

University of Mumbai



No. AAMS_UGS/ICC/2023-24/74

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/243 of 2017-18 dated 17th October, 2017 relating to the Equivalence/alternate subjects of the M.E. Level syllabus for all branches of Revised 2012-13 with credit and grading system from the academic year 2017-18 (i.e. from December, 2017 Exam).

They are hereby informed that the recommendations made by the Board of Deans at its meeting held on 27th October, 2023 **vide** item No. 6.18 (N) have been accepted by the Academic Council at its meeting held on 01st November, 2023 **vide** item No. 6.18 (N) and that in accordance therewith, the **Equivalence/alternate subjects of the M.E. program Revised 2016 to Rev. 2022** 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).

MUMBAI – 400 032
24th 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/6.18 (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),

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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,

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

UNIVERSITY OF MUMBAI



MASTER OF ENGINEERING SUBJECTS EQUIVALENCE

REV-2016' B SCHEME To REV-2022' C SCHEME

Under

FACULTY OF SCIENCE & TECHNOLOGY

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Table showing the subjects as per the Old scheme of the syllabus (R-2016 CBCGS) and the subjects equivalent / alternative to these subjects as per the Revised Scheme of Syllabus (R-2022 Choice based)

M.E. Civil Engineering (with Structural Engineering Subjects)

Sr. No.	Old Scheme (R-2016 CBCGS)		Revised Scheme (R-2022 Choice based)			
	Subject Code	Subject Name	Subject Code	Subject name	Sem	Remark
Semester I						
1	STR-C101	Theory of Elasticity, Plasticity and Stability	STRC101	Theory of Elasticity and Elastic Stability	I	Equivalent
2	STR-C102	Foundation Analysis and Design	STRPE1014	Advanced Geo-technical Engineering	I	Equivalent
3	STR-C103	Advanced Prestressed Concrete Structures	STRPE1013	Advanced Pre-stressed Concrete Structures	I	Equivalent
4	STR-DLO1011	Design of Bridge Structures	STRPE2044	Design of Bridge Structures	II	Equivalent
5	STR-DLO 1012	Analysis and Design of Transportation Structure	STRPE2043	Analysis and Design of Environmental & Hydraulic Structures	II	Alternate
6	STR-DLO1013	Analysis of Composite Structure	STRPE1012	Analysis of Composite Structures	I	Equivalent
7	STR-DLO1014	Numerical Methods	STRPE1011	Advanced Numerical Methods	I	Equivalent
8	STR-DLO1015	Advance Concrete Technology	STRPE2033	Advanced Concrete Technology	II	Equivalent
	STR-DLO1016	Analysis and Design of Multi-storey buildings	STRPE1021	Analysis and Design of Multi-storey Buildings	I	Equivalent
Sr. No.	Old Scheme (R-2016 CBCGS)		Revised Scheme (R-2022 Choice based)			
	Subject Code	Subject Name	Subject Code	Subject name	Sem	Remark
Semester II						
1	STR-C201	Finite Element Analysis	STRC201	Finite Element Analysis	II	Equivalent

2	STR-C202	Structural Dynamics	STRC102	Structural Dynamics	I	Equivalent
3	STR-C203	Advanced Design of Concrete Structures	STRPE1022	Advanced Design of Concrete Structures	I	Equivalent
4	STR-DLO 2011	Theory of Plate and Shells	STRC202	Theory of Plates and Shells	II	Equivalent
5	STR-DLO 2012	Analysis and Design of Environmental and Hydraulic Structures	STRPE2043	Analysis and Design of Environmental & Hydraulic Structures	II	Equivalent
6	STR-DLO 2013	Design of Industrial Structures	STRPE2041	Design of Industrial Structure	II	Equivalent
7	STR-DLO 2014	Health Monitoring and Rehabilitation of Structures	STRPE2032	Health Monitoring and Rehabilitation of Structures	II	Equivalent
8	STR-DLO 2015	Design of Green Buildings	STRPE2042	Design of Green Buildings	II	Equivalent
9	STR-DLO 2016	Earthquake Engineering	STRPE2031	Earthquake Engineering	II	Equivalent

***Note: All ILOC courses are as it is as in 2022, so not syllabus change or equivalence required for ILOC courses**

M.E. Civil (With Construction Engineering & Management Subjects)

