

VISVESVARAYA TECHNOLOGICAL UNIVERSITY BELAGAVI



BE/B.Tech MANUFACTURING SCIENCE AND ENGINEERING (MSE)
Scheme of Teaching and Examinations
Choice Based Credit System (CBCS) and Outcome Based Education (OBE)
(Effective from the academic year 2018 – 19)

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Choice Based Credit System (CBCS) and Outcome Based Education (OBE)
(Effective from the academic year 2018 – 19)

III SEMESTER											
Sl. No	Course and Course Code		Course Title	Teaching Hours /Week			Examination				Credits
				Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
				L	T	P					
1	BSC	18MAT31	Transform Calculus, Fourier Series and Numerical Techniques	2	2	--	03	40	60	100	3
2	PCC	18MA32	Material Science	3	--	--	03	40	60	100	3
3	PCC	18MA33	Thermodynamics	3	--	--	03	40	60	100	3
4	PCC	18MA34	Mechanics of Materials	3	2	--	03	40	60	100	4
5	PCC	18MA35	Foundry Technology	3	--	--	03	40	60	100	3
6	PCC	18MA36	Computer Aided Machine Drawing	1	--	4	03	40	60	100	3
7	PCC	18MAL37	Material Testing Lab		1	2	03	40	60	100	2
8	PCC	18MAL38	Foundry and Forging Lab		1	2	03	40	60	100	2
9	HSMC	18KVK39/49	Vyavaharika Kannada (Kannada for communication)	--	2	--	--	100	--	100	1
		18KAK39/49	Aadalitha Kannada (Kannada for Administration)								
		OR									
		18CPC39/49	Constitution of India, Professional Ethics and Cyber Law								
TOTAL				15	06	08	24	420	480	900	24
				OR	OR		OR	OR	OR		
				16	08		26	360	540		

Course prescribed to lateral entry Diploma holders admitted to III semester of Engineering programs												
10	NMC	18MATDIP31	Additional Mathematics - I	Mathematics	02	01	--	03	40	60	100	0

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IV SEMESTER													
Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination				Credits	
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks		
					L	T	P						
1	BSC	18MAT41	Complex Analysis, Probability and Statistical Methods		2	2	--	03	40	60	100	3	
2	PCC	18MA42	Theory of Machines		3	2	--	03	40	60	100	4	
3	PCC	18MA43	Joining Processes		3	--	--	03	40	60	100	3	
4	PCC	18MA44	Fluid Mechanics and Machines		2	2	--	03	40	60	100	3	
5	PCC	18MA45	Machine Tools and Operations		3	--	--	03	40	60	100	3	
6	PCC	18MA46	Mechanical Measurements and Metrology		3	--	--	03	40	60	100	3	
7	PCC	18MAL47	Fluid Mechanics and Machines Lab		--	2	2	03	40	60	100	2	
8	PCC	18MAL48	Mechanical Measurements and Metrology Lab		--	2	2	03	40	60	100	2	
9	HSMC	18KVK39/49	Vyavaharika Kannada (Kannada for communication)		--	2	--	--	100	--	100	1	
		18KAK39/49	Aadalitha Kannada (Kannada for Administration)										
		18CPC39/49	Constitution of India, Professional Ethics and Cyber Law		1			02	40	60			
TOTAL					17	08		04	24	420	480	900	24
					OR	OR		OR	OR	OR			
					18	10			26	360	540		

Course prescribed to lateral entry Diploma holders admitted to III semester of Engineering programs												
10	NCMC	18MATDIP41	Additional Mathematics - II	Mathematics	02	01	--	03	40	60	100	0

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V SEMESTER											
Sl. No	Course and Course code		Course Title	Teaching Hours /Week			Examination				Credits
				Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
				L	T	P					
1	HSMC	18MA51	Management and Entrepreneurship	3	0		03	40	60	100	3
2	PCC	18MA52	Computer Aided Design and Manufacturing	3	0		03	40	60	100	3
3	PCC	18MA53	Metal Forming	3	0		03	40	60	100	3
4	PCC	18MA54	Elements of Machine Design	3	2		03	40	60	100	4
5	PCC	18MA55	Statistical Quality Control	3	--		03	40	60	100	3
6	PCC	18MA56	Operational Research	4	0		03	40	60	100	4
7	PCC	18MAL57	Computer Aided Design and Manufacturing Lab	--	2	2	03	40	60	100	2
8	PCC	18MAL58	Work shop and Machine Shop practice(consists of fitting, welding and machining)	--	2	2	03	40	60	100	2
9	HSMC	18CIV59	Environmental Studies	1	--	--	02	40	60	100	1
TOTAL				20	06	04	26	360	540	900	25

