MNIT JAIPUR

UG Scheme & Course Of Study

Academic Section

4/12/2017

B.Arch. – Architecture & Planning

Semester	Course 1	Course 2	Course 3	Course 4	Course 5	Course 6	Course 7	Course 8	Course 09	Semester Credits	Cumulative
I & II	CET102	HST110	MAT103	ART101	ART103	ARP105					
	Environmental Science & Ecology	English	Mathematics I	Introduction to Architecture and Basic Design	Architectural Drawing	Architectural Presentation Techniques I					
	2(2-0-0-0)	3(2-0-2-0)	4(3-1-0-0)	6(1-0-5-0)	4(2-0-4-0)	3(0-0-4-0)				**22**	**22**
	ART102	ART104	ART106	CPT110	ARP108	ARP110		ICP101	ICP102		
	History of Architecture I	Theory of Design	Building Construction & Materials I	Comp. System and Programming	Architecture Presentation Techniques II	Architectural Design I		CREATIVE ARTS / SPORTS / NSS	DISCIPLINE		
	3(2-1-0-0)	2(1-1-0-0)	4(2-0-3-0)	3(2-0-2-0)	3(0-0-5-0)	8(0-0-0-8)		1	1	**25**	**47**
III	ART201	ART203	CET293	ART205	ART207	ART209	ARP211				
	History of Architecture II	Building Science- I (Climatology)	Surveying	Building Construction & Materials II	Architectural Presentation Techniques III	Comp. Applications for Architects-I	Architectural Design II				
	3(2-1-0-0)	3(2-1-0-0)	2(1-0-2-0)	4(2-0-3-0)	3(1-0-3-0)	2(1-0-2-0)	8(0-0-0-8)			**25**	**72**
IV	ART202	ART204	CET242	ARPE01	ART206	ART208	ARP210	ICP201	ICP202		
	History of Architecture III	Building Services I	Architectural Structures I	Program Elective-I	Building Construction & Materials III	Comp. Applications for Architects-II	Architectural Design III	CREATIVE ARTS / SPORTS / NSS	DISCIPLINE		
	3(2-1-0-0)	2(1-1-0-0)	3(2-0-2-0)	3(2-1-0-0)	4(2-0-3-0)	2(1-0-2-0)	8(0-0-0-8)	1	1	**27**	**99**
V	ART301	ART303	CET343	ARPE02	ART305	ARPE03	ARP309				
	History of Architecture IV	Quantity Survey and Specifications	Architectural Structures II	Program Elective-II	Building Construction & Materials IV	Program Elective-III	Architectural Design IV				
	3(2-1-0-0)	2(1-1-0-0)	3(2-1-0-0)	3(2-1-0-0)	4(2-0-3-0)	3(2-1-0-0)	8(0-0-0-8)			**26**	**125**
VI	ART302	CET344	ARPE04	ARPE05	ART306	ART308	ARP310		ICP302		
	Building Services II (Electrical)	Architectural Structures III	Program Elective-IV	Program Elective-V	Building Construction & Materials V	Site Planning & Landscape	Architectural Design V		DISCIPLINE		
	3(2-1-0-0)	3(2-0-2-0)	3(2-1-0-0)	3(2-1-0-0)	4(2-0-3-0)	3(1-0-3-0)	8(0-0-0-8)		1	**28**	**153**
VII	ART401	CET445	ART403	ARPE06	ARP407	ARP409					
	Building Science-II	Architectural Structures IV	Introduction to Planning	Program Elective-VI	Working Drawing	Architectural Design VI					
	3(2-1-0-0)	3(2-1-0-0)	3(1-0-4-0)	3(2-1-0-0)	2(0-0-3-0)	8(0-0-0-8)				**22**	**175**
VIII	ARP402								ICP402		
	Practical Training								DISCIPLINE		
	12(0-0-0-0)								1	**13**	**188**
IX	ART501	ART503	ARPE07	ARS507	ARP511						
	Building Services -III (Mechanical)	Housing	Program Elective-VII	Thesis Preparatory Seminar & Group Discussion	Architectural Design VII						
	2(1-1-0-0)	3(1-0-4-0)	3(2-1-0-0)	3(1-0-3-0)	8(0-0-0-8)					**19**	**207**
X	ART502	ARPE08	ARD506						ICP502		

	Professional Practice & Management	Program Elective-VIII	Thesis Project						DISCIPLINE		
	2(1-1-0-0)	3(2-1-0-0)	16(0-0-0-16)						1	**22**	**229**

B.Arch.-Architecture & Planning

Overall minimum credit requirement	
Institute Core(IC)	3
Programme Core(PC)	179
Thesis Project	16
Programme Elective(PE)	24
Advance Elective(AE)	0
Open Elective(OE)	0
CAS	2
Discipline	5
Total Credits	**229**

Institute Core

Course Code	Course Name	Credits	L	T	P	S
CPT101	Computer Science & Programming	3	2	0	2	0
		Total Credits				**3**

Programme Core

Course Code	Course Name	Credits	L	T	P	S
CET102	Environmental Science & Ecology	2	2	0	0	0
HST110	English	3	2	0	2	0
MAT103	Mathematics I	4	3	1	0	0
ART101	Introduction to Architecture and Basic Design	6	1	0	5	0
ART103	Architectural Drawing	4	2	0	4	0
ARP105	Architectural Presentation Techniques I	3	0	0	4	0
ART102	History of Architecture I	3	2	1	0	0
ART104	Theory of Design	2	1	1	0	0
ART106	Building Construction & Materials I	4	2	0	3	0
ARP108	Architecture Presentation Techniques II	3	0	0	5	0
ARP110	Architectural Design I	8	0	0	0	8
ART201	History of Architecture II	3	2	1	0	0
ART203	Building Science- I (Climatology)	3	2	1	0	0
CET293	Surveying	2	1	0	2	0
ART205	Building Construction & Materials II	4	2	0	3	0
ART207	Architectural Presentation Techniques III	3	1	0	3	0
ART209	Comp. Applications for Architects-I	2	1	0	2	0
ARP211	Architectural Design II	8	0	0	0	8
ART202	History of Architecture III	3	2	1	0	0
ART204	Building Services I	2	1	1	0	0
CET242	Architectural Structures I	3	2	0	2	0
ART206	Building Construction & Materials III	4	2	0	3	0
ART208	Comp. Applications for Architects-II	2	1	0	2	0
ARP210	Architectural Design III	8	0	0	0	8
ART301	History of Architecture IV	3	2	1	0	0
ART303	Quantity Survey and Specifications	2	1	1	0	0
CET343	Architectural Structures II	3	2	1	0	0
ART305	Building Construction & Materials IV	4	2	0	3	0
ARP309	Architectural Design IV	8	0	0	0	8
ART302	Building Services II (Electrical)	3	2	1	0	0
CET344	Architectural Structures III	3	2	0	2	0
ART306	Building Construction & Materials V	4	2	0	3	0
ART308	Site Planning & Landscape	3	1	0	3	0
ARP310	Architectural Design V	8	0	0	0	8
ART401	Building Science-II	3	2	1	0	0
CET445	Architectural Structures IV	3	2	1	0	0
ART403	Introduction to Planning	3	1	0	4	0
ARP407	Working Drawing	2	0	0	3	0
ARP409	Architectural Design VI	8	0	0	0	8
ART501	Building Services -III (Mechanical)	2	1	1	0	0
ART503	Housing	3	1	0	4	0
ARS507	Thesis Preparatory Seminar & Group Discussion	3	1	0	3	0
ARP511	Architectural Design VII	8	0	0	0	8
ART502	Professional Practice & Management	2	1	1	0	0
ARP402	Practical Training	12	0	0	0	0
		Total Credits				**179**

Project

Course Code	Course Name	Credits	L	T	P	S
ARD506	Thesis Project	16	0	0	0	16
		Total Credits				**16**

Programme Elective

Course Code	Course Name	Credits	L	T	P	S
ART307	Vernacular Architecture	3	1	0	3	0
ART304	Barrier Free Architecture	3	2	1	0	0
ART405	Product Design	3	1	0	3	0
ART505	Programme Elective-IV	3	2	0	1	0
ART504	Programme Elective-V	3	1	0	3	0
ARP212	Architectural Model Making	3	1	0	3	0
ART315	Interior Design	3	2	1	0	0
ART312	Construction Management	3	2	1	0	0

Creative Arts/ Sports/ NSS & Discipline

Course Code	Course Name	Credits	L	T	P	S
*	Creative Arts Society	2				
*	Discipline	5				
		Total Credits				**7**

B.Tech. - Chemical Engineering

Semester	Course 1	Course 2	Course 3	Course 4	Course 5	Course 6	Course 7	Course 8	Course 9	Course 10	Course 11	Semester Credits	Cumu Cre
I & II	MAT101	PHT101	EET101	HST101	CET102	MET101	CYT101	CPT101	ECT101	HST102			
	Mathematics-I	Physics	Basic Electrical Engineering	Technical Communication	Environmental Science & Ecology	Basic Mechanical Engineering	Chemistry	Computer Science & Programming	Basic Electronics Engineering	Basic Economics			
	4 (3 1 0 0)	4 (3 1 0 0)	4 (3 1 0 0)	2 (1 2 0 0)	2 (2 0 0 0)	4 (3 1 0 0)	4 (3 1 0 0)	2 (2 0 0 0)	4 (3 1 0 0)	3 (2 1 0 0)			
	CET101	MAT102	PHP102	EEP102	HSP103	MEP102	CYP102	CPP102	ECP102	ICP101	ICP102		
	Computer Aided Engineering Drawing	Mathematics-II	Physics Lab	Electrical Engineering Lab	Language Laboratory	Workshop Practice	Chemistry Lab	Programming Lab	Electronics Engineering Lab	CREATIVE ARTS / SPORTS / NSS	DISCIPLINE		
	2 (0 0 3 0)	4 (3 1 0 0)	1 (0 0 2 0)	1 (0 0 2 0)	1 (0 0 2 0)	1 (0 0 2 0)	1 (0 0 2 0)	1 (0 0 2 0)	1 (0 0 2 0)	1	1	**24+24**	**4**
III	CHT201	CHT203	CHT205	CHT207	CHT209	CHT211	CHP213	CHP215	CHP217				
	Chemical Process Calculations	Momentum Transfer Operations	Chemical Engineering Thermodynamics-I	Energy Resources Utilization	Process Instrumentation	Numerical Methods in Chemical Engineering	Momentum Transfer Operations Lab	Numerical Methods in Chemical Engineering Lab	Simulation Lab				
	4 (3 1 0 0)	4 (3 1 0 0)	4 (3 1 0 0)	3 (3 0 0 0)	2 (2 0 0 0)	2 (2 0 0 0)	2 (0 0 3 0)	2 (0 0 3 0)	2 (0 0 3 0)			**25**	**7**
IV	CHT202	CHT204	CHT206	CHT208	CHT210	CHP212	CHP214	CHP216		ICP201	ICP202		
	Heat Transfer	Chemical Reaction Engineering-I	Industrial Pollution Abatement	Fluid Particle Mechanics	Mass Transfer-I	Fluid Particle Mechanics Lab	Heat Transfer Lab	Industrial Pollution Abatement Lab		CREATIVE ARTS / SPORTS / NSS	DISCIPLINE		
	4 (3 1 0 0)	4 (3 1 0 0)	3 (3 0 0 0)	4 (3 1 0 0)	4 (3 1 0 0)	2 (0 0 3 0)	2 (0 0 3 0)	2 (0 0 3 0)		1	1	**27**	**1**
V	CHT301	CHT303	CHT305	CHT307	CHT309	CHP311	CHP313	CHP315					
	Mass Transfer-II	Chemical Reaction Engineering-II	Optimization of Chemical Processes	Chemical Engineering Thermodynamics-II	Process Equipment Design	Chemical Reaction Engineering Lab	Mass Transfer Lab	Process Equipment Design Lab					
	4 (3 1 0 0)	4 (3 1 0 0)	4 (3 1 0 0)	4 (3 1 0 0)	3 (3 0 0 0)	2 (0 0 3 0)	2 (0 0 3 0)	2 (0 0 3 0)				**25**	**1**
VI	CHT302	CHT304	CHT306	CHT308	CHT310	CHT312	CHP314	CHP316	CHP318		ICP302		
	Process Engineering and Plant Design	Petroleum Refining	Mathematical Methods in Chemical Engineering	Process Dynamics and Control	Chemical Technology	Transport Phenomena	Petroleum Lab	Process Dynamics and Control Lab	Process Engineering and Plant Design Lab		DISCIPLINE		
	3 (3 0 0 0)	3 (3 0 0 0)	3 (3 0 0 0)	4 (3 1 0 0)	3 (3 0 0 0)	4 (3 1 0 0)	2 (0 0 3 0)	2 (0 0 3 0)	2 (0 0 3 0)		1	**27**	**1**
VII	BMT499	CHS401	CHPE01	CHPE02	OE01	OE02							
	Basic Management	TRAINING SEMINAR	Program Elective 01	Program Elective 02	Open Elective 01	Open Elective 02							
	4 (3 1 0 0)	2 (0 2 0 0)	3 (3 0 0 0)	3 (3 0 0 0)	3 (3 0 0 0)	3 (3 0 0 0)						**18**	**1**
VIII	CHD402	CHAE01	CHAE02	OE03	OE04						ICP402		
	Major Project	Advance Elective 01	Advance Elective 02	Open Elective 03	Open Elective 04						DISCIPLINE		
	12 (0 0 12 0)	3 (3 0 0 0)	3 (3 0 0 0)	3 (3 0 0 0)	3 (3 0 0 0)						1	**25**	**1**