Sr. No.	Old Scheme (R-2016 CBCGS)		Revised Scheme (R-2022 Choice based)			
	Subject Code	Subject Name	Subject Code	Subject name	Sem	Remark
Semester I						
1	CEMC 101	Probability & Statistics	CEMC 101	Statistical Methods in Construction	I	Equivalent
2	CEMC 102	Management and Project Planning In Construction	CEMC 102	Project Management & Planning in Construction	I	Equivalent
3	CEM 103	Construction Contracts, Administration & Management	CEMPE1011	Contract Management	I	Equivalent
4	DLOC101	Advanced Construction Materials	CEMPE1023	Sustainable Construction Practices	I	Equivalent
5	DLOC102	<i>Repairs, Rehabilitation & Retrofitting of Structures.</i>	CEMPE2012	Building Services and Repairs	II	Equivalent
6	DLOC103	Resource Management	CEMPE1022	Resource Management	I	Equivalent
7	DLOC104	Quality control & safety in Construction	CEMPE2023	Quality and Risk Management	II	Equivalent
8	DLOC105	Value Engineering	CEMPE1013	Value Engineering	I	Equivalent
Sr. No.	Old Scheme (R-2016 CBCGS)		Revised Scheme (R-2022 Choice based)			
	Subject Code	Subject Name	Subject Code	Subject name	Sem	Remark
Semester II						
1	CEMC 201	Advanced Construction Technology	CEMPE2022	Advanced Construction Technology	II	Equivalent
2	CEMC 202	Infrastructure Development	CEMC202	Infrastructure Development	II	Equivalent
3	CEM 203	Project Economics & Financial Management	CEMC201	Project Economics and Financial Management	II	Equivalent
4	DLOC201	Remote Sensing & GIS in Construction.	CEMPE2023	Remote Sensing and Geographical Information System	II	Equivalent

5	DLOC202	Risk Management in Construction	CEMPE2023	Quality and Risk Management	II	Equivalent
6	DLOC203	Thrust Areas in Construction	CEMPE2013	Thrust Areas in Project Management	II	Equivalent
7	DLOC204	Energy Conservation Techniques in Building Construction	CEMPE1023	Sustainable Construction Practices	I	Equivalent
8	DLOC205	Principles of Architecture & Planning	CEMPE1012	Urban Infrastructure Planning	I	Alternate

***Note: All ILOC courses are as it is as in 2022, so not syllabus change or equivalence required for ILOC courses**

Master of Engineering (Mechanical Engineering)
Energy System and Management: Equivalent Subjects
(Rev-2016 to Rev 2022)

Sr No	Scheme R 2016 CBCGS		Scheme R 2022 CBCS		
	Subject code	Subject Name	Subject code	Subject Name	Sem
Sem I					
	ESMC101	Energy Scenario, Policy and Environment	ESMC101	Energy Scenario, Policy and Environment	I
	ESMC102	Energy Efficiency in Thermal Systems	ESMC102	Energy Efficiency in Thermal Systems	I
	ESMC103	Conventional Power Plants	ESMPE1013	Conventional Power Plants	I
	ESMDLO1011	Utilization of Solar Energy ^{#&}	ESMPE1011	Utilization of Solar Energy	I
	ESMDLO1012	Cogeneration and Waste Heat Recovery Systems	ESMPE1012	Cogeneration and Waste Heat Recovery Systems	I
	ESMDLO1013	Alternative Fuels ^{#&}	ESMPE1021	Alternative Fuels	I
	ESMDLO1014	Energy Systems Modeling and Analysis	ESMPE1022	Energy Systems Modeling and Analysis	I
	ILO101X	Institute Level Optional Course I	ESMIE101	Institute Elective 1	I
# Common with Energy Systems and Management and Thermal Engineering & Common with Energy Systems and Management and Heat Power Engineering					
Sem II					
	ESMC201	Advances in Energy Management and Audit	ESMC201	Advances in Energy Management and Audit	II
	ESMC202	Energy Efficiency in Electrical Systems	ESMC202	Energy Efficiency in Electrical Systems	II

	ESMC203	Renewable & Sustainable Energy Systems	ESMPE2011	Renewable & Sustainable Energy Systems	II
	ESMDLO2021	Energy Storage Systems	ESMPE2012	Energy Storage Systems	II
	ESMDLO2022	Fuels Combustion and Emission Control	ESMPE2013	Fuels Combustion and Emission Control	II
	ESMDLO2023	Energy Measurement and Control Instruments	ESMPE2021	Energy Measurement and Control Instruments	II
	ESMDLO2024	Energy Systems & Environmental Impact	ESMPE2022	Energy Systems & Environmental Impact	II
	ILO202X	Institute Level Optional Course II	ESMIE201	Institute Elective 2	II

Master of Engineering (Mechanical Engineering)
Heat Power Engineering: Equivalent Subjects (Rev-2016 to Rev 2022)

Sr No	Scheme R 2016 CBCGS		Scheme R 2022 CBCS		
	Subject code	Subject Name	Subject code	Subject Name	Sem
Sem I					
	HPEC101	Advanced Heat Transfer [#]	HPEC101	Advanced Heat Transfer	I
	HPEC102	Advanced Thermodynamics	HPEC102	Advanced Thermodynamics	I
	HPEC103	Gas Turbine and Steam Turbine	HPEPE1011	Gas Turbine and Steam Turbine	I
	HPEDLO1011	Utilization of Solar Energy ^{#&}	HPEPE1012	Utilization of Solar Energy ^{#&}	I
	HPEDLO1012	Cogeneration and Waste Heat Recovery Systems ^{#&}	HPEPE1013	Cogeneration and Waste Heat Recovery Systems	I
	HPEDLO1013	Alternative Fuels ^{#&}	HPEPE1021	Alternative Fuels	I
	HPEDLO1014	Design of Refrigeration and Air conditioning Systems	HPEPE1022	Design of Refrigeration and Air conditioning Systems	I
	ILO101X	Institute Level Optional Course I	HPEIE101X	Institute Elective 1	I
# Common with Thermal Engineering and Heat Power Engineering & Common for Thermal Engineering and Energy Systems and Management					
Sem II					

