

**VEERMATA JIJABAI TECHNOLOGICAL INSTITUTE
(VJTI)**

MATUNGA, MUMBAI 400 019

(Autonomous Institute affiliated to University of Mumbai)



**Curriculum
(Scheme of Instruction & Evaluation Only)
(Revision 2018)**

Four Year Undergraduate Programme Leading to
Bachelor of Technology (B. Tech.) Degree in Production Engineering

Implemented from the batch admitted in first year, 2018-19

B. Tech. Production Engineering
GROUP B
(Mechanical/Production/Civil/Textile)
Semester I

Revised First Year Scheme for the Academic year 2018-19 onwards

Scheme of Instruction						Scheme of Evaluation				
	Course Code	Course Title	Hr/ Week			Credits	TA	MST	ESE	Hours
			L	T	P					
1	R4CH1011T	Applied Chemistry-I	2	0	0	2	20	20	60	3
	R4CH1011P	Applied Chemistry Laboratory -I	0	0	2	1	60		40	
2	R4PH 1011T	Applied Physics-I	3	0	0	3	20	20	60	3
	R4PH 1011P	Applied Physics Laboratory -I	0	0	2	1	60		40	
3	R4MA1011S	Applied Mathematics- I	3	1	0	4	20	20	60	3
4	R4EE1001T	Basic of Electrical Engineering	2	0	0	2	20	20	60	3
5	R4ME1003T	Elements of Mechanical Engineering	2	0	0	2	20	20	60	3
6	R4CO1001T	Computer Programming	2	0	0	2	20	20	60	3
	R4CO1001P	Computer Programming Laboratory	0	0	4	2				
7	R4ME1001L	Workshop (Mechanical)	0	0	2	1	100			
Total			14	1	10	20				

Abbreviations:

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B. Tech. Production Engineering
GROUP B
(Mechanical/Production/Civil/Textile)
Semester II

Revised First Year Scheme for the Academic year 2018-19 onwards

Scheme of Instruction						Scheme of Evaluation				
	Course Code	Course Title	Hr/ Week			Credits	TA	MST	ESE	Hours
			L	T	P					
1	R4CH1021T	Applied Chemistry-II	2	0	0	2	20	20	60	3
	R4CH1021P	Applied Chemistry Laboratory -II	0	0	2	1	60		40	
2	R4PH 1021T	Applied Physics-II	3	0	0	3	20	20	60	3
	R4PH 1021P	Applied Physics Laboratory -II	0	0	2	1	60		40	
3	R4MA1021S	Applied Mathematics- II	3	1	0	4	20	20	60	3
4	R4SA1001T	Engineering Mechanics	3	0	0	3	20	20	60	3
	R4SA1001P	Engineering Mechanics Laboratory	0	0	2	1	60		40	
5	R4ME1002T	Engineering Graphics	2	0	0	2	20	20	60	3
	R4ME1002P	Engineering Graphics Laboratory	0	0	2	1	60		40	
6	R4HM1002L	Business English	1	0	2	2	100			
Total			14	1	10	20				

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**B. Tech. Production Engineering
Semester III**

Scheme of Instruction and Evaluation (R-2018)

Scheme of Instruction						Scheme of Evaluation				
	Course Code	Course Title	Hr/ Week			Credits	TA	MST	ESE	Hours
			L	T	P					
1	R4MA2002S	Mathematics for Production Engineers	3	1	0	4	20	20	60	3
2	R4PE2001T	Manufacturing Technology	3	1	0	4	20	20	60	3
	R4PE2001P	Manufacturing Technology Lab	0	0	2	1	60		40	
3	R4SE2002T	Strength of Material	3	0	0	3	20	20	60	3
	R4SE2002P	Strength of Material Lab	0	0	2	1	60		40	
4	R4PE2002S	Basic Thermodynamics	3	0	0	3	20	20	60	3
6	R4PE2003S	Industrial Management	2	0	0	2	20	20	60	2
7	R4PE2004L	Production and Machine Drawing	1	0	2	2	100			
8	R4PE2005S	Innovation and Entrepreneurship	2	0	0	P/NP	100			
Total			17	2	6	20				

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**B. Tech. Production Engineering
Semester IV**

Scheme of Instruction and Evaluation (R-2018)

Scheme of Instruction						Scheme of Evaluation				
	Course Code	Course Title	Hr/Week			Credits	TA	MST	ESE	ESE hours
			L	T	P					
1	R4PE2006S	Applied Probability and Statistics	3	0	0	3	20	20	60	3
2	R4PE2007T	Applied Thermodynamics	3	1	0	4	20	20	60	3
	R4PE2007P	ATD Laboratory	0	0	2	1	60		40	
3	R4PE2008T	Fluid Mechanics and Machinery	3	0	0	3	20	20	60	3
	R4PE2008P	FMM Laboratory	0	0	2	1	60		40	
4	R4EE2005T	Electrical and Electronics Engineering	3	0	0	3	20	20	60	3
	R4EE2005P	EEE Laboratory	0	0	2	1	60		10	
5	R4PE2009S	Managerial Economics, Finance and Costing	3	1	0	4	20	20	60	4
6	R4CH2001ST	Environmental Studies	1	0	1	P/NP	100			
Total			17	2	6	20				

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**B. Tech. Production Engineering
Semester V**

Scheme of Instruction and Evaluation (R-2018)

