

# University of Mumbai



No. AAMS\_UGS/ICC/2023-24/73

## CIRCULAR:-

Attention of the Principals of the Affiliated Colleges and Directors of the Recognized Institutions in Faculty of Science & Technology is invited to this office Circular No. UG/01 of 2021 dated 10<sup>th</sup> May, 2021 relating to the equivalence of B.E. program.

They are hereby informed that the recommendations made by the Board of Deans at its meeting held on 27<sup>th</sup> October, 2023 **vide** item No. 6.17 (N) have been accepted by the Academic Council at its meeting held on 01<sup>st</sup> November, 2023 **vide** item No. 6.17 (N) and that in accordance therewith, the **Equivalence/alternate subjects of the B.E. program Revised 2016 to Rev. 2019** is as per appendix attached herewith and the same has been brought into force with effect from the academic year 2023-24.

(The said circular is available on the University's website [www.mu.ac.in](http://www.mu.ac.in)).

MUMBAI – 400 032  
24<sup>th</sup> November, 2023

  
(Prof. Sunil Bhirud)  
I/c. REGISTRAR

To

The Principals of the Affiliated Colleges and Directors of the Recognized Institutions in Faculty of Science & Technology.

A.C/6.17(N) /01/11/2023

Copy forwarded with Compliments for information to:-

- 1) The Chairman, Board of Deans,
- 2) The Dean, Faculty of Science & Technology,
- 3) The Chairman, Board of Studies,
- 4) The Director, Board of Examinations and Evaluation,
- 5) The Director, Department of Students Development,
- 6) The Director, Department of Information & Communication Technology,
- 7) The Director, Institute of Distance and Open Learning (IDOL Admin), Vidyanagari,
- 8) The Co-ordinator, MKCL.

**Copy for information and necessary action :-**

1. **The Deputy Registrar, College Affiliations & Development Department (CAD),**
2. **College Teachers Approval Unit (CTA),**
3. **The Deputy Registrar, (Admissions, Enrolment, Eligibility and Migration Department (AEM),**
4. **The Deputy Registrar, Academic Appointments & Quality Assurance (AAQA)**
5. **The Deputy Registrar, Research Administration & Promotion Cell (RAPC),**
6. **The Deputy Registrar, Executive Authorities Section (EA)**  
**He is requested to treat this as action taken report on the concerned resolution adopted by the Academic Council referred to the above circular.**
7. **The Deputy Registrar, PRO, Fort, (Publication Section),**
8. **The Deputy Registrar, Special Cell,**
9. **The Deputy Registrar, Fort Administration Department (FAD) Record Section,**
10. **The Deputy Registrar, Vidyanagari Administration Department (VAD),**

**Copy for information :-**

1. **The Director, Dept. of Information and Communication Technology (DICT), Vidyanagari,**  
**He is requested to upload the Circular University Website**
2. **The Director of Department of Student Development (DSD),**
3. **The Director, Institute of Distance and Open Learning (IDOL Admin), Vidyanagari,**
4. **All Deputy Registrar, Examination House,**
5. **The Deputy Registrars, Finance & Accounts Section,**
6. **The Assistant Registrar, Administrative sub-Campus Thane,**
7. **The Assistant Registrar, School of Engg. & Applied Sciences, Kalyan,**
8. **The Assistant Registrar, Ratnagiri sub-centre, Ratnagiri,**
9. **P.A to Hon'ble Vice-Chancellor,**
10. **P.A to Pro-Vice-Chancellor,**
11. **P.A to Registrar,**
12. **P.A to All Deans of all Faculties,**
13. **P.A to Finance & Account Officers, (F & A.O),**
14. **P.A to Director, Board of Examinations and Evaluation,**
15. **P.A to Director, Innovation, Incubation and Linkages,**
16. **P.A to Director, Department of Lifelong Learning and Extension (DLLE),**
17. **The Receptionist,**
18. **The Telephone Operator,**

**Copy with compliments for information to :-**

19. **The Secretary, MUASA**
20. **The Secretary, BUCTU.**

# **UNIVERSITY OF MUMBAI**



## **BACHELOR OF ENGINEERING**

### **SUBJECTS EQUIVALENCE**

**REV-2016' B SCHEME to REV-2019' C SCHEME**

**Under**

**FACULTY OF SCIENCE & TECHNOLOGY**

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**CIVIL ENGINEERING SUBJECTS EQUIVALENCE (R 2016 - R 2019)**

**CIVIL ENGINEERING SUBJECTS EQUIVALENCE (SEM-III) (R-2016 to R-2019)**

Sr. No.	R-2016 CBCGS Subject			R-2019 CBCGS Subject			
	Subject Code	Subject Name	Sem	Subject Code	Subject Name	Sem	Remark
1	CE-C301	Applied Mathematics III	III	CEC301	Engineering Mathematics-III	III	Equivalent
2	CE-C302	Surveying – I	III	CEC403	Survey	IV	Alternate
3	CE-C303	Strength of Materials	III	CEC302	Mechanics of Solids	III	Equivalent
4	CE-C304	Engineering Geology	III	CEC303	Engineering Geology	III	Equivalent
5	CE-C305	Fluid Mechanics - I	III	CEC305	Fluid Mechanics - I	III	Equivalent

**CIVIL ENGINEERING SUBJECTS EQUIVALENCE (SEM-IV) (R-2016 to R-2019)**

Sr. No.	R-2016 CBCGS Subject			R-2019 CBCGS Subject			
	Subject Code	Subject Name	Sem	Subject Code	Subject Name	Sem	Remark
1	CE-C401	Applied Mathematics – IV	IV	CEC401	Engineering Mathematics IV	IV	Equivalent
2	CE-C402	Surveying – II	IV	CEC403	Survey	IV	Alternate
3	CE-C403	Structural Analysis – I	IV	CEC402	Structural Analysis	IV	Alternate
4	CE-C404	Building Design & Drawing	IV	CEC304	Architectural Planning & Design of Buildings	III	Equivalent
5	CE-C405	Building Materials & Construction Technology	IV	CEC404	Building Materials & Concrete Technology	IV	Equivalent
6	CE-C406	Fluid Mechanics - II	IV	CEC405	Fluid Mechanics - II	IV	Equivalent

**CIVIL ENGINEERING SUBJECTS EQUIVALENCE (SEM-V) (R-2016 to R-2019)**

Sr. No.	R-2016 CBCGS Subject			R-2019 CBCGS Subject			
	Subject Code	Subject Name	Sem	Subject Code	Subject Name	Sem	Remark
1	CE-C501	Structural Analysis – II	V	CEC402	Structural Analysis	IV	Alternate
2	CE-C502	Geotechnical Engineering-I	V	CEC503	Geotechnical Engineering-I	V	Equivalent
3	CE-C503	Applied Hydraulics	V	CEC502	Applied Hydraulics	V	Equivalent
4	CE-C504	Environmental Engineering-I	V	CEC604	Environmental Engineering	VI	Alternate
5	CE-C505	Transportation Engineering-I	V	CEC504	Transportation Engineering	V	Alternate
6	DLO506X	<b>DLOC-I</b>	V				
7	CE-DLO5061	Advanced Surveying	V	CEDLO5011	Modern Surveying Instruments & Techniques	V	Equivalent
8	CE-DLO5062	Advanced Concrete Technology	V	CEDLO5017	Advanced Concrete Technology	V	Equivalent
9	CE-DLO5063	Building Services & Repairs	V	CEDLO5012	Building Services & Repairs	V	Equivalent
10	CE-DLO5064	Advanced Structural Mechanics	V	CEDLO5014	Advanced Structural Mechanics	V	Equivalent

**CIVIL ENGINEERING SUBJECTS EQUIVALENCE (SEM-VI) (R-2016 to R-2019)**

Sr. No.	R-2016 CBCGS Subject			R-2019 CBCGS Subject			
	Subject Code	Subject Name	Sem	Subject Code	Subject Name	Sem	Remark
1	CE-C601	Geotechnical Engineering. – II	VI	CEC603	Geotechnical Engineering-II	VI	Equivalent
2	CE-C602	Design and Drawing of Steel Structures	VI	CEC601	Design & Drawing of Steel Structures	VI	Equivalent
3	CE-C603	Transportation Engineering. – II	VI	CEDLO5016	Transportation Planning & Economics	V	Equivalent
4	CE-C604	Environmental Engineering. – II	VI	CEC604	Environmental Engineering	VI	Alternate
5	CE-C605	Water Resource Engineering –I	VI	CEC602	Water Resources Engineering	VI	Equivalent
6	CE-DLO606X	<b>DLOC-II</b>	VI				
7	CE-DLO6061	Advanced Construction Equipment	VI	CEDLO6013	Construction Equipment & Techniques	VI	Equivalent
8	CE-DLO6062	Traffic Engineering and Management	VI	CEDLO6017	Traffic Engineering and Management	VI	Equivalent
9	CE-DLO6063	Ground Improvement Techniques	VI	CEDLO7023	Ground Improvement techniques	VII	Equivalent
10	CE-DLO6064	Advanced Structural Analysis	VI	CEDLO6016	Computational Structural Analysis	VI	Equivalent