	HPEC201	Modelling and Analysis in Thermal Engineering #	HPEC201	Modelling and Analysis in Thermal Engineering	II
	HPEC202	Advanced Fluid Mechanics	HPEC202	Advanced Fluid Mechanics	II
	HPEC203	Heat Exchanger Design and Performance	HPEPE2011	Heat Exchanger Design and Performance	II
	HPEDLO2021	Cryogenics [#]	HPEPE2012	Cryogenics	II
	HPEDLO2022	Computational Fluid Dynamics& Heat Transfer	HPEPE2013	Computational Fluid Dynamics & Heat Transfer	II
	HPEDLO2023	Advanced Turbo Machinery [#]	HPEPE2021	Advanced Turbo Machinery	II
	HPEDLO2024	Non-Conventional Power Plants [#]	HPEPE2022	Non-Conventional Power Plants	II
	ILO202X	Institute Level Optional Course II	HPEIE201X	Institute Elective 2	II

Master of Engineering (Mechanical Engineering)
Machine Design: Equivalent Subjects (Rev-2016 to Rev 2022)

Sr No	Scheme R 2016 CBCGS		Scheme R 2022 CBCS		
	Subject code	Subject Name	Subject code	Subject Name	Sem
Sem I					
	MDC101	Mechanical Vibration	MDC101	Mechanical Vibration	I
	MDC102	Analysis and Synthesis of Mechanisms	MDC202	Analysis and Synthesis of Mechanisms	II
	MDC103	Advanced Stress Analysis	MDC102	Advanced Stress Analysis	I
	MDDLO1011	Process Equipment Design	MDPE1021	Process Equipment Design	I
	MDDLO1012	Rapid Prototyping and Tooling	MDPE1023	Rapid Prototyping and Tooling	I
	MDDLO1013	Fracture Mechanics	MDPE2021	Fracture Mechanics	II
	MDDLO1014	Composite Materials	MDPE1011	Composite Materials	I
	ILO101X	Institute Level Optional Course I	MDIE101X	Institute Elective 1	I
Sem II					
	MDC201	System Modeling & Analysis	MDC201	System Modeling & Analysis	II
	MDC202	Optimization	MDPE2011	Optimization	II

	MDC203	Machine Tool Design	MDPE1013	Machine Tool Design	I
	MDDLO2021	Theory of Plates	MDPE2022	Theory of Plates	II
	MDDLO2022	Micro Electro Mechanical Systems	MDPE2023	Micro Electro Mechanical Systems	II
	MDDLO2023	Smart Materials	MDPE1012	Smart Material	I
	MDDLO2024	Tribology	MDPE1022	Tribology	I
	ILO202X	Institute Level Optional Course II	MDIE201X	Institute Elective 2	II

Master of Engineering (Mechanical Engineering)
Manufacturing Systems Engineering: Equivalent Subjects
(Rev-2016 to Rev 2022)

Sr No	Scheme R 2016 CBCGS		Scheme R 2022 CBCS		
	Subject code	Subject Name	Subject code	Subject Name	Sem
Sem I					
	MSEC101	Product Design & Development	MSEPE1011	New Product Design & Development	I
	MSEC102	Computer Integrated Manufacturing Systems	MSEC101	Computer Integrated Manufacturing Systems	I
	MSEC103	Quality Engineering	MSEC102	Quality Engineering	I
	MSEDLO1011	Advanced Material Science	MSEPE1012	Advanced Materials Science	I
	MSEDLO1012	World Class Manufacturing	MSEPE1013	World Class Manufacturing	I
	MSEDLO1013	Knowledge Management	MSEPE1022	Knowledge Management	I
	MSEDLO1014	Precision Engineering	MSEPE1021	Precision Engineering	I
	ILO101X	Institute Level Optional Course I	MSEIE101X	Institute Elective 1	I
Sem II					
	MSEC201	Sustainable Manufacturing	MSEPE2011	Strategic Manufacturing for Sustainability	II
	MSEC202	Industrial Automation	MSEC201	Industrial Automation	II

	MSEC203	Advanced Quantitative Techniques	MSEC202	Advanced Quantitative Techniques	II
	MSEDLO2021	Logistics & Supply Chain Management	MSEPE2021	Logistics & Supply Chain Management	II
	MSEDLO2022	Business Intelligence	MSEIE1013	Management Information System	I
	MSEDLO2023	Rapid Prototyping and Tooling	MSEPE2012	Additive Manufacturing and Rapid Prototyping	II
	MSEDLO2024	Micro and Nano Manufacturing	MSEPE1023	Micro and Nano Manufacturing	I
	ILO202X	Institute Level Optional Course II	MSEIE20X	Institute Elective 2	II

