July, 2023).

Note: Students having CGPA more than 8.0, can register for additional 18 credits departmental honours courses from semester-V to earn the credits which will lead to honours degree in mechanical engineering/tech program with MDM

GOVERNMENT COLLEGE OF ENGINEERING, JALGAON													
Department of Mechanical Engineering													
Scheme for Semester V B. Tech. (Mechanical Engineering with Multidisciplinary Minor) with effect from academic year 2023-24 (As per NEP 2020)													
Course Code	Proposed Course Domain	Category	Teaching Scheme				Evaluation Scheme						Credit
			L	T	P	Total	Theory			Practical		Total	
							MSE	ISA	ESE	ICA	ESE		
ME301N	Design of Machine Elements	PCC	3	...	...	3	30	10	60	...	...	100	3
ME302N	Dynamics of Machines	PCC	3	...	...	3	30	10	60	...	...	100	3
ME303N	Heat and Mass Transfer	PCC	3	...	...	3	30	10	60	...	...	100	3
ME304N	Design of Machine Elements Lab	PCC	...	...	2	2	...	...	...	30	20	50	1
ME305N	Dynamics of Machines Lab	PCC	...	...	2	2	...	...	...	30	20	50	1
ME306N	Heat and Mass Transfer Lab	PCC	...	...	2	2	...	...	...	30	20	50	1
ME307N	Professional Elective- I	PEC	3	...	...	3	30	10	60	...	...	100	3
ME308N	Professional Elective- I Lab	PEC	...	...	2	2	...	...	...	30	20	50	1
XXMYYYN	Multi Disciplinary Minor-III	MDM-III (MDC)	4	...	...	4	30	10	60	...	...	100	4
ME310N	Open Elective-III	OE-III	2	...	...	2	30	10	60	...	...	100	2
Total			18	0	8	26	180	60	360	120	80	800	22
ME311N	Advanced Mechanisms	DHC-I	3	...	...	3	30	10	60	...	...	100	3
ME312N	Advanced Mechanisms Lab	DHC-II	...	...	2	2	...	...	...	30	20	50	1
L : Lecture			P: Practical				MSE: Mid Semester Examination						
ISA :Internal Sessional Assessment			ESE: End Semester Examination				ICA : Internal Contineous Accessment						
DHC: Departmental Honours Course													
Program Elective Course- I			Open Elective-III										
A. Production Technology			X.Power Station Engineerring										
B. Internal Combustion Engine			Y.Operation Research										
C. Computer Integrated Manufacturing													

GOVERNMENT COLLEGE OF ENGINEERING, JALGAON													
Department of Mechanical Engineering													
Scheme for Semester VI B. Tech. (Mechanical Engineering with Multidisciplinary Minor) with effect from academic year 2023-24 (As per NEP 2020)													
Course Code	Proposed Course Domain	Category	Teaching Scheme				Evaluation Scheme						Credit
			L	T	P	Total	Theory			Practical		Total	
							MSE	ISA	ESE	ICA	ESE		
ME351N	Metrology and Quality control	PCC	2	...	...	2	30	10	60	...	...	100	2
ME352N	Turbo Machinery	PCC	3	...	...	3	30	10	60	...	...	100	3
ME353N	Mechanical Engineering Design	PCC	3	...	...	3	30	10	60	...	...	100	3
ME354N	Metrology and Quality control Lab	PCC	...	...	2	2	...	...	...	30	20	50	1
ME355N	Turbo Machinery Lab	PCC	...	...	2	2	...	...	...	30	20	50	1
ME356N	Program Elective Course- III	PEC	3	...	...	3	30	10	60	...	...	100	3
ME357N	Program Elective Course- IV	PEC	3	...	...	3	30	10	60	...	...	100	3
ME358N	Program Elective Course- III Lab	PEC	...	...	2	2	....	....	....	30	20	50	1
ME359N	Program Elective Course- IV Lab	PEC	...	...	2	2	....	....	....	30	20	50	1
XXMYYYN	Multi Disciplinary Minor-IV	MDM-IV (MDC)	2	...	...	2	30	10	60	...	...	100	2
ME360N	Parametric Modelling Courses (Any One CAD Course)	VSEC (EEMC)	...	...	4	4	...	....	....	30	20	50	2
			16	0	12	28	180	60	360	150	100	850	22
ME361N	Stress Analysis	DHC-III	3	...	...	3	30	10	60	...	...	100	3
L : Lecture			P: Practical				MSE: Mid Semester Examination						
ISA :Internal Sessional Assessment			ESE: End Semester Examination				ICA : Internal Contineous Accessment						
DHC: Departmental Honours Course													
Program Elective Course- III		Program Elective Course- IV											
A. Tool Engineering		A.Mechatronics											
B. Computational Fluid Dynamics		B.Synthesis of Mechanism											
C. Product Design and Development		C. Cryogenic Engineering											
Exit Option for B.Voc or B.Sc. (Engg/Tech): 8 credits in Skill based Vocational Courses/Internship/apprenticeship/MiniProject offered during summer vacation after Third Year (As per exit policy approved by Board of Studies (Mechanical Engineering) in its meeting held on 06 July, 2023).													
Note: Students having CGPA more than 8.0, can register for additional 18 credits for departmental honours with research degree from semester-VII to earn the credits which will lead to honours with research degree in mechanical engineering/tech program with MDM													

