

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI**  
**SCHEME OF TEACHING AND EXAMINATION**  
**M.TECH. Common to Industrial Automation and Robotics/ Industrial Automation Engineering / Computer Integrated Manufacturing 2018 Scheme**

Sl. No	Course Code	Course Title	Course Type	Teaching Hours / Week			Evaluation				Credits
				L	T	P	Duration (in Hrs.)	CIE Marks	SEE Marks	Total Marks	
1	18MCM 11	Applied mathematics	Program Core	4	0	0	3	40	60	100	4
2	18MCM12	Automation and computer integrated manufacturing	Program Core	4	0	0	3	40	60	100	4
3	18MCM13	Computer Aided Design	Program Core	4	0	0	3	40	60	100	4
4	18MCM14	Automation In Manufacturing System	Program Core	4	0	0	3	40	60	100	4
5	18MCM15	Rapid Prototyping	Professional Core	4	0	0	3	40	60	100	4
6	18MAR16	Manufacturing Lab 1	Program Core		0	4	3	40	60	100	2
7	18RMI17	Research methodology and IPR	Program Core	2	0	2	3	40	60	100	2
Total				<b>22</b>	<b>0</b>	<b>4</b>	<b>21</b>	<b>280</b>	<b>420</b>	<b>700</b>	<b>24</b>

**Internship:** All the students have to undergo mandatory internship of 6 weeks during the vacations of I and II semesters and /or II and III semesters. A University examination will be conducted during III semester and prescribed credits are added to III semester. Internship is considered as a head of passing and is considered for the award of degree. Those, who do not take-up/complete the internship will be declared as failed and have to complete during subsequent University examination after satisfying the internship requirements.

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				L	T	P	Duration (in Hrs.)	CIE Marks	SEE Marks	Total Marks	
1	18MAR21	Industrial automation and robotics	Program core	4	0	0	3	40	60	100	4
2	18MCM22	Computer Control of Manufacturing System	Program core	4	0	0	3	40	60	100	4
3	18MCM23	Flexible Manufacturing System	Program core	4	0	0	3	40	60	100	4
4	18XXX24X	Professional elective 1	Professional elective 1	4	0	0	3	40	60	100	4
5	18MAR25X	Professional elective 2	Professional elective 2	4	0	0	3	40	60	100	4
6	18MAR26	Manufacturing Lab II	Program core	0	0	4	3	40	60	100	2
7	18MAR27	Seminar	Technical Seminar	0	0	2	0	100	00	100	2
<b>Total</b>				<b>20</b>	<b>0</b>	<b>6</b>	<b>18</b>	<b>340</b>	<b>360</b>	<b>700</b>	<b>24</b>

Professional Elective-1	Subject code	Professional Elective-2	Subject code
Agile Manufacturing	18MCM241	Artificial Intelligence and Expert system	18MCM251
Nontraditional Machining	18MCM242	Advanced Mechatronics	18MCM252
Fluid Power Automation	18MAR243	Micro Electro Mechanical Systems	18MAR253
Concurrent Engineering For Manufacturing	18MAR244	Modern Control Engineering	18MAR254

Students can select any one of the open electives (Please refer to consolidated list of University open electives) offered by any Department.

Selection of an open elective is not allowed provided,

- The candidate has studied the same course during the previous semesters of the programme.
- The syllabus content of open elective is similar to that of professional core courses or professional electives.

Registration to electives shall be documented under the guidance of Programme Coordinator/ Adviser/Mentor.

**Note:**

**1. Internship:** All the students have to undergo mandatory internship of 6 weeks during the vacations of I and II semesters and /or III and IV semesters. A University examination will be conducted during IV semester and prescribed credits are added to IV semester. Internship is considered as a head of passing and is considered for the award of degree. Those, who do not take-up/complete the internship will be declared as failed and have to complete during subsequent University examination after satisfying the internship requirements.

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Sl. No	Course Code	Course Title	Course Type	Teaching Hours / Week			Evaluation				Credits
				L	T	P	Duration (in Hrs.)	CIE Marks	SEE Marks	Total Marks	
1	18MAR31	Advanced Materials And Processing	Program core	4	0	0	3	40	60	100	4
2	18MAR32X	Professional Elective 3	Professional Elective 3	4	0	0	3	40	60	100	4
3	18MAR33X	Professional Elective 4	Professional Elective 4	4	0	0	3	40	60	100	4
4	18MAR34	Project	Evaluation of Project phase -1	0	0	2	00	100	00	100	2
5	18MAR35	Internship	Internship Evaluation	(Completed during the intervening vacations of I and II semesters and /or II and III semesters.)			3	40	60	100	6
<b>Total</b>				<b>12</b>	<b>0</b>	<b>2</b>	<b>12</b>	<b>260</b>	<b>240</b>	<b>500</b>	<b>20</b>

**Note:**

**1. Project Phase-1:** Shall be carried out during III Semester. Students in consultation with the guide/co-guide if any, shall pursue literature survey and complete the preliminary requirements of selected Project work. Each student shall prepare relevant introductory project document, present a seminar and appear for an oral examination for both CIE and SEE. CIE shall be by a committee comprising of HoD as Chairman, Guide and Senior faculty of the department and SEE (University examination) shall be as per the University norms.

**2. Internship:** Those, who have not pursued /completed the internship, will be declared as failed and have to complete during subsequent University examinations after satisfy the internship requirements. Internship SEE (University examination) is as per the University norms.

Professional Elective-3	Subject Code	Professional Elective-4	Subject Code
Modeling management and information system	18MAR321	Operations Research	18MAR331
Production planning and control	18MAR322	Cost Management of engineering Projects	18MAR332
Tooling for manufacture in automation	18MAR323	Composite Materials	18MAR333
Computer concept for automation	18MAR324	Waste to Energy	18MAR334

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**Manufacturing 2018 Scheme**

Sl. No.	Course Code	Course Title	Course Type	Teaching Hours / Week			Evaluation			Credits	
				L	T	P	Duration (in Hrs.)	CIE Marks	SEE Marks		Total Marks
1	18MAR41	Project	Project work phase -2	0	0	4	3	40	60	100	20
<b>TOTAL</b>						<b>4</b>	<b>3</b>	<b>40</b>	<b>60</b>	<b>100</b>	<b>20</b>