Master of Engineering (Mechanical Engineering)
Product Design and Development: Equivalent Subjects (Rev-2016 to Rev 2022)

Sr No	Scheme R 2016 CBCGS		Scheme R 2022 CBCS		
	Subject code	Subject Name	Subject code	Subject Name	Sem
Sem I					
	PDDC101	Product Design and Development	PDDC101	Product Design and Development	I
	PDDC102	Rapid Prototyping and Tooling	PDDC102	Rapid Prototyping and Tooling	I
	PDDC103	Material in Product Design and Development	PDDPE1011	Materials in Product Design and Development	I
	PDDDLO1011	Computer Aided Product Development	PDDPE1021	Computer Aided Product Development	I
	PDDDLO1012	Creativity in Design	PDDPE1022	Creativity and innovation in Design	I
	PDDDLO1013	Die Design and Development	PDDPE1023	Die Design and Development	I
	PDDDLO1014	Product Packaging	PDDPE1013	Product Packaging	
	ILO101X	Institute Level Optional Course I	PDDIE101X	Institute Elective 1	I
Sem II					
	PDDC201	Quality Concepts in Design	PDDC201	Quality Concepts in Design	II
	PDDC202	Design for X	PDDC202	Design for X	II

	PDDC203	Applied Ergonomics	PDDPE2011	Applied Ergonomics	II
	PDDDLO2021	Vehicle Design	PDDPE2021	Vehicle Design	II
	PDDDLO2022	Polymeric Material and Processing	PDDPE2013	Polymeric Material and Processing	II
	PDDDLO2023	Reverse Engineering	PDDPE2022	Reverse Engineering	II
	PDDDLO2024	Product Marketing	PDDPE2023	Product Marketing	II
	ILO202X	Institute Level Optional Course II	PDDIE201X	Institute Elective 2	II

Master of Engineering (Mechanical Engineering)
Thermal Engineering: Equivalent Subjects
(Rev-2016 to Rev 2022)

Sr No	Scheme R 2016 CBCGS		Scheme R 2022 CBCS		
	Subject code	Subject Name	Subject code	Subject Name	Sem
Sem I					
	TEC101	Advanced Heat Transfer [#]	TEC101	Advanced Heat Transfer	I
	TEC102	Refrigeration and Air conditioning System Design	TEC201	Refrigeration and Air conditioning System Design	II
	TEC103	Numerical Methods and Computational Techniques	TEC102	Numerical Methods and Computational Techniques	I
	TEDLO1011	Utilization of Solar Energy ^{#&}	TEPE1011	Solar Thermal Engineering	I
	TEDLO1012	Cogeneration and Waste Heat Recovery Systems	TEPE1012	Cogeneration and Waste Heat Recovery Systems	I
	TEDLO1013	Alternative Fuels ^{#&}	TEPE1013	Alternative Fuels	I
	TEDLO1014	Steam and Gas Turbines	TEPE2022	Steam and Gas Turbines	II
	ILO101X	Institute Level Optional Course I	TEIE101X	Institute Elective 1	I
# Common with Thermal Engineering and Heat Power Engineering & Common for Thermal Engineering and Energy Systems and Management					
Sem II					

	TEC201	Modelling and Analysis in Thermal Engineering [#]	TEPE2013	Modeling and Analysis in Thermal Engineering	II
	TEC202	Computational Fluid Dynamics	TEC202	Computational Fluid Dynamics	II
	TEC203	Heat Exchanger Design and Performance [#]	TEPE2023	Heat Exchanger Design and Performance	II
	TEDLO2021	Cryogenics [#]	TEPE2011	Cryogenics	II
	TEDLO2022	Internal Combustion Engine Design	TEPE2012	Internal Combustion Engine Design	II
	TEDLO2023	Advanced Turbo Machinery [#]	TEPE1021	Advanced Turbo Machinery	I
	TEDLO2024	Non-Conventional Power Plants [#]	TEPE2021	Non-Conventional Power Plants	II
	ILO202X	Institute Level Optional Course II	TEIE201X	Institute Elective 2	II
[#] Common with Thermal Engineering and Heat Power Engineering & Common with Thermal Engineering and Energy Systems and Management					

Master of Engineering (Mechanical Engineering)
CAD CAM and Robotics: Equivalent Subjects
(Rev-2016 to Rev 2022)

Sr No	Scheme R 2016 CBCGS		Scheme R 2022 CBCS		
	Subject code	Subject Name	Subject code	Subject Name	Sem
Sem I & II					
	CCC101	Computer Aided Design	CCC101	Computer Aided Design	I
	CCC102	Control Engineering	CCPE2013	Control Engineering	II
	CCC103	Mechatronics	CCC102	Mechatronics and Automation	I
	ILO101X	Institute Level Optional Course	CCIE101X	Institute Elective 1	I
	CCDLO1011	Product Design	CCPE2011	Product Design	II
	CCDLO1012	Simulation and Modeling	CCPE1013	Simulation and Modelling	I
	CCDLO1013	Artificial Intelligence and Expert Systems	CCPE1011	Artificial Intelligence and Expert System	I
	CCDLO1014	Advanced Finite Element Analysis	CCPE2012	Advanced Finite Element Analysis	II
Sem II					
	CCC201	Robotics	CCC201	Industrial Robotics	II
	CCC202	Advanced Manufacturing Technology	CCPE1023	Advanced Manufacturing Technology	I
	CCC203	Computer Aided Machining (CAM)	CCC202	Computer Aided Machining (CAM)	II
	CCDLO2021	Smart Materials	CCPE1012	Smart Materials	I