B.Tech.-Chemical Engineering

Overall credit requirement	
Institute Core(IC)	**46**
Programme Core(PC)	**107**
Project	**12**
Programme Elective(PE)	**6**
Advance Elective(AE)	**6**
Open Elective(OE)	**12**
CAS	**2**
Discipline	**4**
Total Credits	**195**

Institute Core

Course Code	Course Name	Credits	L	T	P	S
CET101	Computer Aided Engineering Drawing	2	0	0	3	0
CET102	Environmental Science & Ecology	2	2	0	0	0
CPP102	Programming Lab	1	0	0	2	0
CPT101	Computer Science & Programming	2	2	0	0	0
CYP102	Chemistry Lab	1	0	0	2	0
CYT101	Chemistry	4	3	1	0	0
ECP102	Electronics Engineering Lab	1	0	0	2	0
ECT101	Basic Electronics Engineering	4	3	1	0	0
EEP102	Electrical Engineering Lab	1	0	0	2	0
EET101	Basic Electrical Engineering	4	3	1	0	0
HSP103	Language Laboratory	1	0	0	2	0
HST101	Technical Communication	2	1	2	0	0
HST102	Basic Economics	3	2	1	0	0
MAT101	Mathematics-I	4	3	1	0	0
MAT102	Mathematics-II	4	3	1	0	0
MEP102	Workshop Practice	1	0	0	2	0
MET101	Basic Mechanical Engineering	4	3	1	0	0
PHP102	Physics Lab	1	0	0	2	0
PHT101	Physics	4	3	1	0	0
	Total Credits	**46**				

Programme Core

Course Code	Course Name	Credits	L	T	P	S
BMT499	Basic Management	4	3	1	0	0
CHP212	Fluid Particle Mechanics Lab	2	0	0	3	0
CHP213	Momentum Transfer Operations Lab	2	0	0	3	0
CHP214	Heat Transfer Lab	2	0	0	3	0
CHP215	Numerical Methods in Chemical Engineering	2	0	0	3	0
CHP216	Industrial Pollution Abatement Lab	2	0	0	3	0
CHP217	Simulation Lab	2	0	0	3	0
CHP311	Chemical Reaction Engineering Lab	2	0	0	3	0
CHP313	Mass Transfer Lab	2	0	0	3	0
CHP314	Petroleum Lab	2	0	0	3	0
CHP315	Process Equipment Design Lab	2	0	0	3	0
CHP316	Process Dynamics and Control Lab	2	0	0	3	0
CHP318	Process Engineering and Plant Design Lab	2	0	0	3	0
CHS401	TRAINING SEMINAR	2	0	2	0	0
CHT201	Chemical Process Calculations	4	3	1	0	0
CHT202	Heat Transfer	4	3	1	0	0
CHT203	Momentum Transfer Operations	4	3	1	0	0
CHT204	Chemical Reaction Engineering-I	4	3	1	0	0
CHT205	Chemical Engineering Thermodynamics-I	4	3	1	0	0
CHT206	Industrial Pollution Abatement	3	3	0	0	0
CHT207	Energy Resources Utilization	3	3	0	0	0
CHT208	Fluid Particle Mechanics	4	3	1	0	0
CHT209	Process Instrumentation	2	2	0	0	0
CHT210	Mass Transfer-I	4	3	1	0	0
CHT211	Numerical Methods in Chemical Engineering	2	2	0	0	0
CHT301	Mass Transfer-II	4	3	1	0	0
CHT302	Process Engineering and Plant Design	3	3	0	0	0
CHT303	Chemical Reaction Engineering-II	4	3	1	0	0
CHT304	Petroleum Refining	3	3	0	0	0
CHT305	Optimization of Chemical Processes	4	3	1	0	0
CHT306	Mathematical Methods in Chemical Engineering	3	3	0	0	0
CHT307	Chemical Engineering Thermodynamics-II	4	3	1	0	0
CHT308	Process Dynamics and Control	4	3	1	0	0
CHT309	Process Equipment Design	3	3	0	0	0
CHT310	Chemical Technology	3	3	0	0	0
CHT312	Transport Phenomena	4	3	1	0	0
	Total Credits	**107**				

Project

Course Code	Course Name	Credits	L	T	P	S
CHD402	Major Project	12	0	0	12	0
	Total Credits	**12**				

Programme Elective

Course Code	Course Name	Credits	L	T	P	S
CHT403	Modelling and Simulation	3	3	0	0	0
CHT405	Introduction to Plastic Materials	3	3	0	0	0
CHT409	Operations Research	3	3	0	0	0
CHT407	Nanotechnology	3	3	0	0	0
CHT417	Mechanical Design of Process Equipment	3	3	0	0	0
CHT411	Polymer Science and Technology	3	3	0	0	0
CHT413	Bioprocess Engineering	3	3	0	0	0
CHT415	Non-Conventional Energy Sources	3	3	0	0	0

Any 2 Programe Electives from the above list in VII Semester of Total "6 Credits"

Advance Elective

Course Code	Course Name	Credits	L	T	P	S
CHT404	Advanced Separation Processes	3	3	0	0	0
CHT406	Polymer Process Modelling	3	3	0	0	0
CHT410	Process Piping and Design	3	3	0	0	0
CHT414	Applied Statistics for Chemical Engineers	3	3	0	0	0
CHT418	Process Modification for Green Technology and Energy Integration	3	3	0	0	0
CHT408	Process Safety and Hazards	3	3	0	0	0
CHT412	Advanced Process Control	3	3	0	0	0
CHT416	Catalytic Processes	3	3	0	0	0

Any 2 Advance Electives from the above list in VIII Semester of Total "6 Credits"

Open Elective

Course Code	Course Name	Credits	L	T	P	S
CHT321	Petroleum, Petrochemicals & Natural Gas Engineering	3	3	0	0	0
CHT410	Process Piping and Design	3	3	0	0	0
CHT418	Process Modification for Green Technology and Energy Integration	3	3	0	0	0
CHT419	Fuel Cell	3	3	0	0	0

Any 4 Open Electives (2 in each VII & VIII semester) from the list of courses offered by the other departments of Minimum "12 Credits"

Creative Arts/ Sports/ NSS & Discipline

Course Code	Course Name	Credits	L	T	P	S
*	Creative Arts Society	2				
*	Discipline	4				
	Total Credits	**6**				

B.Tech. - Civil Engineering

Semester	Course 1	Course 2	Course 3	Course 4	Course 5	Course 6	Course 7	Course 8	Course 9	Course 10	Course 11	Course 12	Course 13	Semester Credits	Cumulative
I & II	MAT101	PHT10	EET10	HST101	CET102	MET101	CYT10	CPT101	ECT101	HST102					
	Mathematics-I	Physics	Basic Electrical Engineering	Technical Communication	Environmental Science & Ecology	Basic Mechanical Engineering	Chemistry	Computer Science & Programming	Basic Electronics Engineering	Basic Economics					
	4 (3 1 0 0	4 (3 1 0	4 (3 1	2 (1 2 0 0	2 (2 0 0	4 (3 1 0	4 (3 1 0	2 (2 0 0 0	4 (3 1 0	3 (2 1 0					
	CET101	MAT10	PHP10	EEP102	HSP103	MEP102	CYP10	CPP102	ECP102			ICP101	ICP102		
	Computer Aided Engineering Drawing	Mathematics-II	Physics Lab	Electrical Engineering Lab	Language Laboratory	Workshop Practice	Chemistry Lab	Programming Lab	Electronics Engineering Lab			CREATIVE ARTS / SPORTS / NSS	DISCIPLINE		
	2 (0 0 3 0	4 (3 1 0	1 (0 0	1 (0 0 2 0	1 (0 0 2	1 (0 0 2	1 (0 0 2	1 (0 0 2 0	1 (0 0 2			1	1	**24+24**	**48**
III	CET201	CET20	CET20	CET204	CET205	MAT209	CEP20	CEP208	CEP209	CEP210					
	Construction Materials	Fluid Mechanics	Surveying	Mechanics of Solids	Engineering Geology	Mathematics III	Construction Materials Lab	Fluid Mechanics Lab	Surveying Lab	Geology Lab					
	3 (3 0 0 0	4 (3 1 0	3 (3 0	4 (3 1 0 0	2 (2 0 0	4 (3 1 0	1 (0 0 2	1 (0 0 2 0	1 (0 0 2	1 (0 0 2				**24**	**72**
IV	CET221	CET22	CET22	CET224	CET225	CET226	CEP22	CEP228	CEP229	CEP230	CEP231	ICP201	ICP202		
	Building Technology	Pipe & Channel Hydraulics	Advanced Surveying	Highway Engineering	Structural Analysis-I	Water Supply Engineering	Building Drawing	Hydraulics Lab	Advanced Surveying Lab	Road Material Testing Lab	Public Health Engineering Lab	CREATIVE ARTS / SPORTS / NSS	DISCIPLINE		
	2 (2 0 0 0	4 (3 1 0	2 (2 0	3 (3 0 0 0	4 (3 1 0	3 (3 0 0	1 (0 0 2	1 (0 0 2 0	1 (0 0 2	1 (0 0 2	1 (0 0 2	1	1	**25**	**97**
V	CET301	CET30	CET30	CET304	CET305	CET306	CEP30	CEP308	CEP309						
	Sanitary Engineering	Structural Analysis-II	Design of RC Structure	Hydrology	Soil Mechanics	Estimating & Costing	RC Design and Drawing	Structural Analysis Lab	Soil Mechanics lab						
	3 (3 0 0 0	4 (3 1	3 (3 0	4 (3 1 0 0	4 (3 1 0	3 (2 1 0	1 (0 0 2	1 (0 0 2 0	1 (0 0 2					**24**	**121**
VI	CET321	CET32	CET32	CET324	CET325	CET326	CEP32	CEP328	CEP329				ICP302		
	Railway & Airport Engineering	Design of Steel Structures	Design of Foundations & Earth Structures	Design of RC Systems	Design of Masonry Structures	Water Resources Engineering	Structural Design & Drawing	Environmental System Design	Geotechnical Engineering Laboratory				DISCIPLINE		
	4 (3 1 0 0	4 (3 1 0	4 (3 1	4 (3 1 0 0	3 (2 1 0	4 (3 1 0	1 (0 0 2	1 (0 2 0 0	1 (0 0 2				1	**27**	**148**
VII	BMT499	CES49	CEPE0	CEPE02	OE01	OE02									
	Basic Management	Training Seminar	Program Elective 01	Program Elective 02	Open Elective 01	Open Elective 02									
	4 (3 1 0 0	2 (0 0 4	3 (3 0	3 (3 0 0 0	3 (3 0 0	3 (3 0 0								**18**	**166**
VIII	CED498	CEAE0	CEAE0	OE03	OE04								ICP402		
	Major Project	Advance Elective 01	Advance Elective 02	Open Elective 03	Open Elective 04								DISCIPLINE		