GOVERNMENT COLLEGE OF ENGINEERING, JALGAON													
Department of Mechanical Engineering													
Scheme for Semester VII B. Tech. (Mechanical Engineering with Multidisciplinary Minor) with effect from academic year 2023-24 (As per NEP 2020)													
Course Code	Proposed Course Domain	Category	Teaching Scheme				Evaluation Scheme						Credit
			L	T	P	Total	Theory			Practical		Total	
							MSE	ISA	ESE	ICA	ESE		
ME401N	Tribology (Online Mode)	PCC	2	...	...	2	30	10	60	...	...	100	2
ME402N	Automatic Control (Online Mode)	PCC	2	...	...	2	30	10	60	...	...	100	2
ME403N	Program Elective Course- V (Online Mode)	PEC	2	...	...	2	30	10	60	...	...	100	2
XXMYYYN	Multi Disciplinary Minor-V(Online Mode)	MDM-V (MDC)	2	...	...	2	30	10	60	...	...	100	2
ME404N	Internship/ OJT	Internship/ OJT	...	...	4	4	....	....	....	100	....	100	12
Total			8	0	4	12	120	40	240	100	0	500	20
ME405N	Advanced Mechanical Design (Online Mode)	DHC-IV	4	...	...	4	30	10	60	...	...	100	4
ME406N	Smart Materials and Sensors (Online Mode)	DHC-V	3	...	...	3	30	10	60	...	...	100	3
A Program Internship of one semester is to be completed by the students. One semester means 12 weeks minimum (Engagement hours of student for internship should be 18-20 hours)													
L : Lecture			P: Practical				MSE: Mid Semester Examination						
ISA :Internal Sessional Assessment			ESE: End Semester Examination				ICA : Internal Contineous Accessment						
Program Elective Course- V													
A. Optimization techniques													
B. Mechanical Estimation & Costing													
Note: Mentor faculty/Course Teacher shall be allotted for each online course for smooth evaluation and completion of the course. Mentor faculty/course Teacher													

GOVERNMENT COLLEGE OF ENGINEERING, JALGAON													
Department of Mechanical Engineering													
Scheme for Semester VIII B. Tech. (Mechanical Engineering with Multidisciplinary Minor) with effect from academic year 2023-24 (As per NEP 2020)													
Course Code	Proposed Course Domain	Category	Teaching Scheme				Evaluation Scheme						Credit
			L	T	P	Total	Theory			Practical		Total	
							MSE	ISA	ESE	ICA	ESE		
ME451N	Refrigeration and Air Conditioning	PCC	3	...	...	3	30	10	60	...	...	100	3
ME453N	Finite Element Analysis	PEC	2	...	...	2	30	10	60	...	...	100	2
ME454N	Automobile Engineering	PEC	3	...	...	3	30	10	60	...	...	100	3
ME455N	Refrigeration and Air Conditioning Lab	PCC	...	...	2	2	...	...	...	30	20	50	1
ME456N	Finite Element Analysis Lab	PEC	...	...	2	2	...	...	...	30	20	50	1
XXMYYYN	Multi Disciplinary Minor-VI	MDM-VI (MDC)	2	...	...	2	30	10	60	...	...	100	2
ME457N	Research Methodology and IPR	ELC	3	1	...	4	30	10	60	...	...	100	4
ME458N	Project	Project	...	...	8	8	...	...	...	50	100	150	4
Total			13	1	12	26	150	50	300	110	140	750	20
ME459N	Vibrations Engineering	DHC-VI	3	...	...	3	30	10	60	...	...	100	3
ME460N	Vibrations Engineering Lab	DHC-VII	...	...	2	2	...	...	...	30	20	50	1
L : Lecture			P: Practical				MSE: Mid Semester Examination						
ISA :Internal Sessional Assessment			ESE: End Semester Examination				ICA : Internal Contineous Accessment						
Total Credits			172										
Total Credits: 172 for B.Tech. in Mechanical with MDM.													
Total Credits: 172 + 18 = 190 for B.Tech. in Mechanical with MDM and specialization minor [Double Minor]													
Total Credits: 172 + 18 = 190 for B.Tech. in Mechanical with MDM and Honours in Mechanical Engineering													
Total Credits: 172 + 18 = 190 for B.Tech. in Mechanical with MDM and Honours with Research in Mechanical Engineering.													