	CCDLO2022	Rapid Manufacturing	CCPE2021	Rapid Manufacturing	II
	CCDLO2023	MEMS	CCPE1021	MEMS	I
	CCDLO2024	Optimization	CCPE1022	Optimization	I
	ILO201X	Institute Level Optional Course II	CCIE201X	Institute Elective 2	II

**M.E. Electrical Engineering (Power Electronics and Drives)
Subject Equivalence (Rev-2016 to Rev-2022)**

Rev-2016 Sem. I M.E. Electrical Engineering (Power Electronics and Drives) Subject Equivalence						
Code	Rev-2016 CBCGS Subjects	Sem	Rev-2022 Subjects	Code	Sem	Equivalence/ Alternate
PEDC101	Applied Linear Algebra	I	Design of Electric Vehicle System	PEDPE2021	II	Alternate
PEDC102	Power Electronic Technologies	I	Power Electronic Converters	PEDC102	I	Equivalence
PEDC103	Electrical Machine Modeling and Analysis	I	Digital Control of Electrical Drives	PEDC202	II	Alternate
PEDDLO1011	Power Electronics in Power System	I	Power Electronics in Power Systems	PEDPE2011	II	Equivalence
PEDDLO1012	Renewable Energy Systems and Energy Storage	I	IoT application in Electrical Engineering	PEDPE1023	I	Alternate
PEDDLO1013	Electrical and Hybrid Vehicle Technology	I	Electric Vehicle Technology	PEDPE1013	I	Equivalence
PEDDLO1014	Microgrid and Smart Grid	I	Micro-grid Technology	PEDPE1022	I	Equivalence
PEDDLO1015	Dynamic Analysis of Synchronous Machine	I	Machine Learning Techniques in Power System	PEDPE1011	I	Alternate

Rev-2016 Sem. II M.E. Electrical Engineering (Power Electronics and Drives) Subject Equivalence						
Code	Rev-2016 CBCGS Subjects	Sem	Rev-2022 Subjects	Code	Sem	Equivalence/ Alternate
PEDC201	Power Quality Issues and Mitigation	II	Power Quality in Power System	PEDPE1012	I	Equivalence
PEDC202	Advanced Power Electronic Converters	II	Advanced Power Electronics	PEDC201	II	Equivalence
PEDC203	Electrical Drives and Control	II	Electrical Drives and its Application	PEDC101	I	Equivalence
PEDDLO2021	Digital Signal Processors for Control and Power Applications	II	DSP Applications in Power Conversion Systems	PEDPE2013	II	Equivalence

PEDDLO2022	Advanced Control System#	II	Design of Power Electronic Converters	PEDPE2022	II	Alternate
PEDDLO2023	Power Conditioning Systems for Renewable Energy#	II	Power Converters for Renewable Energy Sources	PEDPE2023	II	Equivalence
PEDDLO2024	EHV AC Transmission System	II	Industrial Load Modeling and Control	PEDPE2012	II	Alternate
PEDDLO2025	Electromagnetic Interference & Compatibility in Power Electronic	II	Digital Signal Controller	PEDPE1021	I	Alternate

Master of Engineering (M.E.) in Electronics Engineering
Equivalence for Rev.2016 to Rev.2022 Syllabus

Rev. 2016 syllabus Courses			Equivalent in Rev.2022 syllabus		
Sem.	Course Code	Course Name	Course Code	Course Name	Sem
1	ELXC1011	Advanced Digital Communication	ME-ELXC101	Advanced Digital Communication	1
1	ELXC1012	Mixed Signal VLSI Design	ME-ELXC102	Advanced VLSI Design	1
1	ELXC1013	Power Electronics System Design	ME-ELXDLO1015	Power Electronics System Design	1
		Department Level Optional Course-I			
1	ELXDLO1011	Advanced Processor Architecture-I	ME-ELXDLO1011	Advanced Processor Architecture-I	1
1	ELXDLO1012	Network & System Administration	ME-ELXDLO1016	Information and Communication Techniques (ICT)	1
1	ELXDLO1013	Microelectronics Devices	ME-ELXDLO1013	Microelectronics Devices	1
1	ELXDLO1014	Modeling & Simulations	ME-ELXC2021	Modern Industrial Internet Engineering	2
1	ELXDLO1015	Advanced Digital Image Processing	ME-ELXDLO1014	Advanced Digital Image Processing	1
2	ELXC2021	Digital Design with Reconfigurable Architecture	ME-ELXDLO2022	Cloud Computing	2
2	ELXC2022	Real Time System Design	ME-ELXDLO2027	Modern Operating Systems	2
2	ELXC2023	Advanced Signal Processing	ME-ELXDLO2025	Advanced Digital Signal Processing	2
		Department Level Optional Course II			
2	ELXDLO2021	Advanced Processor Architecture-II	ME-ELXDLO2021	Advanced Processor Architecture-II	2
2	ELXDLO2022	Wireless & Mobile Networking	ME-ELXDLO1017	Internet of Everything	1
2	ELXDLO2023	Nano-electronics	ME-ELXDLO2023	Nano-electronics	2
2	ELXDLO2024	Mechatronics	ME-ELXC2022	Emerging Trends in SOC Design	2
2	ELXDLO2025	Virtual Instrumentation	ME-ELXDLO2024	Deep Learning and Computer Vision	2