	12 (0 0 1	3 (3 0 0	3 (3 0	3 (3 0 0 0	3 (3 0 0								1	**25**	**191**

B.Tech.-Civil Engineering

Overall credit requirement	
Institute Core(IC)	46
Programme Core(PC)	103
Project	12
Programme Elective(PE)	6
Advance Elective(AE)	6
Open Elective(OE)	12
CAS	2
Discipline	4
Total Credits	**191**

Institute Core

Course Code	Course Name	Credits	L	T	P	S
CET101	Computer Aided Engineering Drawing	2	0	0	3	0
CET102	Environmental Science & Ecology	2	2	0	0	0
CPP102	Programming Lab	1	0	0	2	0
CPT101	Computer Science & Programming	2	2	0	0	0
CYP102	Chemistry Lab	1	0	0	2	0
CYT101	Chemistry	4	3	1	0	0
ECP102	Electronics Engineering Lab	1	0	0	2	0
ECT101	Basic Electronics Engineering	4	3	1	0	0
EEP102	Electrical Engineering Lab	1	0	0	2	0
EET101	Basic Electrical Engineering	4	3	1	0	0
HSP103	Language Laboratory	1	0	0	2	0
HST101	Technical Communication	2	1	2	0	0
HST102	Basic Economics	3	2	1	0	0
MAT101	Mathematics-I	4	3	1	0	0
MAT102	Mathematics-II	4	3	1	0	0
MEP102	Workshop Practice	1	0	0	2	0
MET101	Basic Mechanical Engineering	4	3	1	0	0
PHP102	Physics Lab	1	0	0	2	0
PHT101	Physics	4	3	1	0	0
	Total Credits	**46**				

Programme Core

Course Code	Course Name	Credits	L	T	P	S
BMT499	Basic Management	4	3	1	0	0
CEP207	Construction Materials Lab	1	0	0	2	0
CEP208	Fluid Mechanics Lab	1	0	0	2	0
CEP209	Surveying Lab	1	0	0	2	0
CEP210	Geology Lab	1	0	0	2	0
CEP227	Building Drawing	1	0	0	2	0
CEP228	Hydraulics Lab	1	0	0	2	0
CEP229	Advanced Surveying Lab	1	0	0	2	0
CEP230	Road Material Testing Lab	1	0	0	2	0
CEP231	Public Health Engineering Lab	1	0	0	2	0
CEP307	RC Design and Drawing	1	0	0	2	0
CEP308	Structural Analysis Lab	1	0	0	2	0
CEP309	Soil Mechanics lab	1	0	0	2	0
CEP327	Structural Design & Drawing	1	0	0	2	0
CEP328	Environmental System Design	1	0	2	0	0
CEP329	Geotechnical Engineering Laboratory	1	0	0	2	0
CES499	Training Seminar	2	0	0	4	0
CET201	Construction Materials	3	3	0	0	0
CET202	Fluid Mechanics	4	3	1	0	0
CET203	Surveying	3	3	0	0	0
CET204	Mechanics of Solids	4	3	1	0	0
CET205	Engineering Geology	2	2	0	0	0
CET221	Building Technology	2	2	0	0	0
CET222	Pipe & Channel Hydraulics	4	3	1	0	0
CET223	Advanced Surveying	2	2	0	0	0
CET224	Highway Engineering	3	3	0	0	0
CET225	Structural Analysis-I	4	3	1	0	0
CET226	Water Supply Engineering	3	3	0	0	0
CET301	Sanitary Engineering	3	3	0	0	0
CET302	Structural Analysis-II	4	3	1	0	0
CET303	Design of RC Structure	3	3	0	0	0
CET304	Hydrology	4	3	1	0	0
CET305	Soil Mechanics	4	3	1	0	0
CET306	Estimating & Costing	3	2	1	0	0
CET321	Railway & Airport Engineering	4	3	1	0	0
CET322	Design of Steel Structures	4	3	1	0	0
CET323	Design of Foundations & Earth Structures	4	3	1	0	0
CET324	Design of RC Systems	4	3	1	0	0
CET325	Design of Masonry Structures	3	2	1	0	0
CET326	Water Resources Engineering	4	3	1	0	0
MAT209	Mathematics III	4	3	1	0	0
	Total Credits	**103**				

Project

Course Code	Course Name	Credits	L	T	P	S
CED498	Major Project	12	0	0	12	0
	Total Credits	**12**				

Programme Elective

Course Code	Course Name	Credits	L	T	P	S
CET409	Traffic Engineering and Transport Planning	3	2	1	0	0
CET411	Construction Project Management	3	3	0	0	0
CET401	Concrete Technology	4	2	1	0	0
CET402	Design of Hydraulic Structures	3	2	1	0	0
CET405	System Analysis	3	2	1	0	0
CET404	Air and Noise Pollution	3	3	0	0	0
CET406	Indrustrial Waste Treatment	3	3	0	0	0
CET407	Presstressed Concrete	3	3	0	0	0
CET408	Urban Water Conveyance System Design	4	2	1	0	0
CET410	Sustainable Building Project Delivery	3	3	0	0	0
CET412	Solid Waste Management	3	3	0	0	0
CET403	Ground Improvement Techniques	3	2	1	0	0

Any 2 Programe Electives from the above list in VII Semester of Total "6 Credits"

Advance Elective

Course Code	Course Name	Credits	L	T	P	S
CET423	Finite Element Method	3	2	1	0	0
CET421	Construction Information System	3	2	1	0	0
CET422	Structural Dynamics	3	2	1	0	0
CET424	Advanced Foundation Design	3	3	0	0	0
CET425	Design of Steel Structural Systems	3	2	1	0	0
CET420	Introduction of Spatial Data Collection and Analysis	3	3	0	0	0

Any 2 Advance Electives from the above list in VIII Semester of Total "6 Credits"

Open Elective

Course Code	Course Name	Credits	L	T	P	S
CET434	Water Conservation Technology	3	3	0	0	0
CET431	Introduction to Remote Sensing & GIS	3	3	0	0	0
CET432	Numerical Methods	3	3	0	0	0
CET433	Earthquake Disaster Mitigation	3	2	1	0	0
*	Computational Engineering	3	3	0	0	0

Any 4 Open Electives (2 in each VII & VIII semester) from the list of courses offered by the other departments of Minimum "12 Credits"

Creative Arts/ Sports/ NSS & Discipline

Course Code	Course Name	Credits	L	T	P	S
*	Creative Arts Society	2				
*	Discipline	4				
	Total Credits	**6**				

B.Tech. – Computer Science & Engineering

Semester	Course 1	Course 2	Course 3	Course 4	Course 5	Course 6	Course 7	Course 8	Course 9	Course 10	Course 11	Course 12	Semester	Cumulative
I & II	MAT101	PHT101	EET101	HST101	CET102	MET101	CYT101	CPT101	ECT101	HST102				
	Mathematics-I	Physics	Basic Electrical Engineering	Technical Communication	Environmental Science & Ecology	Basic Mechanical Engineering	Chemistry	Computer Science & Programming	Basic Electronics Engineering	Basic Economics				
	4 (3 1 0 0)	4 (3 1 0 0)	4 (3 1 0 0)	2 (1 2 0 0)	2 (2 0 0 0)	4 (3 1 0 0	4 (3 1 0 0	2 (2 0 0	4 (3 1 0	3 (2 1 0				
	CET101	MAT102	PHP102	EEP102	HSP103	MEP102	CYP102	CPP102	ECP102		ICP101	ICP102		
	Computer Aided Engineering Drawing	Mathematics-II	Physics Lab	Electrical Engineering Lab	Language Laboratory	Workshop Practice	Chemistry Lab	Programming Lab	Electronics Engineering Lab		CREATIVE ARTS / SPORTS / NSS	DISCIPLINE		
	2 (0 0 3 0)	4 (3 1 0 0)	1 (0 0 2 0)	1 (0 0 2 0)	1 (0 0 2 0)	1 (0 0 2 0	1 (0 0 2 0	1 (0 0 2	1 (0 0 2		1	1	**24+24**	**48**
III	CST201	CST203	CST205	CST207	CST209	HST201	CSP211	CSP213						
	Logic in Computing	Data Structures and Algorithms	Digital Logic Design	Programming Methodology	Introduction to Signals & Communications	Effective Communication	Programming Lab	Digital logic Design Lab						
	3 (3 0 0 0)	4 (3 1 0 0)	4 (3 1 0 0)	3 (3 0 0 0)	4 (3 1 0 0)	3 (2 1 0 0	2 (0 0 4 0	2 (0 0 3					**25**	**73**
IV	CST202	CST204	CST206	CST208	CST210	HST202	CSP212	CSP214	CSP216		ICP201	ICP202		
	Computer organization and Microprocessors	Discrete Structures	Formal languages and Automata Theory	Design and Analysis of Algorithms	Systems Programming	Economic Environment	Assembly Language Programming Lab	Algorithms Lab	System Programming Lab		CREATIVE ARTS / SPORTS / NSS	DISCIPLINE		
	3 (3 0 0 0)	4 (3 1 0 0)	4 (3 1 0 0)	4 (3 1 0 0)	3 (3 0 0 0)	3 (2 1 0 0	2 (0 0 3 0	2 (0 0 3	2 (0 0 3		1	1	**29**	**102**
V	CST301	CST303	CST305	CST307	CST309	CST311	CSP313	CSP315	CSP317					
	Computer Architecture	Concurrent and Parallel Programming	DBMS	Computer Networks	Compiler Design	Software Engineering	DBMS Lab	Concurrent and Parallel Programming Lab	Computer Network Lab					
	3 (3 0 0 0)	3 (3 0 0 0)	4 (3 1 0 0)	3 (3 0 0 0)	3 (3 0 0 0)	3 (3 0 0 0	2 (0 0 3 0	2 (0 0 3	2 (0 0 3				**25**	**127**
VI	CST302	CST304	CST306	CST308	CST310	CST312	CSP314	CSP316	CSP318	CSP320		ICP302		
	Operating System	Embedded Systems	Object Oriented Analysis and Design	Computer and Networks Security	Computer Graphics	AI and Expert System	OS and Security Lab	Graphics Lab	Advanced Programming Lab	Embedded System Design Lab		DISCIPLINE		
	3 (3 0 0 0)	3 (3 0 0 0)	3 (3 0 0 0)	3 (3 0 0 0)	3 (3 0 0 0)	3 (3 0 0 0	2 (0 0 3 0	2 (0 0 3	2 (0 0 3	2 (0 0 3		1	**27**	**154**
VII	CSS401	CPPE01	CPPE02	OE01	OE02									
	Training Seminar	Program Elective 01	Program Elective 02	Open Elective 01	Open Elective 02									
	2 (0 2 0 0)	4 (3 0 2 0)	4 (3 0 2 0)	3 (3 0 0 0)	3 (3 0 0 0)								**16**	**170**
VIII	BMT499	CSD402	CPAE01	CPAE02	OE03	OE04						ICP402		
	Basic Management	Major Project	Advance Elective 01	Advance Elective 02	Open Elective 03	Open Elective 04						DISCIPLINE		