**CIVIL ENGINEERING SUBJECTS EQUIVALENCE (SEM-VII) (R-2016 to R-2019)**

Sr. No.	R-2016 CBCGS Subject			R-2019 CBCGS Subject			
	Subject Code	Subject Name	Sem	Subject Code	Subject Name	Sem	Remark
1	CE-C701	Quantity Survey Estimation and Valuation	VIII	CEC702	Quantity Survey, Estimation and Valuation	VII	Equivalent
2	CE-C702	Theory of Reinforced Concrete Structures	VIII	CEC501	Theory of Reinforced Concrete Structures	V	Equivalent
3	CE-C703	Water Resource Engineering –II	VIII	CEDLO8012	Design of Hydraulic Structures	VIII	Equivalent
4	CE-DLO704X	<b>DLOC-III</b>	VIII				
5	CE-DLO7041	Pre-stressed Concrete	VIII	CEDLO7011	Pre-stressed Concrete	VII	Equivalent
6	CE-DLO7042	Solid Waste management	VIII	CEDLO7022	Solid and Hazardous Waste Management	VII	Equivalent
7	CE-DLO7043	Pavement Sub-grade and Materials	VIII	CEDLO7016	Pavement Materials Construction and Maintenance	VII	Equivalent
8	CE-DLO7044	Structural Dynamics	VIII	CEDLO8025	Structural Dynamics	VIII	Equivalent
9	CE-DLO7045	Application of GIS and Remote Sensing	VIII	CEDLO5011	Modern Surveying Instruments and Techniques	V	Alternate
10	CE-DLO7046	Foundation Analysis and Design	VIII	CEDLO7021	Foundation Analysis and Design	VII	Equivalent

**CIVIL ENGINEERING SUBJECTS EQUIVALENCE (SEM-VIII) (R-2016 to R-2019)**

Sr. No.	R-2016 CBCGS Subject			R-2019 CBCGS Subject			
	Subject Code	Subject Name	Sem	Subject Code	Subject Name	Sem	Remark
1	CE-C801	Design and Drawing of Reinforced Concrete Structures	VIII	CEC701	Design and Drawing of Reinforced Concrete Structures	VII	Equivalent
2	CE-C802	Construction Management	VIII	CEC801	Construction Management	VIII	Equivalent
3	CE-DLO803X	<b>DLOC-IV</b>					
4	CE-DLO 8031	Advanced Design of Steel Structures	VIII	CEDLO7027	Advanced Steel Structures	VII	Equivalent
5	CE-DLO8032	Industrial Waste Treatment	VIII	CEDLO8015	Industrial Waste Treatment	VIII	Equivalent
6	CE – DLO8033	Pavement Design and Construction	VIII	CEDLO8014	Pavement Design	VIII	Equivalent
7	CE-DLO 8034	Bridge Engineering and Design	VIII	CEDLO8011	Bridge Engineering	VIII	Equivalent
8	CE-DLO 8035	Appraisal Implementation of Infrastructure Projects	VIII	CEDLO7013	Appraisal Implementation of Infrastructure Projects	VII	Equivalent
9	CE-DLO8036	Soil Dynamics	VIII	CEDLO8016	Soil Dynamics	VIII	Equivalent
10	CE-DLO8037	Applied Hydrology and Flood Control	VIII	CEDLO7012	Applied Hydrology and Flood Control	VII	Equivalent

**MECHANICAL ENGINEERING SUBJECTS EQUIVALENCE (R 2016 - R 2019)**

**Mechanical Engineering: Equivalent Subjects (Rev-2016 to Rev 2019)**

Sr No	Scheme R 2016 CBCGS		Scheme R 2019 CBCS		
	Subject code	Subject Name	Subject code	Subject Name	Sem
<b>Sem VIII</b>					
1	MEC801	Design of Mechanical Systems	MEC701	Design of Mechanical Systems	VII
2	MEC802	Industrial Engineering and Management	MEC801	Operation Planning and Control	VIII
3	MEC803	Power Engineering	MEC602	Turbo Machinery	VI
4	MEDLO8041	Power Plant Engineering	MEDLO7032	Renewable Energy Sources	VII
	MEDLO8042	Rapid Prototyping	HC3DP601	3D Printing: Introduction & Processes	VI
	MEDLO8043	Renewable Energy Systems	MEDLO7032	Renewable Energy Systems	VII
	MEDLO8044	Energy Management in Utility Systems	ILO7018	Energy Audit and Management	VII
<b>Sem VII</b>					
	MEC701	Machine Design II	MEC601	Machine Design	VI
	MEC702	CAD/CAM/CAE	MEC404	CAD/CAM	IV
	MEC703	Production Planning and Control	MEC801	Operations Planning and Control	VII
	MEDLO703X	<b>Department Level Optional Course III</b>			
	MEDLO7031	Mechanical Vibrations	MEDLO7042	Vibration Controls	VII
	MEDLO7032	Automobile Engineering	MEDLO7033	Vehicle Systems	VII



	MEDLO7033	Pumps, Compressors and Fans	MEC602	Turbo Machinery	VI
	MEDLO7034	Computational Fluid Dynamics	MEDLO5013	Computational Methods	V
<b>Sem VI</b>					
	MEC601	Metrology and Quality engineering	MEC501	Mechanical Measurements and Controls	V
	MEC602	Machine Design I	MEC601	Machine Design	VI
	MEC603	Finite Element analysis	MEC504	Finite Element Analysis	V
	MEC604	Refrigeration and Air Conditioning	MEC603	Heating, Ventilation, Air conditioning and Refrigeration	V
	MEDLO602X	<b>Department Level Optional Course II</b>			
	MEDLO6021	Mechatronics	MEC604	Automation & AI	VI
	MEDLO6022	Robotics	HRBC501	Industrial Robotics (Honours)	VI
	MEDLO6023	Industrial Automation	MEC604	Automation and Artificial Intelligence	VI
<b>Sem V</b>					
	MEC501	Internal Combustion Engines	MEC502	Thermal Engineering	V
	MEC502	Mechanical Measurements and Control	MEC501	Mechanical Measurements and Controls	V
	MEC503	Heat Transfer	MEC502	Thermal Engineering	V
	MEC504	Dynamics of Machinery	MEC503	Dynamics of Machinery	V
	MEDLO 501X	<b>Department Level Optional Course I</b>			
	MEDLO5011	Press Tool Design	MEDLO6021	Press Tool Design	VI
	MEDLO5012	Machining Sciences and Tool Design	MEDLO6022	Tool Engineering	VI
	MEDLO5013	Design of Jigs and Fixtures	MEDLO8063	Total Quality Management	VIII

<b>Sem IV</b>					
	MEC401	Applied Mathematics IV	MEC401	Engineering Mathematics-IV	IV
	MEC402	Fluid Mechanics	MEC402	Fluid Mechanics	IV
	MEC403	Industrial Electronics	MEC405	Industrial Electronics	IV
	MEC404	Production Process II	MEC303	Production Processes	III
	MEC405	Kinematics of Machinery	MEC403	Kinematics of Machinery	IV
<b>Sem III</b>					
	MEC301	Applied Mathematics III	MEC301	Engineering Mathematics-III	III
	MEC302	Thermodynamics	MEC305	Thermodynamics	III
	MEC303	Strength of Materials	MEC302	Strength of Materials	III
	MEC304	Production Process I	MEC303	Production Processes	III
	MEC305	Material Technology	MEC304	Materials and Metallurgy	III

## ELECTRICAL ENGINEERING

### Electrical Engineering Subject Equivalence (Rev-2016 to Rev-2019)

<b>Rev-2016 Sem. VIII Electrical Engineering Subject Equivalence</b>						
<b>Code</b>	<b>Rev-2016 CBCGS Subjects</b>	<b>Sem</b>	<b>Rev-2019 Subjects</b>	<b>Code</b>	<b>Sem</b>	<b>Remark</b>
EEC801	Design, Management and Auditing of Electrical Systems	VIII	Electrical System Design, Management and Auditing	EEC801	VIII	Equivalence
EEC802	Flexible AC Transmission System	VIII	Power Quality and FACTs	EEDO8011	VIII	Equivalence
EEDLO8041	Illumination Engineering	VIII	Lighting System Design	EEDO8022	VIII	Equivalence
EEDLO8042	Smart Grid	VIII	Electric Vehicle System Design	EEDO 8024	VIII	Alternate
EEDLO8043	Power System Modeling and Control	VIII	Power System Dynamics and Control	EEDO7022	VII	Equivalence
EEDLO8044	Power System Planning and Reliability	VIII	Power System Planning and Reliability	EEDO8021	VIII	Equivalence

<b>Rev-2016 Sem. VII Electrical Engineering Subject Equivalence</b>						
<b>Code</b>	<b>Rev-2016 CBCGS Subjects</b>	<b>Sem</b>	<b>Rev-2019 Subjects</b>	<b>Code</b>	<b>Sem</b>	<b>Remark</b>
EEC701	Power System III	VII	Electrical Power System III	EEC702	VII	Equivalence
EEC702	Drives And Control	VII	Electrical Drives And Control	EEC701	VII	Equivalence
EEC703	High Voltage Direct Current Transmission	VII	HVDC Transmission Systems	EEDO7012	VII	Equivalence
EEDLO7031	High Voltage Engineering	VII	High Voltage Engineering	EEDO6013	VI	Equivalence
EEDLO7032	Electric Vehicle Technology	VII	Electric And Hybrid Electric Vehicle	EEC405	IV	Equivalence
EEDLO7033	Industrial Controller	VII	Automation And Control	EDO8012	VIII	Alternate
EEDLO7034	Power Quality	VII	Internet of Things	EEDO7013	VII	Alternate