University of Mumbai Master of Engineering Electronics and Telecommunication Engineering :- Equivalent Subjects (Rev-2016 to Rev-2022)					
Semester I					
Scheme Rev_2016 CBSGS	CourseCode	Scheme Rev_2022 CBCS	Course Code	SEM	Branch
Statistical Signal Processing	ETC101	Statistical Signal Processing	ETPE1013	I	EXTC
Optical Communication Network	ETC102	Optical Communication Network	ETC102	I	EXTC
Modern Digital Signal Processing Applications	ETC103	Advanced Digital Signal Processing and Applications	ETC101	I	EXTC
Next Generation Networks	ETDLO1011	Next Generation Networks	ETPE1011	I	EXTC
Advanced Antenna Design	ETDLO1012	Advanced Antenna Design	ETPE1012	I	EXTC
Image Analysis using Machine learning	ETDLO1013	Image Analysis using Machine learning	ETPE1021	I	EXTC
Embedded Communication Systems Design	ETDLO1014	Embedded Communication Systems Design	ETPE 1022	I	EXTC
Product Life cycle Management	ILO1011	Product Life cycle Management	ETIE1011	I	EXTC
Reliability Engineering	ILO1012	Reliability Engineering	ETIE1012	I	EXTC
Management Information System	ILO1013	Management Information System	ETIE1013	I	EXTC
Design of Experiments	ILO1014	Design of Experiments	ETIE1014	I	EXTC
Operations Research	ILO1015	Operations Research	ETIE1015	I	EXTC
Cyber Security and Laws	ILO1016	Cyber Security and Laws	ETIE1016	I	EXTC
Disaster Management & Mitigation Measures	ILO1017	Disaster Management & Mitigation Measures	ETIE1017	I	EXTC
Energy Audit and Management	ILO1018	Energy Audit and Management	ETIE1018	I	EXTC

Semester II					
Scheme R_2016 CBSGS	Course Code	Scheme R_2022 CBCS	Course Code	SEM	Branch
Modern Digital Communication	ETC201	Modern Digital Communication	ETC202	II	EXTC
Wireless Adhoc and Sensor Networks	ETC202	Wireless Adhoc and Sensor Networks	ETPE2022	II	EXTC
RF and Microwave Engineering	ETC203	RF Engineering	(ETC201)	II	EXTC
Satellite Networking	ETDLO2021	Satellite Networking	ETPE2011	II	EXTC
Network and Cyber Security	ETDLO2022	Network and Cyber Security	ETPE2012	II	EXTC
Remote Sensing	ETDLO2023	Remote Sensing	ETPE2013	II	EXTC
Error Control Coding	ETDLO2024	Error Control Coding	ETPE2021	II	EXTC
Project Management	ILO2021	Project Management	ETIE2011	II	EXTC
Finance Management	ILO2022	Finance Management	ETIE2012	II	EXTC
Entrepreneurship Development and Management	ILO2023	Entrepreneurship Development and Management	ETIE2013	II	EXTC
Human Resource Management	ILO2024	Human Resource Management	ETIE2014	II	EXTC
Professional Ethics and CSR	ILO2025	Professional Ethics and CSR	ETIE2015	II	EXTC
Research Methodology	ILO2026	Research Methodology	ETIE2016	II	EXTC
IPR and Patenting	ILO2027	IPR and Patenting	ETIE2017	II	EXTC
Digital Business Management	ILO2028	Digital Business Management	ETIE2018	II	EXTC
Environmental Management	ILO2029	Environmental Management	ETIE2019	II	EXTC