	4 (3 1 0 0)	12 (0 0 12 0)	4 (3 0 2 0)	4 (3 0 2 0)	3 (3 0 0 0)	3 (3 0 0 0)						1	**31**	**201**

B.Tech.-Computer Science & Engineering

Overall credit requirement	
Institute Core(IC)	46
Programme Core(PC)	109
Project	12
Programme Elective(PE)	8
Advance Elective(AE)	8
Open Elective(OE)	12
CAS	2
Discipline	4
Total Credits	**201**

Institute Core

Course Code	Course Name	Credits	L	T	P	S
CET101	Computer Aided Engineering Drawing	2	0	0	3	0
CET102	Environmental Science & Ecology	2	2	0	0	0
CPP102	Programming Lab	1	0	0	2	0
CPT101	Computer Science & Programming	2	2	0	0	0
CYP102	Chemistry Lab	1	0	0	2	0
CYT101	Chemistry	4	3	1	0	0
ECP102	Electronics Engineering Lab	1	0	0	2	0
ECT101	Basic Electronics Engineering	4	3	1	0	0
EEP102	Electrical Engineering Lab	1	0	0	2	0
EET101	Basic Electrical Engineering	4	3	1	0	0
HSP103	Language Laboratory	1	0	0	2	0
HST101	Technical Communication	2	1	2	0	0
HST102	Basic Economics	3	2	1	0	0
MAT101	Mathematics-I	4	3	1	0	0
MAT102	Mathematics-II	4	3	1	0	0
MEP102	Workshop Practice	1	0	0	2	0
MET101	Basic Mechanical Engineering	4	3	1	0	0
PHP102	Physics Lab	1	0	0	2	0
PHT101	Physics	4	3	1	0	0
	Total Credits	**46**				

Programme Core

Course Code	Course Name	Credits	L	T	P	S
BMT499	Basic Management	4	3	1	0	0
CSP211	Programming Lab	2	0	0	4	0
CSP212	Assembly Language Programming Lab	2	0	0	3	0
CSP213	Digital logic Design Lab	2	0	0	3	0
CSP214	Algorithms Lab	2	0	0	3	0
CSP216	System Programming Lab	2	0	0	3	0
CSP313	DBMS Lab	2	0	0	3	0
CSP314	OS and Security Lab	2	0	0	3	0
CSP315	Concurrent and Parallel Programming Lab	2	0	0	3	0
CSP316	Graphics Lab	2	0	0	3	0
CSP317	Computer Network Lab	2	0	0	3	0
CSP318	Advanced Programming Lab	2	0	0	3	0
CSP320	Embedded System Design Lab	2	0	0	3	0
CSS401	Training Seminar	2	0	2	0	0
CST201	Logic in Computing	3	3	0	0	0
CST202	Computer organization and Microprocessors	3	3	0	0	0
CST203	Data Structures and Algorithms	4	3	1	0	0
CST204	Discrete Structures	4	3	1	0	0
CST205	Digital Logic Design	4	3	1	0	0
CST206	Formal languages and Automata Theory	4	3	1	0	0
CST207	Programming Methodology	3	3	0	0	0
CST208	Design and Analysis of Algorithms	4	3	1	0	0
CST209	Introduction to Signals & Communications	4	3	1	0	0
CST210	Systems Programming	3	3	0	0	0
CST301	Computer Architecture	3	3	0	0	0
CST302	Operating System	3	3	0	0	0
CST303	Concurrent and Parallel Programming	3	3	0	0	0
CST304	Embedded Systems	3	3	0	0	0
CST305	DBMS	4	3	1	0	0
CST306	Object Oriented Analysis and Design	3	3	0	0	0
CST307	Computer Networks	3	3	0	0	0
CST308	Computer and Networks Security	3	3	0	0	0
CST309	Compiler Design	3	3	0	0	0
CST310	Computer Graphics	3	3	0	0	0
CST311	Software Engineering	3	3	0	0	0
CST312	AI and Expert System	3	3	0	0	0
HST201	Effective Communication	3	2	1	0	0
HST202	Economic Environment	3	2	1	0	0
	Total Credits	**109**				

Project

Course Code	Course Name	Credits	L	T	P	S
CSD402	Major Project	12	0	0	12	0
	Total Credits	**12**				

Programme Elective

Course Code	Course Name	Credits	L	T	P	S
CST445	Natural Language Processing	4	3	0	2	0
CST449	Real Time Systems	4	3	0	2	0
CST455	Digital Image Processing	4	3	0	2	0
CST457	Evolving Architectures	4	3	0	2	0
CST433	Wireless Communication	4	3	0	2	0
CST435	VHDL	4	3	0	2	0
CST437	Neural Networks	4	3	0	2	0
CST439	Speech Recognition	4	3	0	2	0
CST441	Software Project Management	4	3	0	2	0
CST443	Data Compression	4	3	0	2	0
CST447	Wireless & Ad-hoc Networks	4	3	0	2	0
CST451	Cryptography	4	3	0	2	0
CST453	VLSI Algorithms	4	3	0	2	0
CST479	Implementation of Databases	4	3	0	2	0
CST481	Information Retrival	4	3	0	2	0
CST483	Digital Watermarking	4	3	0	2	0
CST475	Multi-Core Architectures	4	3	0	2	0
CST459	Topics in Computing	4	3	0	2	0
CST461	Machine Learning	4	3	0	2	0
CST463	Modelling and Simulation	4	3	0	2	0
CST431	Programming in Java	4	3	0	2	0
CST465	Phyton Programming	4	3	0	2	0
CST467	Multimedia Technology	4	3	0	2	0
CST469	Computer Human Interaction	4	3	0	2	0
CST471	GUI Programming	4	3	0	2	0
CST473	Wireless and Mobile Computing	4	3	0	2	0
CST477	Distributed Systems	4	3	0	2	0

Any 2 Programe Electives from the above list in VII Semester of Total "8 Credits"

Advance Elective

Course Code	Course Name	Credits	L	T	P	S
CST434	Parallel and Distributed Computing	4	3	0	2	0
CST450	Wireless Sensor Networks	4	3	0	2	0
CST484	Semantic Web	4	3	0	2	0
CST486	Intrusion Detection	4	3	0	2	0
CST432	Topics in Data Structures and Algorithms	4	3	0	2	0
CST436	Selected Topics in Operating System	4	3	0	2	0
CST438	Advanced Topics in Computer Graphics	4	3	0	2	0
CST440	Advanced Topics in Databases	4	3	0	2	0
CST442	Network Performance Modelling	4	3	0	2	0
CST444	Software Testing and Validation	4	3	0	2	0
CST446	Topics in SOC Design	4	3	0	2	0
CST448	Advances in Compiler Design	4	3	0	2	0
CST452	Digital Image Analysis	4	3	0	2	0
CST476	Critical Systems	4	3	0	2	0
CST478	Pattern Recognition	4	3	0	2	0
CST480	Biometric Security	4	3	0	2	0
CST482	Computer Forenics	4	3	0	2	0
CST454	Data Mining and Data Warehousing	4	3	0	2	0
CST456	Topics in High Speed Networking	4	3	0	2	0
CST458	E-Commerce	4	3	0	2	0
CST460	High Level Synthesis of Digital Systems	4	3	0	2	0
CST462	Parallelizing Compiler	4	3	0	2	0
CST464	Public Key Infrastructure and Trust Management	4	3	0	2	0
CST466	Selected Topics in Cryptography	4	3	0	2	0
CST468	Robotics and Control	4	3	0	2	0
CST470	FPGA based System Design	4	3	0	2	0
CST472	Security in Computing	4	3	0	2	0
CST474	Intelligent Agents	4	3	0	2	0
CST488	Internet Security	4	3	0	2	0
CST490	Malware Analysis and Detection	4	3	0	2	0

Any 2 Advance Electives from the above list in VIII Semester of Total "8 Credits"

Open Elective

Course Code	Course Name	Credits	L	T	P	S
CST203	Data Structures and Algorithms	4	3	1	0	0
CST302	Operating System	3	3	0	0	0
CST492	Database Management System	3	3	0	0	0
CST494	Computer Networks	3	3	0	0	0

Any 4 Open Electives (2 in each VII & VIII semester) from the list of courses offered by the other departments of Minimum "12 Credits"

Creative Arts/ Sports/ NSS & Discipline

Course Code	Course Name	Credits	L	T	P	S
*	Creative Arts Society	2				
*	Discipline	4				
	Total Credits	**6**				

B.Tech. – Electrical Engineering

Semester	Course 1	Course 2	Course 3	Course 4	Course 5	Course 6	Course 7	Course 8	Course 9	Course 10	Course 11	Semester	Cumulative
I & II	MAT101	PHT101	EET101	HST101	CET102	MET101	CYT101	CPT101	ECT101	HST102			
	Mathematics -I	Physics	Basic Electrical Engineering	Technical Communication	Environmental Science & Ecology	Basic Mechanical Engineering	Chemistry	Computer Science & Programming	Basic Electronics Engineering	Basic Economics			
	4 (3 1 0 0)	4 (3 1 0 0)	4 (3 1 0 0)	2 (1 2 0 0)	2 (2 0 0 0)	4 (3 1 0 0)	4 (3 1 0 0)	2 (2 0 0 0)	4 (3 1 0 0)	3 (2 1 0 0)			
	CET101	MAT102	PHP102	EEP102	HSP103	MEP102	CYP102	CPP102	ECP102	ICP101	ICP102		
	Computer Aided Engineering Drawing	Mathematics -II	Physics Lab	Electrical Engineering Lab	Language Laboratory	Workshop Practice	Chemistry Lab	Programming Lab	Electronics Engineering Lab	CREATIVE ARTS / SPORTS / NSS	DISCIPLINE		
	2 (0 0 3 0)	4 (3 1 0 0)	1 (0 0 2 0)	1 (0 0 2 0)	1 (0 0 2 0)	1 (0 0 2 0)	1 (0 0 2 0)	1 (0 0 2 0)	1 (0 0 2 0)	1	1	**24+24**	**48**
III	EET201	EET203	EET205	EET207	EET209	EEP211	EEP213	EEP215					
	Network Theory	Electrical Measurement & Instrumentation	Electrical Machines-I	Electronics Devices & Circuits	Power Station Practices	Circuit & Measurement Lab	Electronics Devices & Circuit Lab	Electrical Software & Simulation Lab					
	4 (3-1-0)	4 (3-1-0)	4 (3-1-0)	4 (3-1-0)	4 (3-1-0)	1 (0-0-2)	1 (0-0-2)	1 (0-0-2)				**23**	**71**
IV	EET202	EET204	EET206	EET208	EET210	EET212	EEP214	EEP216		ICP201	ICP202		
	Analysis & Design of Digital Logic Circuits	Electromagnetic Field Theory	Electrical Machines - II	Network, Systems and Signals	Integrated Electronics	Electrical Power Transmission Systems	Electrical Machine Lab-I	Instrumentation Lab		CREATIVE ARTS / SPORTS / NSS	DISCIPLINE		
	4 (3-1-0)	4 (3-1-0)	4 (3-1-0)	4 (3-1-0)	4 (3-1-0)	4 (3-1-0)	1 (0-0-2)	1 (0-0-2)		1	1	**28**	**99**
V	EET301	EET303	EET305	EET307	EET309	EEP311	EEP313	EEP315					
	Power System Switchgear& Protection	Power Electronics	Microprocessors	Control System Engineering	Principles of Communication Engineering	Electrical Machine Lab II	Power Systems Lab	Digital Electronics & Microprocessor Lab					
	4 (3-1-0)	4 (3-1-0)	4 (3-1-0)	4 (3-1-0)	4 (3-1-0)	2 (0-0-3)	1 (0-0-2)	1 (0-0-2)				**24**	**123**
VI	EET302	EET304	EET306	EET308	EET310	EEP312	EEP314	EEP316			ICP302		
	Operation & Control of Power Systems	Electric Drives & Control	Digital Signal Processing	Modern Control Theory & Design Technique	Power System Restructuring, Deregulation & Economics	Power Electronics Lab	Power System & Electrical Design Lab	Control System Lab.			DISCIPLINE		
	4 (3-1-0)	4 (3-1-0)	4 (3-1-0)	4 (3-1-0)	4 (3-1-0)	1 (0-0-2)	2 (0-0-3)	1 (0-0-2)			1	**25**	**148**
VII	EES401	EEOE01	EEOE02	EEPE01	EEPE02	EEPE03							
	Training Seminar	Open Elective-I	Open Elective -II	Program Elective-I	Program Elective -II	Program Elective -III							
	2 (0-0-3)	3 (3-0-0)	3 (3-0-0)	4 (3-1-0)	4 (3-1-0)	4 (3-1-0)						**20**	**168**
VIII	BMT499	EEOE03	EEOE04	EEAE01	EEAE02	EED402	EES404				ICP402		
	Basic Management	Open Elective -III	Open Elective - IV	Advance Elective-I	Advance Elective-II	Major Project	Seminar				DISCIPLINE		
	4 (3-1-0)	3 (3-0-0)	3 (3-0-0)	4 (3-1-0)	4 (3-1-0)	12 (0-0-[illegible])	2 (0-0-3)				1	**33**	**201**