Sr No	Course Code	Course Name	Hr / Week			Credits	Scheme of Evaluation		
			L	T	P		TA	MST	ESE
1	R4PE3001S	Theory of Machines	3	0	0	3	20	20	60
2	R4PE3002T	Metal Forming Technology and Analysis	3	0	0	3	20	20	60
3	R4PE3003T	Machining and Process Engineering	3	0	0	3	20	20	60
4	R4PE3004T	Metrology and Quality Management	3	0	0	3	20	20	60
5	R4PE3005S	Metallurgy and Materials Technology	3	0	0	3	20	20	60
6	R4PE3006S	Industrial Engineering	3	0	0	3	20	20	60
7	R4HM3001L	Professional Communication Skills	1	0	2	2	100		
8	R4PE3002P	Metal Forming Technology and Analysis Lab	0	0	2	1	60		40
9	R4PE3003P	Machining and Process Engineering Lab	0	0	2	1	60		40
10	R4PE3004P	Metrology and Quality Management Lab	0	0	2	1	60		40
			19	0	8	23			

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**B. Tech. Production Engineering
Semester VI**

Scheme of Instruction and Evaluation (R-2018)

Sr No	Course Code	Course Name	Hr / Week			Credits	Scheme of Evaluation		
			L	T	P		TA	MST	ESE
1	R4PE3007S	Machine Design	3	0	0	3	20	20	60
2	R4PE3008T	Metal Casting and Welding Technology	3	0	0	3	20	20	60
3	R4PE3009T	Mechatronics and Automation	3	0	0	3	20	20	60
4	R4PE3010T	CAD CAM CIM	3	0	0	3	20	20	60
5	R4PE31xxS	Program Elective 1	3	0	0	3	20	20	60
6	R4PE36xxS	Open Elective 1	3	0	0	3	20	20	60
7	R4PE3011S	MIS ERP	2	0	0	P/NP	100		
8	R4PE3008P	Metal Casting and Welding Technology Lab	0	0	2	1	60		40
9	R4PE3009P	Mechatronics and Automation Lab	0	0	2	1	60		40
10	R4PE3010P	CAD CAM CIM Lab	0	0	2	1	60		40
			20	0	6	21			

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List of Program Elective 1

Sr. No.	Course Code	Course Title
1.	R4PE3101S	Artificial Intelligence and Expert Systems
2.	R4PE3102S	Dynamics of Machinery
3.	R4PE3103S	Automobile Engineering
4.	R4PE3104S	Plastics Processing Technology
5.	R4PE3105S	Industrial Robotics
6.	R4PE3106S	Business Analytics
7.	R4PE3107S	Procurement and Inventory Management

List of Open Elective 1

Sr. No.	Course code	Course Title
1.	R4PE3601S	Project Management

**B. Tech. Production Engineering
Semester VII**

Scheme of Instruction and Evaluation (R-2018)

Industrial Training and Project (R4PE 4901D)

Sr No	Course Code	Course Name	Hr / Week			Credits	Scheme of Evaluation		
			L	T	P		TA	MST	ESE
1	R4PE 4901D	Industrial Training and Project				18	20 % CIE + 80% ESE		

The Project work is evaluated at the end of seventh semester with an external examiner. The external examiner should be preferably from industry having minimum experience of five years.

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List of Open Elective 2

Sr. No.	Course code	Course Title
1.	R4PE4601S	Entrepreneurship Development

**B. Tech. Production Engineering
Semester VIII**

Scheme of Instruction and Evaluation (R-2018)

Sr No	Course Code	Course Name	Hr / Week			Credits	Scheme of Evaluation		
			L	T	P		TA	MST	ESE
1	R4PE4001S	Production and Operations Management	3	1	0	4	20	20	60
2	R4PE4002S	Supply Chain Management	3	1	0	4	20	20	60
3	R4PE4003S	Machine Tools Design	3	1	0	4	20	20	60
4	R4PE4004T	Operations Research	3	0	0	3	20	20	60
	R4PE4004P	Operations Research Lab	0	0	2	1	60		40
5	R4PE41xxS	Program Elective 2	3	0	0	3	20	20	60
6	R4PE41xxS	Program Elective 3	3	0	0	3	20	20	60
			18	3	2	22			

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List of Program Elective 2

Sr. No.	Course code	Course Name
1.	R4PE4101S	Unconventional and Micro Machining
2.	R4PE4102S	Refrigeration and Air Conditioning
3.	R4PE4103S	Composite Materials Processing Technology
4.	R4PE4104S	Computational Fluid Dynamics
5.	R4PE4105S	Operations Strategy
6.	R4PE4106S	Logistics Management
7.	R4PE4107S	Powder Metallurgy and Ceramics
8.	R4PE4108S	Additive Manufacturing
9.	R4PE4109S	Finite Elements Method for Manufacturing
10.	R4PE4110S	Product Design and Development

List of Program Elective 3

Sr. No.	Course code	Course Name
1.	R4PE4111S	Sales and Marketing
2.	R4PE4112S	Energy Management
3.	R4PE4113S	Flexible Manufacturing System
4.	R4PE4114S	Micro-Electro-Mechanical Systems (MEMS)
5.	R4PE4115S	Nano-Modeling and Applications: Molecular Dynamic Simulations
6.	R4PE4116S	Reliability Engineering
7.	R4PE4117S	Design for Manufacturing and Assembly (DFMA)
8.	R4PE4118S	Engineering Optimization
9.	R4PE4119S	Quality Engineering
10.	R4PE4120S	Product Life-cycle Management