ME-Information Security

Equivalence of Rev-2016 Scheme to Rev 2022 Scheme

Sr. No.	Rev-2016 Scheme			Rev-2022 'C' Scheme		
	Course Code	Sem	Course Name	Course Code	Sem	Course Name
SEM-I						
1	ME-ISC101	I	Advanced Web Technologies	MEISCPE1033	I	Advanced Web Technologies
2	ME-ISC102	I	IT Infrastructure Design	MEISC101	I	IT Infrastructure Design
3	ME-ISC103	I	Cryptography and PKI	MEISC102	I	Cryptography and PKI
4	ME-ISL101	I	Laboratory-I	MEISL101	I	Program Lab-I
5	ME-ISL102	I	Laboratory-II	MEISL102	I	Skill Based Lab-1
6	ME-ISDLOC-II041	I	Ad-hoc Networks	MEISC101	I	IT Infrastructure Design
7	ME-ISDLOC-II042	I	IoT	MEISCPE1042	I	IoT and security
8	ME-ISDLOC-II043	I	Cloud Computing	MEISCPE1043	I	Cloud Computing security
9	ME-ISDLOC-II044	I	Unix OS & OS Security	MEISC101	I	IT Infrastructure Design
SEM-II						
10	ME-ISC201	II	Network Security	MEISC102	I	Cryptography and PKI
11	ME-ISC202	II	Application and Web Security	MEISCPE2031	II	Application and Web Security
12	ME-ISC203	II	Security & Risk Management	MEISCPE1043	I	Cloud Computing security
13	ME-ISL201	II	Laboratory-III	MEISL101	I	Program Lab-I
14	ME-ISL202	II	Laboratory-IV	MEISL201	II	Program lab II
15	ME-ISDLOC-II2041	II	Law of Data Security and Investigations	MEISCPE1034	II	IT Security Laws and Compliance
16	ME-ISDLOC-II2042	II	IT Security Strategic Planning, Policy and Leadership	MEISCPE2042	II	IT Security Strategic Planning, Policy & leadership
17	ME-ISDLOC-II2043	II	Hacker Technique, Exploits and Incident handling	MEISCPE2043	II	Hacker Technique, Exploits and Incident handling
18	ME-ISDLOC-II2044	II	Advanced Computer Forensic Analysis	MEISCPE2044	II	Advanced Computer Forensic Analysis

ME-Information Technology

Equivalence of Rev-2016 Scheme to Rev 2022 Scheme

Sr. No.	Rev-2016 Scheme			Rev-2022 'C' Scheme		
	Course Code	Sem	Course Name	Course Code	Sem	Course Name
SEM-I						
1	ME-ITC101	I	Data Science	ME-ITC101	I	Data Science and Engineering
2	ME-ITC102	I	IT Infrastructure Design	ME-ITPE2024		Green IT
3	ME-ITC103	I	Advances in Software Engineering	ME-ITPE1021		Advances in Software Engineering
4	ME-ITL101	I	Laboratory-I	ME-ITL101		Program Lab-I
5	ME-ITL102	I	Laboratory-II	ME-ITL101		Program Lab-I
6	MEITDLOCI1041	I	User Experience Engineering	ME-ITPE2021		Design Thinking
7	MEITDLOCI1042	I	Adhoc Networks	ME-ITPE1022		Ad-hoc Networks
8	MEITDLOCI1043	I	Cloud Computing	ME-ITC202		Cloud Computing and Services
9	MEITDLOCI1044	I	IT Strategy	ME-ITPE1024		ICT for Social Cause
10	MEITDLOCI1045	I	Knowledge Management	ME-ITPE1024		ICT for Social Cause
11	ME-ITC201	II	Security & Risk Management	ME-ITPE2011		Web Application Security
12	ME-ITC202	II	High Performance Computing	ME-ITPE2014		High Performance Computing
13	ME-ITC203	II	Advance web technology	ME-ITC201		Web X.0
14	ME-ITL201	II	Laboratory-III	ME-ITL201		Program Lab-II
15	ME-ITL202	II	Laboratory-IV	ME-ITL201		Program Lab-II
16	MEITDLOCI2041	II	E-Business & Social Network Analysis	ME-ITPE1024		ICT for Social Cause
17	MEITDLOCI2042	II	AI & Machine Learning	ME-ITPE2012		Machine and Deep Learning
18	MEITDLOCI2043	II	Ethical Hacking & Forensic	ME-ITPE1011		Ethical Hacking and Digital Forensics
19	MEITDLOCI2044	II	Internet of Things	ME-ITPE2022		Internet of Everything
20	MEITDLOCI2045	II	Advanced Software Quality Assurance	ME-ITPE1021		Advances in Software Engineering

ME Instrumentation and Control Engineering
Equivalence of Rev 2016 syllabus to Rev- 2022 Scheme

Sem/ year	Rev-2016		R-2022 (C-scheme)	
	Subject code	Subject name	Subject code	Subject name
Sem-I	ISEC101	Higher Mathematics for Control Engineering	INC102	Higher Mathematics for Control Engineering
	ISEC102	Advanced signal processing for Sensors	INC101	Advanced signal processing for Sensors
	ISEC103	Robust Control	INPE1021	Robust Control
	ISEDLO1011	Advanced Biomedical Instrumentation	INPE1011	Advanced Biomedical Instrumentation
	ISEDLO1012	Advanced Measurement Techniques	INPE1012	Advanced Measurement Techniques
	ISEDLO1013	Expert Systems	INPE1022	Expert Systems
	ISEDLO1014	Robotics and Control	INPE1023	Robotics and Control
	ILO1011	Product Lifecycle Management	ILO1011	Product Lifecycle Management
	ILO1012	Reliability Engineering (abbreviated as RE)	ILO1012	Reliability Engineering (abbreviated as RE)
	ILO1013	Management Information System	ILO1013	Management Information System
	ILO1014	Design of Experiments	ILO1014	Design of Experiments
	ILO1015	Operation Research	ILO1015	Operation Research
	IO1016	Cyber security and Laws	IO1016	Cyber security and Laws
	ILO1017	Disaster Management and Mitigation Measures	ILO1017	Disaster Management and Mitigation Measures