MALAVIYA NATIONAL INSTITUTE OF TECHNOLOGY JAIPUR
योगः कर्मसु कौशलम्
मालवीय राष्ट्रीय प्रौद्योगिकी संस्थान जयपुर

B.Tech.-Electrical Engineering

Overall minimum credit requirement	
Institute Core(IC)	**46**
Programme Core(PC)	**105**
Project	**12**
Programme Elective(PE)	**12**
Advance Elective(AE)	**8**
Open Elective(OE)	**12**
CAS	**2**
Discipline	**4**
Total Credits	**201**

Institute Core

Course Code	Course Name	Credits	L	T	P	S
CET101	Computer Aided Engineering Drawing	2	0	0	3	0
CET102	Environmental Science & Ecology	2	2	0	0	0
CPP102	Programming Lab	1	0	0	2	0
CPT101	Computer Science & Programming	2	2	0	0	0
CYP102	Chemistry Lab	1	0	0	2	0
CYT101	Chemistry	4	3	1	0	0
ECP102	Electronics Engineering Lab	1	0	0	2	0
ECT101	Basic Electronics Engineering	4	3	1	0	0
EEP102	Electrical Engineering Lab	1	0	0	2	0
EET101	Basic Electrical Engineering	4	3	1	0	0
HSP103	Language Laboratory	1	0	0	2	0
HST101	Technical Communication	2	1	2	0	0
HST102	Basic Economics	3	2	1	0	0
MAT101	Mathematics-I	4	3	1	0	0
MAT102	Mathematics-II	4	3	1	0	0
MEP102	Workshop Practice	1	0	0	2	0
MET101	Basic Mechanical Engineering	4	3	1	0	0
PHP102	Physics Lab	1	0	0	2	0
PHT101	Physics	4	3	1	0	0
	Total Credits	**46**				

Programme Core

Course Code	Course Name	Credits	L	T	P	S
BMT499	Basic Management	4	3	1	0	0
EEP211	Circuit and Measurement Lab	1	0	0	2	0
EEP213	Electronic Devices and Circuit Lab	1	0	0	2	0
EEP214	Electrical Machine Lab I	1	0	0	2	0
EEP215	Electrical Software and Simulation Lab	1	0	0	2	0
EEP216	Instrumentation Lab	1	0	0	2	0
EEP311	Electrical Machine Lab II	2	0	0	3	0
EEP312	Power Electronic Lab	1	0	0	2	0
EEP313	Power System Lab	1	0	0	2	0
EEP314	Power System and Electrical Design Lab	2	0	0	3	0
EEP315	Digital Electronics and Microprocessor Lab	1	0	0	2	0
EEP316	Control System Lab	1	0	0	2	0
EES401	Training Seminar	2	0	0	3	0
EES404	Seminar	2	0	0	3	0
EET201	Network Theory	4	3	1	0	0
EET202	Analysis and Design of Digital Logic Circuits	4	3	1	0	0
EET203	Electrical Measurement & Instrumentation	4	3	1	0	0
EET204	Electromagnetic Field Theory	4	3	1	0	0
EET205	Electrical Machines I	4	3	1	0	0
EET206	Electrical Machines II	4	3	1	0	0
EET207	Electronic Devices and Circuits	4	3	1	0	0
EET208	Network, Systems and Signals	4	3	1	0	0
EET209	Power Station Practices	4	3	1	0	0
EET210	Integrated Electronics	4	3	1	0	0
EET212	Electrical Power Transmission Systems	4	3	1	0	0
EET301	Power System Switchgear and Protection	4	3	1	0	0
EET302	Operation and Control of Power Systems	4	3	1	0	0
EET303	Power Electronics	4	3	1	0	0
EET304	Electric Drives and Control	4	3	1	0	0
EET305	Microprocessor	4	3	1	0	0
EET306	Digital Signal Processing	4	3	1	0	0
EET307	Control System Engineering	4	3	1	0	0
EET308	Modern Control Theory & Design Technique	4	3	1	0	0
EET309	Principles of Communications Engineering	4	3	1	0	0
EET310	Power System Restructuring, Deregulation and Economics	4	3	1	0	0
	Total Credits	**105**				

Project

Course Code	Course Name	Credits	L	T	P	S
EED402	Major Project	12	0	0	12	0
	Total Credits	**12**				

Programme Elective

Course Code	Course Name	Credits	L	T	P	S
EET409	Computer Architecture and Organization	4	3	1	0	0
EET411	Advanced Electrical Machines	4	3	1	0	0
EET415	Renewable Energy Sources	4	3	1	0	0
EET417	Power System Planning and Reliability	4	3	1	0	0
EET419	Computer Aided Power System Analysis	4	3	1	0	0
EET421	Advance Engineering Mathematics	4	3	1	0	0
EET403	High Voltage Engineering	4	3	1	0	0
EET405	Electrical Machine Design	4	3	1	0	0
EET407	Utilization of Electrical Power	4	3	1	0	0
EET413	Microcontroller Based System Design	4	3	1	0	0
EET423	Power System Operation in Restructured Markets	4	3	1	0	0
EET425	Intelligent Systems & Control	4	3	1	0	0
EET427	Advanced Course in Power Electronics	4	3	1	0	0

Any 3 Programe Electives from the above list in VII Semester of Total "12 Credits"

Advance Elective

Course Code	Course Name	Credits	L	T	P	S
EET404	Advance Power Transmission	4	3	1	0	0
EET406	Advance Power System Dynamics	4	3	1	0	0
EET408	Energy Conservation and Management	4	3	1	0	0
EET410	Advanced Control Systems	4	3	1	0	0
EET412	Advances in Power Transmission & Distribution	4	3	1	0	0
EET414	Power System Stability	4	3	1	0	0
EET416	Applications of Power Electronics in Power Systems	4	3	1	0	0
EET418	Modelling & Simulation of Power Electronic Systems	4	3	1	0	0
EET420	Modelling and Analysis of Electrical Machines	4	3	1	0	0

Any 2 Advance Electives from the above list in VIII Semester of Total "8 Credits"

Open Elective

Course Code	Course Name	Credits	L	T	P	S
EET201	Network Theory	4	3	1	0	0
EET203	Electrical Measurement & Instrumentation	4	3	1	0	0
EET209	Power Station Practices	4	3	1	0	0
EET307	Control System Engineering	4	3	1	0	0

Any 4 Open Electives (2 in each VII & VIII semester) from the list of courses offered by the other departments of Minimum "12 Credits"

Creative Arts/ Sports/ NSS & Discipline

Course Code	Course Name	Credits	L	T	P	S
*	Creative Arts Society	2				
*	Discipline	4				
	Total Credits	**6**				

B.Tech. – Electronics & Communication Engineering

Semester	Course 1	Course 2	Course 3	Course 4	Course 5	Course 6	Course 7	Course 8	Course 9	Course 10	Course 11	Course 12	Semester	Cumulative
I & II	MAT101	PHT101	EET101	HST101	CET102	MET101	CYT101	CPT101	ECT101	HST102				
	Mathematics -I	Physics	Basic Electrical Engineering	Technical Communication	Environmental Science & Ecology	Basic Mechanical Engineering	Chemistry	Computer Science & Programming	Basic Electronics Engineering	Basic Economics				
	4 (3 1 0 0)	4 (3 1 0 0)	4 (3 1 0 0)	2 (1 2 0 0)	2 (2 0 0 0	4 (3 1 0 0	4 (3 1 0 0	2 (2 0 0 0	4 (3 1 0 0	3 (2 1 0				
	CET101	MAT102	PHP102	EEP102	HSP103	MEP102	CYP102	CPP102	ECP102		ICP101	ICP102		
	Computer Aided Engineering Drawing	Mathematics -II	Physics Lab	Electrical Engineering Lab	Language Laboratory	Workshop Practice	Chemistry Lab	Programming Lab	Electronics Engineering Lab		CREATIVE ARTS / SPORTS / NSS	DISCIPLINE		
	2 (0 0 3 0)	4 (3 1 0 0)	1 (0 0 2 0)	1 (0 0 2 0)	1 (0 0 2 0	1 (0 0 2 0	1 (0 0 2 0	1 (0 0 2 0	1 (0 0 2 0		1	1	**24+24**	**48**
III	ECT201	ECT202	ECT203	ECT204	ECT205	ECT206	ECP201	ECP202	ECP204	ECP206				
	Electronics Devices & Circuits	Switching Theory & Finite Automata	Network Theory	Probabilistic Methods in Signals & System	Graph Theory	Data Structures & Algorithms	Electronic Devices & Circuits Lab	Switching Theory & Finite Automata Lab	Data Structures & Algorithms Lab	Probabilistic Methods in Signals & System Lab				
	3 (3-0-0)	3 (3-0-0)	3 (3-0-0)	3 (3-0-0)	2 (2-0-0)	3 (3-0-0)	2 (0-0-3)	2 (0-0-3)	2 (0-0-3)	2 (0-0-3)			**25**	**73**
IV	ECT211	ECT212	ECT213	ECT214	ECT215	ECT216	ECP211	ECP212	ECP213	ECP215	ICP201	ICP202		
	Applied Electronics	Analog Communication	Microprocessors	Electromagnetic Field Theory	Operating Systems	Measurements & Instrumentation	Applied Electronics Lab	Analog Communication Lab	Microprocessors Lab	Operating Systems Lab	CREATIVE ARTS / SPORTS / NSS	DISCIPLINE		
	3 (3-0-0)	3 (3-0-0)	3 (3-0-0)	3 (3-0-0)	3 (3-0-0)	3 (3-0-0)	2 (0-0-3)	2 (0-0-3)	2 (0-0-3)	2 (0-0-3)	1	1	**28**	**101**
V	ECT301	ECT302	ECT303	ECT304	ECT305	ECT306	ECP301	ECP303						
	Microwave Engineering	Digital Signal Processing	Digital Communication Systems	Digital CMOS IC	Optical Communication Systems	VLSI Testing & Testability	Microwave Engineering Lab	Digital Communication Systems Lab						
	3 (3-0-0)	4 (3-0-2)	3 (3-0-0)	4 (3-0-2)	4 (3-0-2)	3 (3-0-0)	2 (0-0-3)	2 (0-0-3)					**25**	**126**
VI	ECT311	ECT312	ECT313	ECT314	ECT315	ECT316	ECP316	ECP317	ECS318			ICP302		
	Antenna & Wave Propagation	Computer Architecture	Wireless & Mobile Communication	Control System Engineering	Embedded Systems	Analog CMOS IC	Analog CMOS IC Lab	Embedded Systems Design Lab	Seminar			DISCIPLINE		
	4 (3-0-2)	3 (3-0-0)	3 (3-0-0)	3 (3-0-0)	3 (3-0-0)	3 (3-0-0)	2 (0-0-3)	2 (0-0-3)	2 (0-0-3)			1	**26**	**152**
VII	ECS481	ECP483	ECD498	ECOE01*	ECOE02	ECPE01	ECPE02	ECPE03	ECAE01					
	Training Seminar	System Design Lab-I	Major Project A	Open Elective-I	Open Elective -II	Program Elective-I	Program Elective -II	Program Elective -III	Advance Elective-I					
	2 (0-0-3)	2 (0-0-3)	4 (0-0-8)	3 (3-0-0)	3 (3-0-0)	3 (3-0-0)	3 (3-0-0)	3 (3-0-0)	3 (3-0-0)				**17/26**	**169/178**
VIII	BMT499	ECD482	ECD499	ECOE01*	ECOE02	ECAE02	ECAE03	ECAE04	ECAE01			ICP402		
	Basic Management	System Design Lab-II	Major Project B	Open Elective-I	Open Elective -II	Advance Elective-II	Advance Elective-III	Advance Elective-IV	Advance Elective-I			DISCIPLINE		
	4 (3-1-0)	2 (0-0-3)	8 (0-0-16)	3 (3-0-0)	3 (3-0-0)	3 (3-0-0)	3 (3-0-0)	3 (3-0-0)	3 (3-0-0)			1	**33/24**	**202**