<b>Rev-2016 Sem. VI Electrical Engineering Subject Equivalence</b>						
<b>Code</b>	<b>Rev-2016 CBCGS Subjects</b>	<b>Sem</b>	<b>Rev-2019 Subjects</b>	<b>Code</b>	<b>Sem</b>	<b>Remark</b>
EEC601	Protection And Switchgear Engineering	VI	Power System Protection & Switchgear	EEC601	VI	Equivalence
EEC602	Electrical Machines IV	VI	Electrical Machines II	EEC501	V	Equivalence
EEC603	Signal Processing	VI	Signals And Systems	EEC604	VI	Equivalence
EEC604	Microcontroller And Its Application	VI	Microcontroller Applications	EEC602	VI	Equivalence
EEC605	Control System-II	VI	Control System Design	EEC603	VI	Equivalence
EEDLO6021	Digital Communication Engineering	VI	Analog and Digital Communication	EEDO5014	V	Alternate
EEDLO6022	Microgrid	VI	Microgrid and Smart-grid	EEDO7021	VII	Alternate
EEDLO6023	Advanced Power Electronics	VI	Advanced Power Electronics	EEDO5012	V	Equivalence

<b>Rev-2016 Sem. V Electrical Engineering Subject Equivalence</b>						
<b>Code</b>	<b>Rev-2016 CBCGS Subjects</b>	<b>Sem</b>	<b>Rev-2019 Subjects</b>	<b>Code</b>	<b>Sem</b>	<b>Remark</b>
EEC501	Power System II	V	Electrical Power System II	EEC502	V	Equivalence
EEC502	Electrical Machines III	V	Electrical AC Machines I	EEC402	IV	Alternate
EEC503	Control System-I	V	Control Systems	EEC503	V	Equivalence
EEC504	Power Electronics	V	Power Electronics Devices And Circuits	EEC404	IV	Equivalence
EEDLO5011	Communication Engineering	V	Cyber Physical Systems	EEDO8023	VIII	Alternate
EEDLO5012	Renewable Energy And Energy Storage	V	Renewable Energy Sources	EEDO5011	V	Equivalence
EEDLO5013	Utilization Of Electrical Energy	V	Electric Traction	EEDO6012	VI	Alternate

<b>Rev-2016 Sem. IV Electrical Engineering Subject Equivalence</b>						
<b>Code</b>	<b>Rev-2016 CBCGS Subjects</b>	<b>Sem</b>	<b>Rev-2019 Subjects</b>	<b>Code</b>	<b>Sem</b>	<b>Remark</b>
EEC401	Applied Mathematics IV	IV	Engineering Mathematics IV	EEC401	IV	Equivalence
EEC402	Power Systems- I	IV	Electrical Power Systems I	EEC304	III	Equivalence
EEC403	Electrical Machines II	IV	Special Electrical Machine	EEDO6011	VI	Alternate
EEC404	Electromagnetic Fields And Waves	IV	Electromagnetic Fields And Waves	EEC504	V	Equivalence
EEC405	Analog And Digital Integrated Circuits	IV	Digital Electronics	EEC403	IV	Alternate
EEC406	Electrical Network	IV	Electric Circuit Analysis	EEC302	III	Equivalence

<b>Rev-2016 Sem. III Electrical Engineering Subject Equivalence</b>						
<b>Code</b>	<b>Rev-2016 CBCGS Subjects</b>	<b>Sem</b>	<b>Rev-2019 Subjects</b>	<b>Code</b>	<b>Sem</b>	<b>Remark</b>
EEC301	Applied Mathematics III	III	Engineering Mathematics III	EEC301	III	Equivalence
EEC302	Electronics Devices And Circuits	III	Analog Electronics	EEC305	III	Equivalence
EEC303	Conventional And Non-Conventional Power Generation	III	Energy Storage	EEDO6014	VI	Alternate
EEC304	Electrical And Electronics Measurements	III	Advanced Measurements and Instrumentation	EEDO5013	V	Alternate
EEC305	Electrical Machines I	III	Fundamentals of Electrical Machines & Measurements	EEC303	III	Alternate

## PRODUCTION ENGINEERING

### Equivalence of Rev 2016 syllabus scheme to Rev 2019 scheme

Rev 2016			Equivalence from Rev 2019		
Course code	Course Name	Sem	Course code	Course Name	Sem
PEC301	Applied Mathematics – III**	III	PEC301	Engineering Mathematics III	III
PEC302	Applied Thermodynamics	III	MEC305	Thermodynamics ( <b>Mechanical Engg</b> )	III
PEC303	Manufacturing Engineering-I	III	PEC304	Manufacturing Processes	III
PEC304	Material Science and Engineering	III	PEC305	Engineering Materials and Metallurgy	III
PEC305	Mechanics of Solids	III	PEC303	Mechanics of Materials	III
PEC401	Applied Mathematics – IV**	IV	PEC401	Engineering Mathematics IV	IV
PEC402	Dynamics of Machines	IV	PEC403	Theory of Machines	IV
PEC403	Manufacturing Engineering-II	IV	PEC405	Advanced Manufacturing Processes	IV
PEC404	Fluid & Thermal Engineering	IV	MEC402	Fluid Mechanics ( <b>Mechanical Engg</b> )	IV
PEC405	Electrical & Electronics Engineering	IV	PEC404	Applied Electrical and Electronics.	IV
PEC501	Design of Mold & Metal Forming Tools	V	PEC402	Mould and Metal Forming Technology	IV
PEC502	Operations Research	V	PEC604	Operation Research	VI
PEC503	Machine Design-I	V	PEC502	Machine Design – I	V
PEC504	CAD/CAM/CIM	V	PEC802	Computer Aided Engineering	VIII
PEC505	Metrology & Quality Engineering	V	PEC504	Metrology & Quality Engineering	V
PEDLO5011	Internal Combustion Engines	V	PEDO6011	Internal Combustion Engine	VI
PEDLO5012	Finite Element Analysis	V	MEC504	Finite Element Analysis ( <b>Mechanical Engg</b> )	V
PEDLO5013	Plastic Engineering	V	PEDO5012	Plastic Engineering	V
PEDLO5014	Micro and Nano Manufacturing	V	PEC405	Advanced Manufacturing Processes	IV
PEDLO5015	Sustainable Manufacturing	V	PEDO5014	Sustainable Manufacturing	V
PEC601	Machining Science and Technology	VI	PEC503	Machining Science and Technology	V
PEC602	Process Engineering and Tooling	VI	PEC601	Process Engineering	VI
PEC603	Production Tooling	VI	PEC501	Production Tooling	V
PEC604	Machine Design – II	VI	PEC602	Machine Design – II	VI

PEC605	Production and Operation Management	VI	PEC603	Industrial Engineering	VI
PEDLO6011	Manufacturing Planning and Control	VI	MEC801	Operations Planning and Control ( <b>Mechanical Engg</b> )	VIII
PEDLO6012	Refrigeration and Air Conditioning	VI	PEDO6012	Refrigeration & Air Conditioning	VI
PEDLO6013	Reliability Engineering	VI	PEDO6015	Maintenance Engineering	VI
PEDLO6014	Industrial Robotics	VI	PEDO5013	Industrial Robotics	V
PEDLO6015	Rapid Prototyping and Manufacturing	VI	PEDO6013	Rapid prototyping & Manufacturing	VI
PEC701	Industrial Training & Project	VII	PEC701	Industrial Training & Project	VII
PEC801	Fluid Power & Automation	VIII	PEC801	Automation & Control Engineering	VIII
PEC802	Industrial Engineering and Human Resource Management	VIII	PEC603	Industrial Engineering	VI
PEC803	Economics, Finance, Accounting & Costing	VIII	PEC804	Engineering Economics, Finance, Costing and Accounting	VIII
PEDLO8011	Product Design and Industrial Marketing	VIII	PEDO8012	Product Design and Industrial Marketing	VIII
PEDLO8012	World Class Manufacturing	VIII	PEDO8013	World Class Manufacturing	VIII
PEDLO8013	Logistics and Supply Chain Management	VIII	PEDO6014	Logistics and Supply Chain Management	VI
PEDLO8014	Plant Engineering	VIII	PEDO8014	Plant Engineering	VIII
PEDLO8015	Process Control and Instrumentation	VIII	ISC504	Process Instrumentation System ( <b>Instrumentation Engg.</b> )	V

**ELECTRONICS AND TELECOMMUNICATION ENGINEERING****Equivalent Subjects for SEM III (Rev-2016 to Rev-2019)****Semester III**

<b>Scheme R_2016 CBSGS</b>	<b>Course Code</b>	<b>Sem</b>	<b>Scheme R_2019 C Scheme</b>	<b>Course Code</b>	<b>Sem</b>	<b>Branch</b>
Applied Mathematics- III	ECC301	III	Engineering Mathematics-III	ECC301	III	EXTC
Electronic Devices and Circuits I	ECC302	III	Electronic Devices & Circuits	ECC302	III	EXTC
Digital System Design	ECC303	III	Digital System Design	ECC303	III	EXTC
Circuit Theory and Networks	ECC304	III	Network Theory	ECC304	III	EXTC
Electronic Instrumentation and Control	ECC305	III	Electronic Instrumentation & Control Systems	ECC305	III	EXTC

**Electronics and Telecommunication Engineering  
Equivalent Subjects for SEM IV (Rev-2016 to Rev-2019)****Semester IV**

<b>Scheme R_2016 CBSGS</b>	<b>Course Code</b>	<b>Sem</b>	<b>Scheme R_2019 C Scheme</b>	<b>Course Code</b>	<b>Sem</b>	<b>Branch</b>
Applied Mathematics- IV	ECC401	IV	Engineering Mathematics -IV	ECC401	IV	EXTC
Electronic Devices and Circuits II	ECC402	IV	Electronic Devices & Circuits	ECC302	III	EXTC
Linear Integrated Circuits	ECC403	IV	Linear Integrated Circuits	ECC403	IV	EXTC
Signals & Systems	ECC404	IV	Signals & Systems	ECC404	IV	EXTC
Principles of Communication Engineering	ECC405	IV	Principles of Communication Engineering	ECC405	IV	EXTC