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VI SEMESTER											
Sl. No	Course and Course code		Course Title	Teaching Hours /Week			Examination				Credits
				Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
				L	T	P					
1	PCC	18MA61	Non Destructive Testing	4	0	--	03	40	60	100	4
2	PCC	18MA62	Computer Integrated Manufacturing	4	0	--	03	40	60	100	4
3	PCC	18MA63	Additive Manufacturing	4	0	--	03	40	60	100	4
4	PEC	18MA64X	Professional Elective -1	3	--	--	03	40	60	100	3
5	OEC	18MA65X	Open Elective –A	3	--	--	03	40	60	100	3
6	PCC	18MAL66	Non Destructive Testing Lab	--	2	2	03	40	60	100	2
7	PCC	18MAL67	Additive Manufacturing Lab	--	2	2	03	40	60	100	2
8	MP	18MAMP68	Mini-project	--	--	2	03	40	60	100	2
9	INT	--	Internship (To be carried out during the vacation/s of VI and VII semesters and /or VII and VIII semesters).								
TOTAL				18	04	06	24	320	480	800	24

Professional Elective -1	
Course code under 18MA64X	Course Title
18MA641	Tool Engineering
18MA642	Machine Tool Design
18MA643	Maintenance Engineering

Open Elective -A	
Course code under 18MA65X	Course Title
18MA651	Automation and Robotics
18MA652	Knowledge Management

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VII SEMESTER											
Sl. No	Course and Course code		Course Title	Teaching Hours /Week			Examination			Credits	
				Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks		Total Marks
				L	T	P					
1	PCC	18MA71	Control Engineering	2	2	--	03	40	60	100	3
2	PCC	18MA72	Hydraulics Circuits and Program Logic Controllers (PLC)	3	--	--	03	40	60	100	3
3	PEC	18MA73X	Professional Elective – 2	3	--	--	03	40	60	100	3
4	PEC	18MA74X	Professional Elective – 3	3	--	--	03	40	60	100	3
5	OEC	18MA75X	Open Elective –B	3	--	--	03	40	60	100	3
6	PCC	18MAL76	Modelling and Simulation Lab	--	2	2	03	40	60	100	2
7	PCC	18MAL77	Hydraulics Circuits and Program Logic Controllers Lab (PLC)	--	2	2	03	40	60	100	2
8	Project	18MAP78	Project Work Phase – 1	--	--	2	--	100	--	100	1
9	Internship	--	Internship								
TOTAL				14	06	06	21	380	420	800	20

Professional Elective - 2	
Course code under 18MA73X	Course Title
18MA731	Surface Engineering
18MA732	Quality Assurance
18MA733	Jigs and Fixtures

Professional Electives - 3	
Course code under 18MA74X	Course Title
18MA741	Facility Planning and Design
18MA742	Process Planning
18MA743	Precision Engineering

Open Elective -B	
Course code under 18MA75X	Course Title
18MA751	Supply Chain Management
18MA752	Optimization Techniques

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VIII SEMESTER											
Sl. No	Course and Course code		Course Title	Teaching Hours /Week			Examination				Credits
				Theory Lecture	Tutorial	Practical / Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
				L	T	P					
1	PCC	18MA81	Total Quality Management	3	--	--	03	40	60	100	3
2	PEC	18MA82X	Professional Elective – 4	3	--	--	03	40	60	100	3
3	Project	18MAP83	Project Work Phase – 2	--	--	2	03	40	60	100	8
4	Seminar	18MAS84	Technical Seminar	--	--	2	03	100	--	100	1
5	Internship	18MAI85	Internship (Completed during the vacation/s of VI and VII semesters and /or VII and VIII semesters.)				03	40	60	100	3
TOTAL				06	--	04	15	260	240	500	18
Note: PCC: Professional Core, PEC: Professional Elective.											
Professional Electives - 4											
Course code under 18MA82X		Course Title									
18MA821		Flexible Manufacturing Systems									
18MA822		Product Life Cycle Management									
18MA823		Project Management									