* Indicates that the course individually, may be opted either in VII semester or VIII semester.

B.Tech.-Electronics & Communication Engineering

Overall minimum credit requirement	
Institute Core(IC)	46
Programme Core(PC)	111
Project	12
Programme Elective(PE)	9
Advance Elective(AE)	12
Open Elective(OE)	6
CAS	2
Discipline	4
Total Credits	**202**

Institute Core

Course Code	Course Name	Credits	L	T	P	S
CET101	Computer Aided Engineering Drawing	2	0	0	3	0
CET102	Environmental Science & Ecology	2	2	0	0	0
CPP102	Programming Lab	1	0	0	2	0
CPT101	Computer Science & Programming	2	2	0	0	0
CYP102	Chemistry Lab	1	0	0	2	0
CYT101	Chemistry	4	3	1	0	0
ECP102	Electronics Engineering Lab	1	0	0	2	0
ECT101	Basic Electronics Engineering	4	3	1	0	0
EEP102	Electrical Engineering Lab	1	0	0	2	0
EET101	Basic Electrical Engineering	4	3	1	0	0
HSP103	Language Laboratory	1	0	0	2	0
HST101	Technical Communication	2	1	2	0	0
HST102	Basic Economics	3	2	1	0	0
MAT101	Mathematics-I	4	3	1	0	0
MAT102	Mathematics-II	4	3	1	0	0
MEP102	Workshop Practice	1	0	0	2	0
MET101	Basic Mechanical Engineering	4	3	1	0	0
PHP102	Physics Lab	1	0	0	2	0
PHT101	Physics	4	3	1	0	0
	Total Credits	**46**				

Programme Core

Course Code	Course Name	Credits	L	T	P	S
BMT499	Basic Management	4	3	1	0	0
ECP201	Electronic Devices and Circuits Lab	2	0	0	3	0
ECP202	Switching Theory and Finite Automata Lab	2	0	0	3	0
ECP204	Data Structures & Algorithms Lab	2	0	0	3	0
ECP206	Probabilistic Methods in Signals & Systems Lab	2	0	0	3	0
ECP211	Applied Electronics Lab	2	0	0	3	0
ECP212	Analog Communication Lab	2	0	0	3	0
ECP213	Microprocessors Lab	2	0	0	3	0
ECP215	Operating Systems Lab	2	0	0	3	0
ECP301	Microwave Engineering Lab	2	0	0	3	0
ECP303	Digital Communication Systems Lab	2	0	0	3	0
ECP316	Analog CMOS IC lab	2	0	0	3	0
ECP317	Embedded Systems Design Lab	2	0	0	3	0
ECP482	System Design Lab-II	2	0	0	3	0
ECP483	System Design Lab-I	2	0	0	3	0
ECS318	SEMINAR	2	0	0	3	0
ECS481	Training Seminar	2	0	0	3	0
ECT201	Electronic Devices and Circuits	3	3	0	0	0
ECT202	Switching Theory and Finite Automata	3	3	0	0	0
ECT203	Network Theory	3	3	0	0	0
ECT204	Probabilistic Methods in Signals and Systems	3	3	0	0	0
ECT205	Graph Theory	2	2	0	0	0
ECT206	Data Structures and Algorithms	3	3	0	0	0
ECT211	Applied Electronics	3	3	0	0	0
ECT212	Analog Communication	3	3	0	0	0
ECT213	Microprocessors	3	3	0	0	0
ECT214	Electromagnetic Field Theory	3	3	0	0	0
ECT215	Operating Systems	3	3	0	0	0
ECT216	Measurement and Instrumentations	3	3	0	0	0
ECT301	Microwave Engineering	3	3	0	0	0
ECT302	Digital Signal Processing	4	3	0	2	0
ECT303	Digital Communication Systems	3	3	0	0	0
ECT304	Digital CMOS IC	4	3	0	2	0
ECT305	Optical Communication Systems	4	3	0	2	0
ECT306	VLSI Testing & Testability	3	3	0	0	0
ECT311	Antenna & Wave Propagation	4	3	0	2	0
ECT312	Computer Architecture	3	3	0	0	0
ECT313	Wireless & Mobile Communication	3	3	0	0	0
ECT314	Control System Engineering	3	3	0	0	0
ECT315	Embedded Systems	3	3	0	0	0
ECT316	Analog CMOS IC	3	3	0	0	0
	Total Credits	**111**				

Project

Course Code	Course Name	Credits	L	T	P	S
ECD498	Major Project A	4	0	0	8	0
ECD499	Major Project B	8	0	0	16	0
	Total Credits	**12**				

Programme Elective & Advance Elective

Course Code	Course Name	Credits	L	T	P	S
ECT413	Computer Networks	3	3	0	0	0
ECT672	Wireless and Mobile Adhoc Networking	3	3	0	0	0
ECT674	Cryptography	3	3	0	0	0
ECT678	Design of MIC and MMIC's	3	3	0	0	0
ECT680	Advanced Mobile Systems	3	3	0	0	0
ECT682	Smart and Phased Array Antenna Design	3	3	0	0	0
ECT684	Advanced Topics in Communication	3	3	0	0	0
ECT686	Photonic integrated Devices and Systems	3	3	0	0	0
ECT688	EMI/EMC	3	3	0	0	0
ECT690	Wireless Sensor Network	3	3	0	0	0
ECT692	Computational Electromagnetic	3	3	0	0	0
ECT694	Advanced Photonic Devices and Components	3	3	0	0	0
ECT696	Telecommunication Technology and Management	3	3	0	0	0
ECT698	Advanced Networking Analysis	3	3	0	0	0
ECT662	Advaced Digital Signal & Image Processing	3	3	0	0	0
ECT620	Microelectronic Devices and Circuit	3	3	0	0	0
ECT630	Advanced Computer Architecture	3	3	0	0	0
ECT634	Micro and Nano Electro Mechanical Systems	3	3	0	0	0
ECT638	Design of Asynchronous Sequential Circuits	3	3	0	0	0
ECT664	Estimation and Detection	3	3	0	0	0
ECT650	Special Topics in VLSI - 1	3	3	0	0	0
ECT652	Special Topics in VLSI - 2	3	3	0	0	0
ECT654	RF Integrated Circuits	3	3	0	0	0
ECT991	Mathematical Methods & Techniques For ECE Technologies I	3	3	0	0	0
ECT992	Mathematical Methods & Techniques For ECE Technologies II	3	3	0	0	0
ECT411	Neural Networks	3	3	0	0	0
ECT409	System Level Design and Modelling	3	3	0	0	0
ECT460	Formal Verification of Digital Hardware and Embedded Software	3	3	0	0	0
ECT467	Adaptive Signal Processing	3	3	0	0	0
ECT468	VLSI signal processing architectures	3	3	0	0	0
ECT452	Design of Microstrip Antennas	3	3	0	0	0
ECT401	Spread Spectrum Technology	3	3	0	0	0
ECT403	Advanced Error Control Codes	3	3	0	0	0
ECT404	Satellite Communication & Radar Engineering	3	3	0	0	0
ECT405	Image Processing	3	3	0	0	0
ECT406	CAD Algorithms For VLSI Physical Design	3	3	0	0	0
ECT408	Computer Arithemetic & Microarchitecture Design	3	3	0	0	0
ECT412	Advanced Microprocessors & Micro-Controllers	3	3	0	0	0
ECT451	Adv. Microwave Engineering	3	3	0	0	0
ECT453	Advanced Antenna Systems	3	3	0	0	0
ECT454	Microwave Integrated Circuits	3	3	0	0	0
ECT455	Power Electronics	3	3	0	0	0
ECT456	Semiconductor opto -Electronics	3	3	0	0	0
ECT457	Memory Design & Testing	3	3	0	0	0
ECT459	Electronic Manufacturing Technology	3	3	0	0	0
ECT462	Artificial Intelligence & Expert System	3	3	0	0	0
ECT463	Parallel Computing Arch	3	3	0	0	0
ECT464	Bio-Medical Engineering	3	3	0	0	0
ECT465	Current -Mode Analog Signal Processing	3	3	0	0	0
ECT466	Optical Codes and Applications	3	3	0	0	0
ECT470	Human Values - I	3	3	0	0	0
ECT478	FPGA Physical Design	3	3	0	0	0
ECT479	VLSI Technology	3	3	0	0	0
ECT480	Information Theory & Coding	3	3	0	0	0
ECT481	System Design using FPGAs	3	3	0	0	0
ECT482	Instrumentation & Control	3	3	0	0	0
ECT407	CAD Algorithms For synthesis of digital systems	3	3	0	0	0

Any 3 Programe Electives from the above list in VII Semester of Total "9 Credits" and Any 4 Advance Electives from the above list in VIII Semester of Total "12 Credits"

Note : 1 Advance Elective course individually, may either be opted either in VII or VIII

Open Elective

Course Code	Course Name	Credits	L	T	P	S
ECT202	Switching Theory and Finite Automata	3	3	0	0	0
ECT204	Probabilistic Methods in Signals and Systems	3	3	0	0	0
ECT313	Wireless & Mobile Communication	3	3	0	0	0
ECT404	Satellite & Radar Engineering	3	3	0	0	0

Any 2 Open Electives (either in VII or VIII semester) from the list of courses offered by the other departments of Minimum "6 credits"

Creative Arts/ Sports/ NSS & Discipline

Course Code	Course Name	Credits	L	T	P	S
*	Creative Arts Society	2				
*	Discipline	4				
	Total Credits	**6**				