**Electronics and Telecommunication Engineering  
Equivalent Subjects for SEM V (Rev-2016 to Rev-2019)****Semester V**

<b>Scheme R_2016 CBSGS</b>	<b>Course Code</b>	<b>Sem</b>	<b>Scheme R_2019 C Scheme</b>	<b>Course Code</b>	<b>Sem</b>	<b>Branch</b>
Microprocessor & Peripherals Interfacing	ECC501	V	Microcontrollers	ECC402	IV	EXTC
Digital Communication	ECC502	V	Digital Communication	ECC501	V	EXTC
Electromagnetic Engineering	ECC503	V	Electromagnetics and Antenna	ECC601	VI	EXTC
Discrete Time Signal Processing	ECC504	V	Discrete Time Signal Processing	ECC502	V	EXTC

**Department Level Optional Course**

Microelectronics	ECCDLO 5011	V	Digital VLSI	ECC603	VI	EXTC
TV & Video Engineering	ECCDLO 5012	V	Digital and IPTV Engineering	ECCDLO5011	V	EXTC



Finite Automata Theory	ECCDLO 5013	V	Digital System Design	ECC303	III	EXTC
Data Compression and Encryption	ECCDLO 5014	V	Data Compression and Cryptography	ECCDLO5012	V	EXTC

<b>Electronics and Telecommunication Engineering</b>						
<b>Equivalent Subjects for SEM VI (Rev-2016 to Rev-2019)</b>						
<b>Semester VI</b>						
<b>Scheme R_2016 CBSGS</b>	<b>Course Code</b>	<b>Scheme R02019 C Scheme</b>		<b>Course Code</b>	<b>Sem.</b>	<b>Branch</b>
Microcontrollers & Applications	ECC601	Microcontrollers		ECC402	IV	EXTC
Computer Communication Networks	ECC602	Computer Communication Networks		ECC602	VI	EXTC
Antenna & Radio Wave Propagation	ECC603	Electromagnetics and Antenna		ECC601	VI	EXTC
Image Processing and Machine Vision	ECC604	Image Processing and Machine Vision		ECC603	VI	EXTC
<b>Department Level Optional Course</b>						
Digital VLSI Design	ECCDLO 6021	Digital VLSI		ECC503	V	EXTC
Radar Engineering	ECCDLO 6022	Radar Engineering		ECCDLO6016	VI	EXTC
Database Management System	ECCDLO 6023	Database Management System		ECCDLO6014	VI	EXTC
Audio Processing	ECCDLO 6024	Discrete Time Signal Processing		ECC502	V	EXTC

<b>Electronics and Telecommunication Engineering</b>						
<b>Equivalent Subjects for SEM VII (Rev-2016 to Rev-2019)</b>						
<b>Semester VII</b>						
<b>Scheme R_2016 CBSGS</b>	<b>Course Code</b>	<b>Sem.</b>	<b>Scheme R_2019 C Scheme</b>	<b>Course Code</b>	<b>Sem</b>	<b>Branch</b>
Microwave Engineering	ECC701	VII	Microwave Engineering	ECC701	VII	EXTC
Mobile Communication System	ECC702	VII	Mobile Communication System	ECC702	VII	EXTC
Optical Communication	ECC703	VII	Optical Communication and Networks	ECC801	VIII	EXTC
<b>Department Level Optional Course</b>						
Neural Networks and Fuzzy Logic	ECCDLO7031	VII	Artificial Neural Network and Fuzzy Logic	ECC604	VI	EXTC
Big Data Analytics	ECCDLO7032	VII	Big Data Analytics	ECCDLO 7014	VII	EXTC
Internet Communication Engineering	ECCDLO7033	VII	Internet Communication Engineering	ECCDLO 7023	VII	EXTC
CMOS Mixed Signal VLSI	ECCDLO7034	VII	Mixed Signal VLSI	ECCDLO 7023	VI	EXTC
Embedded System	ECCDLO7035	VII	Microcontrollers	ECC402	IV	EXTC

<b>Institute Level Elective</b>						
Product Lifecycle Management	LO7011	VII	Product Lifecycle Management	ECCILO 7011	VII	EXTC
Reliability Engineering	LO7012	VII	Reliability Engineering	ECCILO 7012	VII	EXTC
Management Information System	LO7013	VII	Management Information System	ECCILO 7013	VII	EXTC
Design of Experiments	LO7014	VII	Design of Experiments	ECCILO 7014	VII	EXTC
Operation Research	LO7015	VII	Operation Research	ECCILO 7015	VII	EXTC
Cyber Security and Laws	LO7016	VII	Cyber Security and Laws	ECCILO 7016	VII	EXTC
Disaster Management and Mitigation Measures	LO7017	VII	Disaster Management and Mitigation Measures	ECCILO 7017	VII	EXTC
Energy Audit and Management	LO7018	VII	Energy Audit and Management	ECCILO 7018	VII	EXTC
Development Engineering	LO7019	VII	Development Engineering	ECCILO 7019	VII	EXTC

<b>Bachelor of Electronics and Telecommunication Engineering Equivalent Subjects for SEM VIII(Rev-2016 to Rev-2019)</b>						
<b>Semester VIII</b>						
<b>Scheme R_2016 CBSGS</b>	<b>Course Code</b>	<b>Sem</b>	<b>Scheme R_2019 C Scheme</b>	<b>Course Code</b>	<b>Sem</b>	<b>Branch</b>
RF Design	ECC801	VIII	RF Design	ECCDLO8015	VIII	EXTC
Wireless Networks	ECC802	VIII	Wireless Networks	ECCDLO8013	VIII	EXTC
RF Design Lab	ECL801	VIII	Microwave Engineering Laboratory	ECL701	VII	EXTC
Wireless Networks Lab	ECL802	VIII	Mobile Communication System Laboratory	ECL702	VII	EXTC
Department Level Optional Lab IV	ECLDLO 804X	VIII	Optical Communication and Networks Laboratory	ECL801	VIII	EXTC
<b>Department Level Optional Course</b>						
Optical Networks	ECCDLO8041	VIII	Optical Communication and Networks	ECC801	VIII	EXTC
Advanced Digital Signal Processing	ECCDLO8042	VIII	Advanced Digital Signal Processing	ECCDLO 7024	VII	EXTC
Satellite Communication	ECCDLO8043	VIII	Satellite and Nano Satellite Communication	ECCDLO 8022	VIII	EXTC
Network management in Telecommunication	ECCDLO8044	VIII	Network Management in Telecommunication	ECCDLO 8023	VIII	EXTC

**Institute Level Elective Course**

Project Management	ILO8021	VIII	Project Management	ECCILO 8011	VIII	EXTC
Finance Management	ILO8022	VIII	Finance Management	ECCILO 8012	VIII	EXTC
Entrepreneurship Development and Management	ILO8023	VIII	Entrepreneurship Development and Management	ECCILO 8013	VIII	EXTC
Human Resource Management	ILO8024	VIII	Human Resource Management	ECCILO 8014	VIII	EXTC
Professional Ethics and CSR	ILO8025	VIII	Professional Ethics and CSR	ECCILO 8015	VIII	EXTC
Research Methodology	ILO8026	VIII	Research Methodology	ECCILO 8016	VIII	EXTC
IPR and Patenting	ILO8027	VIII	IPR and Patenting	ECCILO 8017	VIII	EXTC
Digital Business Management	ILO8028	VIII	Digital Business Management	ECCILO 8018	VIII	EXTC
Environmental Management	ILO8029	VIII	Environmental Management	ECCILO 8019	VIII	EXTC

**ELECTRONICS ENGINEERING**  
**Equivalent Subjects for SEM III (Rev-2016 to Rev-2019)**

<b>REV- 2016 syllabus Courses:</b>			<b>Equivalent in REV- 2019 'C' Scheme</b>		
<b>Sem.</b>	<b>Course Code</b>	<b>Course Name</b>	<b>Course Code</b>	<b>Course Name</b>	<b>Sem.</b>
3	ELX301	Applied Mathematics III	ELC301	Engineering Mathematics III	3
3	ELX302	Electronic Devices and Circuits I	ELC302	Electronic Devices and Circuits I	3
3	ELX303	Digital Circuit Design	ELC303	Digital Logic Circuits	3
3	ELX304	Electrical Network Analysis and Synthesis	ELC304	Electrical Network Analysis and Synthesis	3
3	ELX305	Electronics Instruments and Measurement	ELC305	Electronics Instruments and Measurement	3
4	ELX401	Applied Mathematics IV	ELC401	Engineering Mathematics IV	4
4	ELX402	Electronic Devices and Circuits II	ELC402	Electronic Devices and Circuits II	4
4	ELX 403	Microprocessors and Applications	ELC403	Microcontroller Applications	4
4	ELX 404	Digital System Design	ELDO 601-4	Digital Design with Reconfigurable Architecture	6
4	ELX 405	Principles of Communication Engineering	ELC404	Analog Communication	4
4	ELX 406	Linear Control Systems	ELC501	Principles of Control System	5
5	ELX501	Micro-controllers and Applications	ELC403	Microcontroller Applications	4
5	ELX 502	Digital Communication	ELC504	Digital Communication	5
5	ELX 503	Engineering Electromagnetics	ELC602	Electromagnetic Engineering	6
5	ELX 504	Design with Linear Integrated Circuits	ELC503	Linear Integrated Circuits	5
		<b>Department Level optional courses I</b>			
5	ELXDLO5011	Data Base and Management System	ELDO702-4	Department Level Optional Course –IV: Data Science and applications	7
5	ELXDLO5012	Digital Control system	ELDO 601-1	Department Level Optional Course - II: Digital Control System	6
5	ELXDLO5013	ASIC Verification	ELDO802-3	Department Level Optional Course -VI: System on Chip	8
5	ELXDLO5014	Biomedical Instrumentation	ELDO 501-2	Department Level Optional Course - I : Biomedical Instrumentation	5
6	ELX601	Embedded System and RTOS	ELC604	Embedded Systems and Real Time Operating Systems	6
6	ELX602	Computer Communication Network	ELC603	Computer Communication Networks	6
6	ELX 603	VLSI Design	ELC601	Basic VLSI Design	6
6	ELX 604	Signals and systems	ELC405	Signals and Systems	4
		<b>Department Level optional courses II</b>			