B.Tech. – Mechanical Engineering

Semester	Course 1	Course 2	Course 3	Course 4	Course 5	Course 6	Course 7	Course 8	Course 9	Course 10	Course 11	Course 12	Semester	Cumulative
I & II	MAT101	PHT101	EET101	HST101	CET102	MET101	CYT101	CPT101	ECT101	HST102				
	Mathematics-I	Physics	Basic Electrical Engineering	Technical Communication	Environmental Science & Ecology	Basic Mechanical Engineering	Chemistry	Computer Science & Programming	Basic Electronics Engineering	Basic Economics				
	4 (3 1 0 0)	4 (3 1 0 0)	4 (3 1 0 0)	2 (1 2 0 0)	2 (2 0 0 0	4 (3 1 0	4 (3 1 0	2 (2 0 0	4 (3 1 0	3 (2 1 0				
	CET101	MAT102	PHP102	EEP102	HSP103	MEP102	CYP102	CPP102	ECP102	ICP101	ICP102			
	Computer Aided Engineering Drawing	Mathematics -II	Physics Lab	Electrical Engineering Lab	Language Laboratory	Workshop Practice	Chemistry Lab	Programming Lab	Electronics Engineering Lab	CREATIVE ARTS / SPORTS / NSS	DISCIPLINE			
	2 (0 0 3 0)	4 (3 1 0 0)	1 (0 0 2 0)	1 (0 0 2 0)	1 (0 0 2 0	1 (0 0 2	1 (0 0 2	1 (0 0 2	1 (0 0 2	1	1		**24+24**	**48**
III	MET201	MET202	MET203	MET204	MAT205	MET206	MEP207	MEP208	MEP209	MEP211				
	Engineering Thermodynamics	Fluid Mechanics & Machines	Engineering Mechanics	Casting, Forming and Welding	Engineering Mathematics - III	Material Science	Mechanical Engineering Drawing	Casting, Forming and Welding Lab	Fluid Mechanics Lab	Material Testing Lab				
	4 (3-1-0)	4 (3-1-0)	4 (3-1-0)	3 (3-0-0)	3 (2-1-0)	2 (2-0-0)	2 (0-0-3)	1 (0-0-2)	1 (0-0-2)	1 (0-0-2)			**25**	**73**
IV	MET221	MET222	MET223	MET224	MET225	MET226	MEP227	MEP228	MEP229	MEP230	ICP201	ICP202		
	Heat Transfer	Kinematics & Dynamics of Machines	Industrial Engineering	IC Engines	Machining Science and Machine Tools	Mechanics of Solids	Heat Transfer Lab	Dynamics of Machine Lab	Machining Science & Machine Tools Lab	IC Engines Lab	CREATIVE ARTS / SPORTS / NSS	DISCIPLINE		
	3 (2-1-0)	4 (3-1-0)	3 (2-1-0)	3 (3-0-0)	4 (3-1-0)	4 (3-1-0)	1 (0-0-2)	1 (0-0-2)	1 (0-0-2)	1 (0-0-2)	1	1	**27**	**100**
V	MET301	MET302	MET303	MET304	MET305	MET306	MEP307	MEP308	MEP309					
	Automobile Engineering	Turbo Machines	Design of Machine Elements	Operation Planning & Control	Mechanical Measurement & Control System	Operations Research	Machine Design Lab	Automobile Lab	Mechanical Measurement & Control System Lab					
	3 (3-0-0)	4 (3-1-0)	3 (3-0-0)	3 (2-1-0)	4 (3-1-0)	3 (2-1-0)	2 (0-0-4)	1 (0-0-2)	1 (0-0-2)				**24**	**124**
VI	MET321	MET322	MET323	MET324	MET325	MET326	MET327	MEP328	MEP329	MEP330		ICP302		
	Mechanical Vibrations	Computer Integrated Manufacturing	Product Design & Development	Advanced Manufacturing Processes	Refrigeration and Air Conditioning	Total Quality Management	Optimization Methods in Engg. Design	Modeling & Simulation Lab	Vibrations Lab	Refrigeration and Air Conditioning Lab		DISCIPLINE		
	3 (2-1-0)	3 (2-1-0)	3 (2-1-0)	3 (2-1-0)	3 (2-1-0)	3 (2-1-0)	3 (3-0-0)	1 (0-0-2)	1 (0-0-2)	1 (0-0-2)		1	**25**	**149**
VII	BMT499	MES417	MEPE01	MEPE02	MEOE01	MEOE0								
	Basic Management	Training Seminar	Program Elective 01	Program Elective 02	Open Elective 01	Open Elective 02								
	4 (3-1-0)	4 (0-0-2)	4 (3-1-0)	4 (3-1-0)	3 (3-0-0)	3 (3-0-0)							**22**	**171**
VIII	MED421	MEAE01	MEAE02	MEOE03	MEOE04							ICP402		

	Major Project	Advance Elective 01	Advance Elective 02	Open Elective 03	Open Elective 04							DISCIPLINE		
	12 (0-0-12)	4 (3-1-0)	4 (3-1-0)	3 (3-0-0)	3 (3-0-0)							1	**27**	**198**

B.Tech.-Mechanical Engineering

Overall minimum credit requirement	
Institute Core(IC)	46
Programme Core(PC)	106
Project	12
Programme Elective(PE)	8
Advance Elective(AE)	8
Open Elective(OE)	12
CAS	2
Discipline	4
Total Credits	**198**

Institute Core

Course Code	Course Name	Credits	L	T	P	S
CET101	Computer Aided Engineering Drawing	2	0	0	3	0
CET102	Environmental Science & Ecology	2	2	0	0	0
CPP102	Programming Lab	1	0	0	2	0
CPT101	Computer Science & Programming	2	2	0	0	0
CYP102	Chemistry Lab	1	0	0	2	0
CYT101	Chemistry	4	3	1	0	0
ECP102	Electronics Engineering Lab	1	0	0	2	0
ECT101	Basic Electronics Engineering	4	3	1	0	0
EEP102	Electrical Engineering Lab	1	0	0	2	0
EET101	Basic Electrical Engineering	4	3	1	0	0
HSP103	Language Laboratory	1	0	0	2	0
HST101	Technical Communication	2	1	2	0	0
HST102	Basic Economics	3	2	1	0	0
MAT101	Mathematics-I	4	3	1	0	0
MAT102	Mathematics-II	4	3	1	0	0
MEP102	Workshop Practice	1	0	0	2	0
MET101	Basic Mechanical Engineering	4	3	1	0	0
PHP102	Physics Lab	1	0	0	2	0
PHT101	Physics	4	3	1	0	0
	Total Credits	**46**				

Programme Core

Course Code	Course Name	Credits	L	T	P	S
BMT499	Basic Management	4	3	1	0	0
MAT205	Engineering Mathematics III	3	2	1	0	0
MEP207	Mechanical Engg. Drawing	2	0	0	3	0
MEP208	Casting, Forming and Welding Lab	1	0	0	2	0
MEP209	Fluid Mechanics Lab	1	0	0	2	0
MEP211	Material Testing Lab	1	0	0	2	0
MEP227	Heat Transfer lab	1	0	0	2	0
MEP228	Dynamics of Machine Lab	1	0	0	2	0
MEP229	Machining Science &Machine Tools Lab	1	0	0	2	0
MEP230	IC Engines Lab	1	0	0	2	0
MEP307	Machine Design Lab	2	0	0	4	0
MEP308	Automobile Lab	1	0	0	2	0
MEP309	Mechanical Measurement & Control System Lab	1	0	0	2	0
MEP328	Modeling & Simulation Lab	1	0	0	2	0
MEP329	Vibrations Lab	1	0	0	2	0
MEP330	Refrigeration and Air Conditioning lab	1	0	0	2	0
MES417	Training Seminar	4	0	0	2	0
MET201	Engineering Thermodynamics	4	3	1	0	0
MET202	Fluid Mechanics & Machines	4	3	1	0	0
MET203	Engineering Mechanics	4	3	1	0	0
MET204	Casting, Forming and Welding	3	3	0	0	0
MET206	Material Science	2	2	0	0	0
MET221	Heat Transfer	3	2	1	0	0
MET222	Kinematics & Dynamics of Machines	4	3	1	0	0
MET223	Industrial Engineering	3	2	1	0	0
MET224	IC Engines	3	3	0	0	0
MET225	Machining Science and Machine Tools	4	3	1	0	0
MET226	Mechanics of Solids	4	3	1	0	0
MET301	Automobile Engineering	3	3	0	0	0
MET302	Turbo Machines	4	3	1	0	0
MET303	Design of Machine Elements	3	3	0	0	0
MET304	Operation Planning & Control	3	2	1	0	0
MET305	Mechanical Measurement & Control System	4	3	1	0	0
MET306	Operations Research	3	2	1	0	0
MET321	Mechanical Vibrations	3	2	1	0	0
MET322	Computer Integrated Manufacturing	3	2	1	0	0
MET323	Product Design & Development	3	2	1	0	0
MET324	Advanced Manufacturing Processes	3	2	1	0	0
MET325	Refrigeration and Air Conditioning	3	2	1	0	0
MET326	Total Quality Management	3	2	1	0	0
MET327	Optimization Methods in Engg. Design	3	3	0	0	0
	Total Credits	**106**				

Project

Course Code	Course Name	Credits	L	T	P	S
MED421	Major Project	12	0	0	12	0
	Total Credits	**12**				

Programme Elective

Course Code	Course Name	Credits	L	T	P	S
MET402	Air Conditioning System Design	4	3	1	0	0
MET406	Project management	4	3	1	0	0
MET408	Supply Chain Management	4	3	1	0	0
MET411	Finite Element Methods	4	3	1	0	0
MET413	Design of Mechanisms	4	3	1	0	0
MET401	Power Plant Engieerning	4	3	1	0	0
MET409	Total Productive Maintenance	4	3	1	0	0
MET412	Computer Aided Design	4	3	1	0	0
MET414	Advanced Metal Forming	4	3	1	0	0
MET415	Design for Manufacturing	4	3	1	0	0
MET416	Product Engineering	4	3	1	0	0
MET405	Design of Heat Exchanger	4	3	1	0	0
MET410	Fracture Mechanics	4	3	1	0	0
MET426	Mechatronics design	4	3	1	0	0

Any 2 Programe Electives from the above list in VII Semester of Total "8 Credits"

Advance Elective

Course Code	Course Name	Credits	L	T	P	S
MET422	Computational Fluid Dynamics	4	3	1	0	0
MET428	Six Sigma	4	3	1	0	0
MET423	Robotics Engineerning	4	3	1	0	0
MET425	Tool Engineering	4	3	1	0	0
MET426	Mechatronics design	4	3	1	0	0
MET427	Composite Material Manufacturing	4	3	1	0	0
MET429	Special Course in Manufacturing	4	3	1	0	0
MET431	Smart Materials	4	3	1	0	0
MET430	Composite Materials & Mechanics	4	3	1	0	0
MET403	Gas Dynamics	4	3	1	0	0
MET404	Renewable Energy Sources	4	3	1	0	0
MET424	Advanced Ergonomics	4	3	1	0	0
MET407	Lean Manufacturing	4	3	1	0	0

Any 2 Advance Electives from the above list in VIII Semester of Total "8 Credits"

Open Elective

Course Code	Course Name	Credits	L	T	P	S
MET428	Six Sigma	4	3	1	0	0
MET404	Renewable Energy Sources	4	3	1	0	0
MET301	Automobile Engineering	4	3	1	0	0
MET401	Power Plant Engineering	4	3	1	0	0
MET431	Smart Materials	4	3	1	0	0
MET326	Total Quality Management	4	3	1	0	0
MET411	Finite Element Methods	4	3	1	0	0
MET423	Robotics Engineerning	4	3	1	0	0
MET416	Product Engineering	4	3	1	0	0
MET408	Supply Chain Management	4	3	1	0	0
-	Optimisation	4	3	1	0	0