6	ELXDLO6021	Microwave Engineering	ELDO702-1	Department Level Optional Course –IV: Wireless Communication	7
6	ELXDLO6022	Electronics Product Design	ELDO 801 -1	Department Level Optional Course -II: Web Design	8
6	ELXDLO6023	Wireless Communication	ELDO702-1	Department Level Optional Course –IV: Wireless Communication	7
6	ELXDLO6024	Computer Organization and Architecture	ELDO 501-4	Department Level Optional Course - I : Computer Organization Architecture	5
7	ELX701	Instrumentation System Design	ELC801	Industrial Automation	8
7	ELX702	Power Electronics	ELC701	Power Electronics	8
7	ELX703	Digital signal processing	ELC502	Digital Signal Processing	5
		<b>Department Level optional courses III</b>			
7	ELXDLO7031	Neural Network and Fuzzy Logic	ELDO 501-3	Department Level Optional Course - I: Neural Network and Fuzzy Logic	5
7	ELXDLO7032	Advance Networking Technologies	ELDO701-4	Department Level Optional Course –III: Advanced Networking Technologies	7
7	ELXDLO7033	Robotics	ELDO702-3	Department Level Optional Course -IV: Robotics	7
7	ELXDLO7034	Integrated Circuit Technology	ELDO802-4	Department Level Optional Course –VI: Integrated Circuit Technology	8
8	ELX801	Internet of Things	ELC702	Internet of Things	7
8	ELX 802	Analog and Mixed VLSI Design	ELDO701-1	Department Level Optional Course –III: Mixed Signal VLSI Design	7
8		<b>Department Level optional courses IV</b>			
8	ELXDLO8041	Advanced Power Electronics	ELDO801-3	Department Level Optional Course –V: Advanced Power Electronics	8
8	ELXDLO8042	MEMS Technology	ELDO801-1	Department Level Optional Course –V: Microelectromechanical Systems (MEMS	8
8	ELXDLO8043	Virtual Instrumentation	ELDO801-4	Department Level Optional Course –V: Virtual Instrumentation	8
8	ELXDLO8044	Digital Image Processing	ELDO 601-2	Department Level Optional Course – II: Digital Image Processing and Machine Vision	6

## INFORMATION TECHNOLOGY

Equivalence of Rev-2016 Scheme to Rev 2019 Scheme

Sr. No.	Rev-2016 Scheme			Rev-2019 'C' Scheme		
	Course Code	Sem	Course Name	Course Code	Sem	Course Name
<b>SEM-III</b>						
1	ITC301	III	Applied Mathematics III	ITC301	III	Engineering Mathematics-III
2	ITC302	III	Logic Design	ITC405	IV	Computer Organization and Architecture
3	ITC303	III	Data Structures & Analysis	ITC302	III	Data Structure and Analysis
4	ITC304	III	Database Management System	ITC303	III	Database Management System
5	ITC305	III	Principle of Communications	ITC304	III	Principle of Communication
6	ITL301	III	Digital Design Lab	ITL403	IV	Microprocessor Lab
7	ITL302	III	Data Structures Lab	ITL301	III	Data Structure Lab
8	ITL303	III	SQL Lab	ITL302	III	SQL Lab
9	ITL304	III	Java Programming Lab	ITL304	III	Java Lab (SBL)
<b>SEM-IV</b>						
10	ITC401	IV	Applied Mathematics-IV	ITC401	IV	Engineering Mathematics-IV
11	ITC402	IV	Computer Networks	ITC402	IV	Computer Network and Network Design
12	ITC403	IV	Operating Systems	ITC403	IV	Operating System
13	ITC404	IV	Computer Organization and Architecture	ITC405	IV	Computer Organization and Architecture
14	ITC405	IV	Automata Theory	ITC404	IV	Automata Theory
15	ITL401	IV	Networking Lab	ITL401	IV	Network Lab
16	ITL402	IV	Unix Lab	ITL402	IV	Unix Lab
17	ITL403	IV	Microprocessor Programming Lab	ITL403	IV	Microprocessor Lab
18	ITL404	IV	Python Lab	ITL404	IV	Python Lab (SBL)
<b>SEM-V</b>						
19	ITC501	V	Microcontroller and Embedded Programming	ITDO5011	V	Microcontroller Embedded Programming
20	ITC502	V	Internet Programming	ITC501	V	Internet Programming
21	ITC503	V	Advanced Data Management Technology	ITDO5012	V	Advance Data Management Technologies
22	ITC504	V	Cryptography & Network Security	ITC502	V	Computer Network Security
23	ITL501	V	Internet Programming Lab	ITL501	V	IP Lab
24	ITL502	V	Security Lab	ITL502	V	Security Lab

25	ITL503	V	OLAP Lab	ITL601	VI	Business Intelligence Lab
26	ITL504	V	IOT (Mini Project) Lab	ITL702	VII	IOE Lab
27	ITL505	V	Business Communication and Ethics	ITL505	V	Professional Communication & Ethics-II (PCE-II)
28	ITDLO5011	V	Advanced Data Structures & Analysis of Algorithms	ITDO5014	V	Advanced Data structure and Analysis
29	ITDLO5012	V	Image Processing	ITDO6012	VI	Image Processing
30	ITDLO5013	V	E-Commerce & E-Business	ITC503	V	Entrepreneurship and E- business
31	ITDLO5014	V	IT Enabled Services	ITDO6013	VI	Green IT
32	ITDLO5015	V	Computer Graphics & Virtual Reality	ITDO5013	V	Computer Graphics & Multimedia System
<b>SEM-VI</b>						
33	ITC601	VI	Software Engineering with Project Management	ITC504	V	Software Engineering
34	ITC602	VI	Data Mining and Business Intelligence	ITC601	VI	Data Mining & Business Intelligence
35	ITC603	VI	Cloud Computing & Services	ITDO8024	VIII	Cloud computing and Services
36	ITC604	VI	Wireless Networks	ITC603	VI	Wireless Technology
37	ITL601	VI	Software Design Lab	ITL503	V	DevOPs Lab
38	ITL602	VI	Business Intelligence Lab	ITL601	VI	BI Lab
39	ITL603	VI	Cloud Service Design Lab	ITL802	VIII	Cloud computing
40	ITL604	VI	Sensor Network Lab	ITL603	VI	Sensor Lab
41	ITM605	VI	Mini-project	ITM601	VI	Mini Project – 2 B Based on ML
42	ITDLO6021	VI	Advance Internet Programming	ITC602	VI	Web X.0
43	ITDLO6022	VI	Software Architecture	ITDO6011		Software Architecture
44	ITDLO6023	VI	Digital Forensics	ITDO6014		Ethical Hacking and Forensic
45	ITDLO6024	VI	Multimedia Systems	ITDO5013	V	Computer Graphics & Multimedia System
46	ITDLO6025	VI	Green IT	ITDO6013	VI	Green IT
<b>SEM-VII</b>						
47	ITC701	VII	Enterprise Network Design	ITC502	V	Computer Network Security
48	ITC702	VII	Infrastructure Security	ITDO7013	VII	Infrastructure Security
49	ITC703	VII	Artificial Intelligence	ITC604	VI	AI and DS – 1
50	ITL701	VII	Network Design Lab	ITL502	V	Security Lab
51	ITL702	VII	Advanced Security Lab	ITL502	V	Security Lab

52	ITL703	VII	Intelligence System Lab	ITL605	VI	DS using Python Skill based Lab
53	ITL704	VII	Android Apps Development Lab	ITL604	VI	MAD & PWA Lab
54	ITM705	VII	Project-I	ITP701	VII	Major Project I
55	ITDLO7031	VII	Storage Area Networks	ITDO7011	VII	Storage Area Network
56	ITDLO7032	VII	Mobile Application Development	ITDO7021	VII	MANET
57	ITDLO7033	VII	High Performance Computing	ITDO7012	VII	High Performance computing
58	ITDLO7034	VII	Software Testing and Quality Assurance	ITDO7014	VII	Software Testing and QA
59	ITDLO7035		Soft Computing	ITDO7023	VII	Quantum Computing
60	ITC801	VIII	Big Data Analytics	ITDO8011	VIII	Big Data Analytics
61	ITC802	VIII	Internet of Everything	ITC702	VII	Internet of Everything
62	ITL803	VIII	DevOps Lab	ITL503	V	DevOPs Lab
63	ITL804	VIII	R Programming Lab	ITL601	VI	Business Intelligence Lab
64	ITL805	VIII	Project-II	ITP801	VIII	Major Project II
65	ITDLO8041	VIII	User Interaction Design	ITDO8021	VIII	User Interface Design
66	ITDLO8042	VIII	Information Retrieval Systems	ITDO7024	VII	Information Retrieval System
67	ITDLO8043	VIII	Knowledge Management	ITDO8014	VIII	Knowledge management
68	ITDLO8044	VIII	Robotics	ITDO8022	VIII	Robotics
69	ITDLO8045	VIII	Enterprise Resource Planning	ITDO8023	VIII	ERP



**AUTOMOBILE ENGINEERING**  
Equivalent Subjects (Rev-2016 to Rev 2019)

Sr No	Scheme R 2016 CBCGS		Scheme R 2019 CBCS		
	Subject code	Subject Name	Subject code	Subject Name	Sem
<b>Sem VIII</b>					
	AEC801	Vehicle Maintenance	AEL701	Vehicle Maintenance Lab	7
	AEC802	Vehicle Dynamics	AEC702	Vehicle dynamics	7
	AEC803	Vehicle Safety	AEC603	Vehicle Body Engineering and Safety	6
	AEDLO8041	Hybrid Electric and Fuel cell Vehicles	AEC801	Hybrid and Electric Vehicles	8
	AEDLO8042	Rapid Prototyping	AEDLO8061	Product Design and Development	8
	AEDLO8043	Product Design and Development	AEDLO8061	Product Design and Development	8
	AEDLO8044	Transport Management and Motor Industry	AEDLO7041	Transport Management Systems	7
<b>Sem VII</b>					
	AEC701	Automotive Design	AEC 601	Automotive Systems & Design	6
	AEC702	CAD/CAM/CAE	AEC 404	CAD/CAM/	4
	AEC702	Autotronics	AEC 701	Autotronics	7
	AEDLO7031	Automotive NVH	PEDLO8014	Plant Engineering (Plant Engineering)	8
	AEDLO7032	Automotive Embedded Systems	AEDLO8052	Automotive Embedded Systems	8

	AEDLO7033	Automotive Aerodynamics and Aesthetics	AEDLO7033	Automotive Aerodynamics and Aesthetics	7
	AEDLO7034	Computational Fluid Dynamics	AEDLO7033	Automotive Aerodynamics and Aesthetics	7
<b>Sem VI</b>					
	AEC601	Chassis and Body Engineering	AEC603	Vehicle Body Engineering and Safety	6
	AEC602	Machine Design	AEC503	Machine Design	5
	AEC603	Finite Element Analysis	AEC504	Finite Element Analysis	5
	AEC604	Mechanical Vibrations	AEC602	Mechanical Vibrations	6
	AEDLO6021	Mechatronics	AEC604	Automation and AI	6
	AEDLO6022	Robotics	AEC604	Automation and AI	6
	AEDLO6023	Automotive Materials	AEDLO8051	Automotive Materials	8
<b>Sem V</b>					
	AEC501	Internal Combustion Engines	AEC502	Internal Combustion Engines	5
	AEC502	Mechanical Measurements and Control	AEC501	Mechanical Measurements and Control	5
	AEC503	Heat Transfer	AEDLO7043	Automotive Sensors and Control Systems	
	AEC504	Automotive Systems	AEC 601	Automotive Systems & Design	6
	AEDLO5011	Press Tool Design	AEDLO6021	Press Tool Design	6
	AEDLO5012	Machining Sciences and Tool Design	AEDLO6022	Tool Engineering	6
	AEDLO5013	Design of Jigs and Fixtures	MEDLO8063	Total Quality Management	8
<b>Sem IV</b>					

	AEC401	Applied Mathematics IV	AEC404	Applied Mathematics IV	4
	AEC402	Fluid Mechanics	AEC402	Fluid Mechanics	4
	AEC403	Industrial Electronics	AEC 405	Industrial Electronics	4
	AEC404	Production Process II	AEC 303	Production Processes	3
	AEC405	Kinematics of Machinery	AEC403	Kinematics of Machinery	4
<b>Sem III</b>					
	AEC301	Applied Mathematics III	AEC301	Applied Mathematics III	3
	AEC302	Thermodynamics	AEC 305	Thermodynamics	3
	AEC303	Strength of Materials	AEC302	Strength of Materials	3
	AEC304	Production Process I	AEC 303	Production Processes	3
	AEC305	Material Technology	AEC 304	Materials and Metallurgy	3

**MECHATRONICS ENGINEERING**  
Equivalent Subjects (Rev-2012 to Rev 2019)

Sr No	Scheme R 2012 CBCGS		Scheme R 2019 CBCS		
	Subject code	Subject Name	Subject code	Subject Name	Sem
<b>Sem VIII</b>					
	MTC801	Design of Mechatronic Systems	MTC702	Design of Mechatronic Systems	VII
	MTC802	Engineering Management & Economics	MTDLO8063	Engineering Management & Economics	VIII
	MTC803	Modelling & Simulation	MTC503	Mechatronic Systems Modelling And Control	V
	MTE8044	Robotics & Machine Vision	MTDLO8061	Robotics & Machine Vision	VIII
<b>Sem VII</b>					
	MTC701	CAD/CAM/CAE	MTC501	CAD/CAE	V
	MTC702	Manufacturing Planning & Control	ILO7015	Operation Research	VII
	MTC703	Communication Systems	MTDLO8052	Communications Systems	VIII
	MTC704	Automotive Electronics	MTC701	Automotive Mechatronics	VII
	MTE7052	Neural Networks and Fuzzy Logic	MTDLO7.032	Neural Networks and Fuzzy Logic	VII
	MTE7053	Micro Electro Mechanical System	MTC7043	Micro Electro Mechanical System	VII

<b>Sem VI</b>					
	MTC601	CNC technology	MTC601	Digital Manufacturing	VI
	MTC602	Metrology and Quality Engineering	MTDLO7041	Product Design and Development	
	MTC603	Dynamics of Machinery	MTDLO8062	UAV Systems	
	MTC604	Power Electronics and Drive	MTC602	Power Electronics and Drive	VI
	MTC605	Instrumentation and Control	MTC603	Instrumentation and Control	VI
	MTC606	Applied Hydraulics & Pneumatic	MTC604	Applied Hydraulics & Pneumatic	VI
<b>Sem V</b>					
	MTC501	Manufacturing Processes	MTDO504.2	Production Processes	V
	MTC502	Machine Design	MTC501	CAD and CAE	V
	MTC503	Sensors & Actuators	MTC502	Sensors & Actuators	V
	MTC504	Control Systems	MTC503	Mechatronic Systems Modeling & Control	V
	MTC505	Embedded Systems	MTC504	Embedded Systems	V
	MTC506	Operating Systems	MTDO501.3	Operating Systems	V
	MTC507	Business Communications & Ethics	MTL504	Professional Communications & Ethics	V
<b>Sem IV</b>					
	MTC401	Applied Mathematics -IV	MTC401	Engineering Mathematics - IV	IV
	MTC402	Kinematics of Machinery	MTC402	Kinematics of Machinery	IV
	MTC403	Fluid Mechanics & Machinery	MTC403	Thermal and Fluid Engineering	IV

	MTC404	Strength of Materials	MTC404	Strength of Materials	IV
	MTC405	Applications of Integrated Circuits	MTC405	Applications of Integrated Circuits	IV
	MTC406	Signals & Systems	MTDO501.1	Signal & Systems	V
<b>Sem III</b>					
	MTC301	Applied Mathematics-III	MTC301	Engineering Mathematics-III	III
	MTC302	Thermodynamics & Heat Transfer	MTC403	Thermal and Fluid Engineering	IV
	MTC303	Engineering Materials and Metallurgy	MTC303	Engineering Materials and Metallurgy	III
	MTC304	Digital Electronics	MTC304	Basic Electronics & Digital Circuit Design	III
	MTC305	Applied Electrical & Electronics Engineering	MTC305	Electrical Circuits and Machines	III

**BIOMEDICAL ENGINEERING**  
Sem III to Sem VIII R2016 to R2019 equivalence

SEM	Course Code	R2016	Course Code	R2019
III	BMC301	Applied Mathematics III	BMC301	Engineering Mathematics - III
	BMC302	Basics of Human Physiology	BMC302	Human Anatomy and Physiology for Engineers
	BMC303	Electrical Network Analysis and Synthesis	ECC304	Network Theory- III (EXTC)
	BMC304	Electronic Circuit Analysis and Design	BMC304	Electronic Circuit Analysis and Design
	BMC305	Biomaterials, Prosthetics and Orthotics	BMC405	Biomaterials and Artificial Organs
IV	BMC401	Applied Mathematics IV	BMC401	Engineering Mathematics - IV
	BMC402	Biomedical Transducers and Measuring Instruments	BMC303	Medical Sensors
	BMC403	Linear Integrated Circuits	BMC402	Integrated Circuit Design
	BMC404	Digital Electronics	BMC305	Digital Electronics
	BMC405	Signals and Control Systems	BMC403	Principles of Control Systems
V	BMC501	Diagnostic & Therapeutic Instruments	BMC501	Biomedical Instrumentation – I
	BMC502	Analog and Digital Circuit Design	BMC402	Integrated Circuit Design
	BMC503	Principles of Communication Engineering	BMDO5011	Principles of Communication Engineering
	BMC504	Biomedical Digital Signal Processing	BMC502	Digital Signal Processing
			Department Level Optional Course – I	
	BMDO5011	Healthcare Database Management	BMC603	Data Analysis in Healthcare
	BMDO5012	Biostatistics	BMC603	Data Analysis in Health Care