Any 4 Open Electives (2 in each VII & VIII semester) from the list of courses offered by the other departments of Minimum "12 Credits"

Creative Arts/ Sports/ NSS & Discipline

Course Code	Course Name	Credits	L	T	P	S
*	Creative Arts Society	2				
*	Discipline	4				
	Total Credits	**6**				

B.Tech. – Metallurgical & Materials Engineering

Semester	Course 1	Course 2	Course 3	Course 4	Course 5	Course 6	Course 7	Course 8	Course 9	Course 10	Course 11	Course 12	Semester	Cumulative
I & II	MAT101	PHT101	EET101	HST101	CET102	MET101	CYT101	CPT101	ECT101	HST102				
	Mathematics-I	Physics	Basic Electrical Engineering	Technical Communication	Environmental Science & Ecology	Basic Mechanical Engineering	Chemistry	Computer Science & Programming	Basic Electronics Engineering	Basic Economics				
	4 (3 1 0 0)	4 (3 1 0 0)	4 (3 1 0 0)	2 (1 2 0 0)	2 (2 0 0 0	4 (3 1 0	4 (3 1 0	2 (2 0 0	4 (3 1 0	3 (2 1 0				
	CET101	MAT102	PHP102	EEP102	HSP103	MEP102	CYP102	CPP102	ECP102	ICP101	ICP102			
	Computer Aided Engineering Drawing	Mathematics-II	Physics Lab	Electrical Engineering Lab	Language Laboratory	Workshop Practice	Chemistry Lab	Programming Lab	Electronics Engineering Lab	CREATIVE ARTS / SPORTS / NSS	DISCIPLINE			
	2 (0 0 3 0)	4 (3 1 0 0)	1 (0 0 2 0)	1 (0 0 2 0)	1 (0 0 2 0	1 (0 0 2	1 (0 0 2	1 (0 0 2	1 (0 0 2	1	1		**24+24**	**48**
III	MTT201	MTT203	MTT205	MTT207	MTT209	MTP211	MTP213	MTP215						
	Introduction to Extractive Metallurgy	Introduction of Physical Metallurgy	Thermodynamics of Materials	Introduction to Engineering Materials	Fuels, Furnaces & Refractories	Fuel and Furnace	Metallurgical and Instrumental Analysis	Metallography						
	4 (3-1-0)	4 (3-1-0)	4 (3-1-0)	4 (3-1-0)	4 (3-1-0)	2 (0-0-3)	2 (0-0-3)	2 (0-0-3)					**26**	**74**
IV	MTT212	MTT214	MTT216	MTT218	MTT220	MTP222	MTP224	MTP226			ICP201	ICP202		
	Iron Making	Transport Phenomena	Introduction to Nano Materials and Technology	Mechanical Behavior & Testing of Materials	Mineral Processing	Testing of Materials	Mineral Processing	Metal Joining			CREATIVE ARTS / SPORTS / NSS	DISCIPLINE		
	4 (3-1-0)	4 (3-1-0)	4 (3-1-0)	4 (3-1-0)	4 (3-1-0)	2 (0-0-3)	2 (0-0-3)	2 (0-0-3)			1	1	**28**	**102**
V	MTT301	MTT303	MTT305	MTT307	MTT309	MTP311	MTP313	MTP315						
	Foundry Technology	Particulate Materials	Non-Ferrous Extractive Metallurgy	Electrometallurgy & Corrosion	Solid State Phase Transformation	Powder Metallurgy	Foundry	Electrometallurgy and Corrosion						
	4 (3-1-0)	4 (3-1-0)	4 (3-1-0)	4 (3-1-0)	4 (3-1-0)	2 (0-0-3)	2 (0-0-3)	2 (0-0-3)					**26**	**128**
VI	MTT312	MTT314	MTT316	MTT318	MTT320	MTP322	MTP324	MTP326	MTP328			ICP302		
	Mechanical Working of Metals	Polymeric and Ceramic Materials	Materials in Industry	Heat Treatment	Steel Making	Mechanical Working of Metals	Experimental Techniques	Extractive Metallurgy	Heat Treatment			DISCIPLINE		
	4 (3-1-0)	4 (3-1-0)	4 (3-1-0)	4 (3-1-0)	4 (3-1-0)	1 (0-0-2)	1 (0-0-2)	1 (0-0-2)	1 (0-0-2)			1	**25**	**153**
VII	BMT499	MTS401	MTPE01	MTPE02	MTOE01	MTOE0								
	Basic Management	Training Seminar	Program Elective 01	Program Elective 02	Open Elective 01	Open Elective 02								
	4 (3-1-0)	2 (0-4-0)	4 (3-1-0)	4 (3-1-0)	3 (3-0-0)	3 (3-0-0)							**20**	**173**
VIII	MTD402	MTAE01	MTAE02	MTOE03	MTOE04							ICP402		
	Major Project	Advance Elective 01	Advance Elective 02	Open Elective 03	Open Elective 04							DISCIPLINE		
	12 (0-0-12)	4 (3-1-0)	4 (3-1-0)	3 (3-0-0)	3 (3-0-0)							1	**27**	**200**

MALAVIYA NATIONAL INSTITUTE OF TECHNOLOGY JAIPUR
योगः कर्मसु कौशलम्
मालवीय राष्ट्रीय प्रौद्योगिकी संस्थान जयपुर

B.Tech.-Metallurgical & Materials Engineering

Overall minimum credit requirement	
Institute Core(IC)	**46**
Programme Core(PC)	**108**
Project	**12**
Programme Elective(PE)	**8**
Advance Elective(AE)	**8**
Open Elective(OE)	**12**
CAS	**2**
Discipline	**4**
Total Credits	**200**

Institute Core

Course Code	Course Name	Credits	L	T	P	S
CET101	Computer Aided Engineering Drawing	2	0	0	3	0
CET102	Environmental Science & Ecology	2	2	0	0	0
CPP102	Programming Lab	1	0	0	2	0
CPT101	Computer Science & Programming	2	2	0	0	0
CYP102	Chemistry Lab	1	0	0	2	0
CYT101	Chemistry	4	3	1	0	0
ECP102	Electronics Engineering Lab	1	0	0	2	0
ECT101	Basic Electronics Engineering	4	3	1	0	0
EEP102	Electrical Engineering Lab	1	0	0	2	0
EET101	Basic Electrical Engineering	4	3	1	0	0
HSP103	Language Laboratory	1	0	0	2	0
HST101	Technical Communication	2	1	2	0	0
HST102	Basic Economics	3	2	1	0	0
MAT101	Mathematics-I	4	3	1	0	0
MAT102	Mathematics-II	4	3	1	0	0
MEP102	Workshop Practice	1	0	0	2	0
MET101	Basic Mechanical Engineering	4	3	1	0	0
PHP102	Physics Lab	1	0	0	2	0
PHT101	Physics	4	3	1	0	0
	Total Credits	**46**				

Programme Core

Course Code	Course Name	Credits	L	T	P	S
BMT499	Basic Management	4	3	1	0	0
MTP211	Fuels and Furnaces	2	0	0	3	0
MTP213	Metallurgical & Instrumental Analysis	2	0	0	3	0
MTP215	Metallography	2	0	0	3	0
MTP222	Testing of Materials	2	0	0	3	0
MTP224	Mineral Processing	2	0	0	3	0
MTP226	Metal Joining	2	0	0	3	0
MTP311	Powder Metallurgy	2	0	0	3	0
MTP313	Foundry	2	0	0	3	0
MTP315	Electrometallurgy & Corrosion	2	0	0	3	0
MTP322	Mechanical Working of Metals	1	0	0	2	0
MTP324	Experimental Techniques	1	0	0	2	0
MTP326	Extractive Metallurgy	1	0	0	2	0
MTP328	Heat Treatment	1	0	0	2	0
MTS401	TRAINING SEMINAR	2	0	4	0	0
MTT201	Introduction to Extractive Metallurgy	4	3	1	0	0
MTT203	Introduction to Physical Metallurgy	4	3	1	0	0
MTT205	Thermodynamics of Materials	4	3	1	0	0
MTT207	Introduction to Engineering Materials	4	3	1	0	0
MTT209	Fuels, Furnaces & Refractories	4	3	1	0	0
MTT212	Iron Making	4	3	1	0	0
MTT214	Transport Phenomenon	4	3	1	0	0
MTT216	Introduction to Nano Materials & Technology	4	3	1	0	0
MTT218	Mechanical Behaviour & Testing of Materials	4	3	1	0	0
MTT220	Mineral Processing	4	3	1	0	0
MTT301	Foundry Technology	4	3	1	0	0
MTT303	Particulate Materials	4	3	1	0	0
MTT305	Non Ferrous Extractive Metallurgy	4	3	1	0	0
MTT307	Electrometallurgy & Corrosion	4	3	1	0	0
MTT309	Solid State Phase Transformations	4	3	1	0	0
MTT312	Mechanical Working of Metals	4	3	1	0	0
MTT314	Polymeric & Ceramic Materials	4	3	1	0	0
MTT316	Materials in Industry	4	3	1	0	0
MTT318	Heat Treatment	4	3	1	0	0
MTT320	Steel Making	4	3	1	0	0
	Total Credits	**108**				

Project

Course Code	Course Name	Credits	L	T	P	S
MTD402	Major Project	12	0	0	12	0
	Total Credits	**12**				

Programme Elective

Course Code	Course Name	Credits	L	T	P	S
MTT403	Experimental Techniques	4	3	1	0	0
MTT405	Fracture & Failure	4	3	1	0	0
MTT413	Rapid Soldification & Mechanical Alloying	4	3	1	0	0
MTT419	Utilization of Metallurgical Wastes	4	3	1	0	0
MTT421	Corrosion Science & Engineering	4	3	1	0	0
MTT423	NDT & Quality Control	4	3	1	0	0
MTT401	Physical Metallurgy of Non Ferrous Metals & Alloys	4	3	1	0	0
MTT407	Composite Materials	4	3	1	0	0
MTT409	Pollution & Environmental Management in Metallurgical Industries	4	3	1	0	0
MTT411	Industrial Ceramic Materials	4	3	1	0	0
MTT415	Automotive Materials	4	3	1	0	0
MTT417	Surface Coatings	4	3	1	0	0

Any 2 Programe Electives from the above list in VII Semester of Total "8 Credits"

Advance Elective

Course Code	Course Name	Credits	L	T	P	S
MTT402	Physical Metallurgy of Alloy Steels & Cast Irons	4	3	1	0	0
MTT404	Nuclear Materials	4	3	1	0	0
MTT406	Physical Metallurgy of special Purpose Alloys	4	3	1	0	0
MTT408	Advances in Extraction of Al, Cu and Zn	4	3	1	0	0
MTT410	Non Ferrous Metallurgy of V, Ni, Mn, Mg, Mo, Co, Ta, W and Ti	4	3	1	0	0
MTT412	Alloy Design	4	3	1	0	0

Any 2 Advance Electives from the above list in VIII Semester of Total "8 Credits"

Open Elective

Course Code	Course Name	Credits	L	T	P	S
MTT216	Introduction to Nano Materials & Technology	4	3	1	0	0
MTT217	Materials Science and Technology	4	3	1	0	0
MTT421	Corrosion Science & Engineering	4	3	1	0	0
MTT423	NDT & Quality Control	4	3	1	0	0

Any 4 Open Electives (2 in each VII & VIII semester) from the list of courses offered by the other departments of Minimum "12 Credits"

Creative Arts/ Sports/ NSS & Discipline

Course Code	Course Name	Credits	L	T	P	S
*	Creative Arts Society	2				
*	Discipline	4				
	Total Credits	**6**				