	<b>BMDO5013</b>	<b>Rehabilitation Engineering</b>	<b>BMDO7021</b>	<b>Rehabilitation Engineering</b>
<b>VI</b>	<b>BMC601</b>	<b>Biomedical Monitoring Equipment</b>	<b>BMC601</b>	<b>Biomedical Instrumentation – II</b>
	<b>BMC602</b>	<b>Microprocessors and Microcontrollers</b>	<b>BMC503</b>	<b>Microcontrollers and Embedded Systems</b>
	<b>BMC603</b>	<b>Digital Image Processing</b>	<b>BMC602</b>	<b>Biomedical Digital Image Processing</b>
	<b>BMC604</b>	<b>Medical Imaging-I</b>	<b>BMC404</b>	<b>Medical Imaging – I</b>
		<b>Department level Optional Course - II</b>		
	<b>BMDO6021</b>	<b>Healthcare Software</b>	<b>BMDO8012</b>	<b>Healthcare Informatics</b>
	<b>BMDO6022</b>	<b>Lasers and Fibre Optics</b>	<b>BMDO7022</b>	<b>Lasers and Fibre Optics</b>
	<b>BMDO6023</b>	<b>Biological Modelling and Simulation</b>	<b>BMDO7011</b>	<b>Biological Modeling and Simulation</b>
<b>VII</b>	<b>BMC701</b>	<b>Life saving and surgical Equipment</b>	<b>BMC701</b>	<b>Biomedical Instrumentation – III</b>
	<b>BMC702</b>	<b>Basics of VLSI</b>	<b>BMDO5012</b>	<b>Very Large Scale Integration</b>
	<b>BMC703</b>	<b>Medical Imaging-II</b>	<b>BMC504</b>	<b>Medical Imaging – II</b>
		<b>Department level Optional Course – III</b>		
	<b>BMDO7031</b>	<b>Networking and Information in Medical System</b>	<b>BMDO7023</b>	<b>Networking and Information Systems in Medicine</b>
	<b>BMDO7032</b>	<b>Advanced Image Processing</b>	<b>BMC504</b>	<b>Medical Imaging – II</b>
	<b>BMDO7033</b>	<b>Embedded Systems</b>	<b>BMDO6012</b>	<b>Advanced Embedded Systems</b>
<b>VIII</b>	<b>BMC801</b>	<b>Biomedical Microsystems</b>	<b>BMDO8021</b>	<b>Biomedical Microsystems</b>
	<b>BMC802</b>	<b>Hospital Management</b>	<b>BMC801</b>	<b>Hospital Management</b>
		<b>Department Level Optional Course – IV</b>		
	<b>BMDO8041</b>	<b>Health Care Informatics</b>	<b>BMDO8012</b>	<b>Health Care Informatics</b>
	<b>BMDO8042</b>	<b>Robotics in Medicine</b>	<b>BMDO8011</b>	<b>Robotics in Medicine</b>
	<b>BMDO8043</b>	<b>Nuclear Medicine</b>	<b>BMDO6011</b>	<b>Nuclear Medicine</b>



## INSTRUMENTATION ENGINEERING

### Equivalence of Rev 2016 syllabus to Rev- 2019 'C' Scheme

Sem/ year	Rev-2016		R-2019 (C-scheme)	
	Subject code	Subject name	Subject code	Subject name
S.E. III	ISC301	Applied Mathematics –III	ISC301	Engineering Mathematics-III
	ISC302	Analog Electronics	ISC303	Analog Electronics
	ISC303	Transducers – I	ISC302	Transducers-I
	ISC304	Digital Electronics	ISC304	Digital Electronics
	ISC305	Electrical Networks and Measurement	ISC305	Electrical Networks and Measurements
SE. IV	ISC401	Applied Mathematics –IV	ISC401	Engineering Mathematics -IV
	ISC402	Transducer – II	ISC402	Transducers-II
	ISC403	Feedback Control System	ISC404	Feedback Control System
	ISC404	Analytical Instrumentation	ISDOC5011	Analytical Instrumentation
	ISC405	Signal Conditioning Circuit Design	ISC403	Signal Conditioning and Circuit Design
TE - V	ISC501	Signals and Systems	ISC403	Signal Conditioning and Circuit Design
	ISC502	Applications of Microcontroller	ISC502	Applications of Microcontroller
	ISC503	Control System Design	ISC503	Control System Design
	ISC504	Control System Components	ISC405	Control System Components
	ISDLO5011	Advanced Sensors	ISDOC5014	Advanced Sensors
	ISDLO5012	Optimization Techniques	ISDOC6012	Optimization Techniques
	ISDL05013	Database Management System	ISDOC6013	Database Management Systems

	ISDLO5014	Fiber Optic Instrumentation		
TE-VI	ISC 601	Process Instrumentation System	ISC504	Process Instrumentation System
	ISC602	Industrial Data Communication	ISC603	Industrial Data Communication
	ISC603	Electrical Machines and Drives	ISC501	Electrical Machines and Drives
	ISC604	Digital Signal Processing	ISC602	Digital Signal Processing
	ISC605	Advanced Control System	ISDOC 7013	Advanced Control System
	ISDLO6021	Material Science	PEDO8012	Product Design and Industrial Marketing (Production Engg)
	ISDL06022	Computer Organization and Architecture	ISC502	Applications of Microcontroller
	ISDLO6023	Bio-Sensors and Signal Processing	ISDOC6014	Biosensors and Signal Processing
	ISDL06024	Nuclear Instrumentation	ISDOC5011	Analytical Instrumentation
BE-VII	ISC701	Industrial Process Control	ISC601	Industrial Process Control
	ISC702	Biomedical Instrumentation	ISDOC 8015	Advanced Biomedical Instrumentation
	ISC703	Industrial Automation	ISC702	Process Automation
	ISDLO7031	Image Processing	ISDOC 8013	Digital Image Processing
	ISDLO7032	Digital Control System	ISDOC 8011	Digital Control System
	ISDLO7033	Advanced Microcontroller Systems	ISDOC 7014	Advanced Microcontroller
	ISDLO7034	Mechatronics	ISDOC5013	Mechatronics
	ISDLO 7035	Building Automation	ISDOC8022	Building Automation
	ILO7011	Product Lifecycle Management	IOC7011	Product Lifecycle Management
	ILO7012	Reliability Engineering	IOC7012	Reliability Engineering
	ILO7014	Design of Experiments	IOC7014	Design of Experiments

	ILO7013	Management Information System	IOC7013	Management Information System
	ILO7015	Operation Research	IOC7015	Operation Research
	ILO7016	Cyber Security and Laws	IOC7016	Cyber Security and Laws
	ILO7017	Disaster Management and Mitigation Measures	IOC7017	Disaster Management and Mitigation Measures
	ILO7018	Energy Audit and Management	IOC7018	Energy Audit and Management
	ILO7019	Development Engineering	IOC7019	Development Engineering
BE VIII	ISC801	Instrumentation Project Documentation and Execution	ISC701	Instrumentation Project Documentation & Execution
	ISC802	Instrument and System design	ISC801	Instrument and System Design
	ISDLO8041	Expert System	ISDOC8012	Expert System
	ISDLO8042	Optimal Control System	ISDOC 8025	Optimal Control System
	ISDLO8043	Internet of Things	ISDOC8014	Internet of Things
	ISDLO8045	Functional Safety	ISDOC 8023	Functional Safety
	ILO8021	Project Management	IOC8022	Finance Management
	ILO8022	Finance Management	IOC8022	Finance Management
	ILO8023	Entrepreneurship Development and	IOC8023	Entrepreneurship Development and Management
	ILO8024	Human Resource Management	IOC8024	Human Resource Management
	ILO8025	Professional Ethics and Corporate Social Responsibility	IOC8025	Professional Ethics and Corporate Social Responsibility
	ILO8026	Research Methodology	IOC8026	Research Methodology
	ILO8027	IPR and Patenting	IOC8027	IPR and Patenting

ILO8028	Digital Business Management	IOC8028	Digital Business Management
ILO8029	Environmental Management	IOC8029	Environmental Management

## Computer Engineering

### Equivalence of Rev 2016 syllabus to Rev- 2019 'C' Scheme

Semester	Rev 2016	Rev 2019
Sem: III	Applied Mathematics -III	Engineering Mathematics-III
	Digital Logic Design and Analysis	Digital Logic & Computer Architecture
	Discrete Mathematics	Discrete Structures and Graph Theory
	Electronic Circuits and Communication Fundamentals	CSC304 Digital Logic & Computer Architecture
	Data Structures	Data Structure
Sem: IV	Applied Mathematics- IV	Applied Mathematics- IV
	Analysis of Algorithms	Analysis of Algorithms
	Computer Organization and Architecture	Digital Logic & Computer Architecture
	Computer Graphics	CSC305: Computer Graphics
	Operating System	CSC404: Operating System
Sem:V	Microprocessor	CSC405 Microprocessor
	Database Management System	CSC403 Database Management System
	Computer Network	CSC503 Computer Network
	Theory of Computer Science	CSC501 Theoretical Computer Science
	<ul style="list-style-type: none"> <li>• Multimedia System</li> <li>• Advance Operating System</li> <li>• Advance Algorithm</li> </ul>	<ul style="list-style-type: none"> <li>• CSDLO5012: Internet Programming</li> <li>• CSC404: Operating System</li> <li>• CSDLO5011: Probabilistic Graphical Models</li> </ul>
Sem: VI	Software Engineering	CSC502 Software Engineering
	System Programming & Compiler Construction	CSC601 System Programming & Compiler Construction

	Data Warehousing & Mining	CSC504 Data Warehousing & Mining
	Cryptography & System Security	CSC602 Cryptography & System Security
	<ul style="list-style-type: none"> <li>• Machine Learning</li> <li>• Advance Database System</li> <li>• Enterprise Resource Planning</li> <li>• Advance Computer Network</li> </ul>	<ul style="list-style-type: none"> <li>• CSC 701: Machine Learning</li> <li>• CSDLO5013: Adv. Database Management System</li> <li>• ERP – (Information Technology)</li> <li>• CSC503 Computer Network</li> </ul>
Sem: VII	Digital Signal & Image Processing	CSDLO6012: Digital Signal & Image Processing
	Mobile Communication & Computing	CSC603 Mobile Computing
	Artificial Intelligence & Soft Computing	CSC604 Artificial Intelligence
	<ul style="list-style-type: none"> <li>• Adv. Security &amp; Digital Forensics</li> <li>• Big Data &amp; Analytics</li> <li>• Robotics</li> </ul>	<ul style="list-style-type: none"> <li>• CSDC8012: Digital Forensic</li> <li>• CSC 702 Big Data Analytics</li> <li>• Robotics – (Information Technology Branch)</li> </ul>
	ILO7011. Product Lifecycle Management ILO7012. Reliability Engineering ILO7013. Management Information System ILO7014. Design of Experiments ILO7015 Operation Research ILO7016. Cyber Security and Laws ILO7017. Disaster Management & Mitigation Measures ILO7018. Energy Audit and Management ILO7019. Development Engineering	ILO7011. Product Lifecycle Management ILO7012. Reliability Engineering ILO7013. Management Information System ILO7014. Design of Experiments ILO7015. Operation Research ILO7016. Cyber Security and Laws ILO7017. Disaster Management & Mitigation Measures ILO7018. Energy Audit and Management ILO7019. Development Engineering
Sem: VIII	Human Machine Interaction	ARVR
	Distributed Computing	Distributed Computing

	<ul style="list-style-type: none"> <li>• Adv. System Security &amp; Digital Forensics</li> <li>• Big Data &amp; Analytics</li> <li>• Robotics</li> </ul>	<ul style="list-style-type: none"> <li>• CSDC8012 : Digital Forensic</li> <li>• CSDC8013 : Applied Data Science</li> <li>• Robotics – (Information Technology Branch)</li> </ul>
	<p>ILO7011. Product Lifecycle Management  ILO7012. Reliability Engineering  ILO7013. Management Information System  ILO7014. Design of Experiments  ILO7015. Operation Research  ILO7016. Cyber Security and Laws  ILO7017. Disaster Management &amp; Mitigation Measures  ILO7018. Energy Audit and Management  ILO7019. Development Engineering</p>	<p>ILO7011. Product Lifecycle Management  ILO7012. Reliability Engineering  ILO7013. Management Information System  ILO7014. Design of Experiments  ILO7015. Operation Research  ILO7016. Cyber Security and Laws  ILO7017. Disaster Management &amp; Mitigation Measures  ILO7018. Energy Audit and Management</p>

## CHEMICAL ENGINEERING

Equivalence of Rev-2016 Scheme to Rev 2019 Scheme

Sr. No.	Rev-2016 Scheme			Rev-2019 'C' Scheme		
	Course Code	Sem	Course Name	Course Code	Sem	Course Name
1	CHC301	III	Applied Mathematics-III	CHC301	III	Engineering Mathematics-III
2	CHC302	III	Engineering Chemistry I	CHC302	III	Industrial and Engineering Chemistry I
3	CHC303	III	Fluid Flow Operations (FFO)	CHC303	III	Fluid Flow Operations
4	CHC304	III	Chemical Engineering Thermodynamics I	CHC304	III	Chemical Engineering Thermodynamics I
5	CHC305	III	Process Calculations	CHC305	III	Process Calculations
6	CHC306	III	Chemical Technology	CHC304	III	Chemical Engineering Thermodynamics I
7	CHL301	III	Engineering Chemistry-I Lab	CHL301	III	Industrial and Engineering Chemistry I Lab
8	CHL302	III	Chemical Engineering Lab I (FFO)	CHL302	III	Fluid Flow Operation Lab
9	CHL303	III	Chemical Engineering Lab II (Synthesis )	CHL303	III	Basic Chemical Engineering Lab
10	CHC401	IV	Applied Mathematics-IV	CHC401	IV	Engineering Mathematics-IV
11	CHC402	IV	Engineering Chemistry II	CHC402	IV	Industrial and Engineering Chemistry II
12	CHC403	IV	Chemical Engineering Thermodynamics II	CHC405	IV	Chemical Engineering Thermodynamics II
13	CHC404	IV	Solid Fluid Mechanical Operations (SFMO)	CHC404	IV	Solid Fluid Mechanical Operations
14	CHC405	IV	Mechanical Equipment Design (MED)	CHC503	V	Chemical Reaction Engineering -
15	CHC406	IV	Chemical Engineering Economics	CHC604	VI	Process Engineering and Economics
16	CHL401	IV	Engineering Chemistry-II Lab	CHL401	IV	Industrial and Engineering Chemistry II Lab
17	CHL402	IV	Chemical Engineering Lab III (SFMO)	CHL403		Solid Fluid Mechanical Operation Lab
18	CHL403	IV	MED Lab	CHL404	IV	Skilled based lab: Design Calculation of Auxiliary Plant Equipment
19	CHC501	V	Computer programming and Numerical Methods	CHC403	IV	Numerical Method in Chemical Engineering
20	CHC502	V	Mass transfer Operations-I (MTO- I)	CHC501	V	Mass transfer Operations-I
21	CHC503	V	Heat transfer Operations (HTO)	CHC502	V	Heat transfer Operations



22	CHC504	V	Chemical Reaction Engineering-I (CRE I)	CHC503	V	Chemical Reaction Engineering-I
23	CHC505	V	Business Communication & Ethics	CHL504	V	Skilled Based Lab: Professional Communication and Ethics II Lab
24	CHDE501X	V	Department Elective I			
25	CHDE5011	V	Piping Engineering	CHDO6021	VI	Piping Engineering
26	CHDE5012	V	Colloids and Interfaces	CHDO7032	VII	Fundamental of Colloids and Interface Science and Technology
27	CHDE5013	V	Advanced Material Sciences	CHDO5012	V	Advanced Material Sciences
28	CHDE5014	V	Instrumentation	CHC402	IV	Industrial and Engineering Chemistry II
29	CHL501	V	Computer programming and Numerical Methods Lab	CHL402	IV	Numerical Methods in Chemical Engineering lab
30	CHL502	V	Chemical Engineering Lab IV (MTO-I)	CHL501	V	Mass transfer Operations-I Lab
31	CHL503	V	Chemical Engineering Lab V (HTO)	CHL502	V	Heat transfer Operations Lab
32	CHL504	V	Chemical Engineering Lab VI (CRE-I)	CHL503	V	Chemical Reaction Engineering-I Lab
33	CHC601	VI	Environmental Engineering (EE)	CHC603	VI	Pollution Control Technology
34	CHC602	VI	Mass transfer Operations –II (MTO-II)	CHC601	VI	Mass Transfer Operation II
35	CHC603	VI	Transport Phenomenon	CHC504	V	Transport Phenomena
36	CHC604	VI	Chemical Reaction Engineering –II (CRE- II)	CHC602	VI	Chemical Reaction Engineering II
37	CHC605	VI	Plant Engineering & Industrial Safety	CHDO7041	VII	Chemical Plant Safety and Hazards
38	CHDE602X	VI	Department Elective II			
39	CHDE6021	VI	Computational Fluid Dynamics	CHC504	V	Transport Phenomena
40	CHDE6022	VI	Operation Research	CHDO7043	VII	Operation Research
41	CHDE6023	VI	Biotechnology	CHDO8062	VIII	Biotechnology
42	CHL601	VI	Chemical Engineering Lab VII (EE)	CHL603	VI	Pollution Control Technology Lab
43	CHL602	VI	Chemical Engineering Lab VIII (MTO-II)	CHL601	VI	Mass Transfer Operation II Lab
44	CHL603	VI	Chemical Engineering Lab IX CRE-II)	CHL602	VI	Chemical Reaction Engineering II Lab
45	CHC701	VII	Process Equipment Design. (PED)	CHC502	V	Heat Transfer Operations
46	CHC702	VII	Process Engineering	CHC604	VI	Process Engineering and Economics
47	CHC703	VII	Process Dynamics and Control (PDC)	CHC701	VII	Instrumentation Process Dynamics and Control

48	CHDE703X		Department Elective III			
49	CHDE7031	VII	Corrosion Engineering	CHDO7031	VII	Corrosion Engineering
50	CHDE7032	VII	Industrial organization and Management	CHDO6023	VI	Industrial Organization and Management
51	CHDE7033	VII	Petroleum Refining Technology	CHDO7042	VII	Petroleum Refining Technology
52	CHDE7034	VII	Food Technology	CHDO5011	V	Food Engineering
53	CHP701	VII	Project A	CHP701	VII	Major Project I
54	CHS701	VII	Seminar	CHM501	V	Mini Project-2A
55	CHL701	VII	PED Lab	CHL702	VII	Chemical Engineering Equipment Design Lab
56	CHL702	VII	Chemical Engineering Lab X (PDC)	CHL701	VII	Instrumentation Process Dynamics and Control Lab
57	CHC801	VIII	Modeling, Simulation & Optimization (MSO)	CHC801	VIII	Modelling Simulation and Optimization
58	CHC802	VIII	Project Engineering & Entrepreneurship Management	CHDO7033	VII	Project Management for Chemical Process Industries
59	CHC803	VIII	Energy System Design	CHDO8051	VIII	Energy System Design
60	CHDE804X	VIII	Department Elective IV			
61	CHDE8041	VIII	Advanced Process Control	CHC701	VII	Instrumentation Process Dynamics and Control
62	CHDE8042	VIII	Total Quality Management	CHDO5013	V	Total Quality Management
63	CHDE8043	VIII	Advanced Separation Technology	CHDO8052	VIII	Advanced Separation Technology
64	CHDE8044	VIII	Polymer Technology	CHDO6022	VI	Polymer Technology
65	CHP801	VIII	Project B	CHP801	VIII	Major Project II
66	CHL801	VIII	Chemical Engineering Lab XI (MSO)	CHL801	VIII	Modelling Simulation and Optimization Lab

**Offg. Associate Dean**  
**Faculty of Science and Technology**

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