	ILO1018	Energy Audit and Management	ILO1018	Energy Audit and Management
Sem-II	ISEC201	Electronic Systems Design	INPE2011	Electronics System Design
	ISEC202	State Estimation and Stochastic Processes	INC201	State Estimation and Stochastic Processes
	ISEC203	Advanced process control and automation	INC202	Advanced Process Control and Automation
	ISEDLO2021	Rehabilitation Engineering	INPE2013	Rehabilitation Engineering
	ISEDLO2022	Advanced Fiber Optics and LASER Instrumentation	INPE2012	Advanced Fiber Optics and LASER Instrumentation
	ISEDLO2023	Advanced Nuclear Instrumentation	INPE2021	Advanced Nuclear Instrumentation
	ISEDLO2024	MEMS and nanotechnology	INPE2023	MEMS and nanotechnology
	ILO2021	Project Management	ILO2021	Project Management
	ILO2022	Finance Management	ILO2022	Finance Management
	ILO2023	Entrepreneurship Development and Management	ILO2023	Entrepreneurship Development and Management
	ILO2024	Human Resource Management	ILO2024	Human Resource Management
	ILO2025	Professional Ethics and Corporate Social Responsibility	ILO2025	Professional Ethics and Corporate Social Responsibility
	ILO2026	Research Methodology	ILO2026	Research Methodology
	ILO2027	IPR and Patenting	ILO2027	IPR and Patenting
	ILO2028	Digital Business Management	ILO2028	Digital Business Management
	ILO2029	Environmental Management	ILO2029	Environmental Management

ME Chemical Engineering
Subjects of R-2016 Equivalent with R-2022 Subjects

	R-2016	R-2022
1	Advanced Fluid Dynamics CHC101 (Sem- I)	Advanced Momentum Transfer CHC101(Sem- I)
2	Advanced Chemical Reaction Engineering CHC102 (Sem- I)	Advanced Chemical Reaction Engineering CHC102 (Sem- I)
3	Advanced Thermodynamics CHC103 (Sem- I)	Advanced Thermodynamics CHPE1012 Program Elective-1(Semester I)
4	Advanced Computer Aided Design CHDLO1011 Department Level Optional Course-I (Sem- I)	Advanced Computer Aided Design CHPE2011 Program Elective-3 (Semester II)
5	Corrosion in Industries and its control CHDLO1012 Department Level Optional Course-I (Sem- I)	Corrosion in Industries and its Control CHPE1021 Program Elective-2 (Semester I)
6	Process Intensification in Chemical Plant CHDLO1013 Department Level Optional Course-I (Sem- I)	Process Intensification in Chemical Plants CHPE1013 Program Elective-1 (Semester I)
7	Industrial Solid Waste Management CHDLO1014 Department Level Optional Course-I (Sem- I)	Industrial Solid Waste Management CHPE1022 Program Elective-2 (Semester I)
8	Bio Process Engineering CHDLO1015 Department Level Optional Course-I (Sem- I)	Bio Process Engineering CHPE1023 Program Elective-2 (Semester I)
9	Product Lifecycle Management ILO1011 Institute Level Optional Course-I (Sem- I)	Product Lifecycle Management CHIE1011 Institute Elective-1 (Semester I)
10	Reliability Engineering ILO1012 Institute Level Optional Course-I (Sem- I)	Reliability Engineering CHIE1012 Institute Elective-1 (Semester I)
11	Management Information System ILO1013 Institute Level Optional Course-I (Sem- I)	Management Information System CHIE1013 Institute Elective-1 (Semester I)
12	Design of Experiments ILO1014 Institute Level Optional Course-I (Sem- I)	Design of Experiments CHIE1014 Institute Elective-1 (Semester I)
13	Operations Research ILO1015 Institute Level Optional Course-I (Sem- I)	Operations Research CHIE1015 Institute Elective-1 (Semester I)
14	Cyber Security and Laws ILO1016 Institute Level Optional Course-I (Sem- I)	Cyber Security and Laws CHIE1016 Institute Elective-1 (Semester I)
15	Disaster Management and Mitigation Measures ILO1017 Institute Level Optional Course-I (Sem- I)	Disaster Management and Mitigation Measures CHIE1017 Institute Elective-1 (Semester I)
16	Energy Audit and Management ILO1018 Institute Level Optional Course-I (Sem- I)	Energy Audit and Management CHIE1018 Institute Elective-1 (Semester I)

	Sem II	
1	Process Heat Transfer CHC201 (Sem- II)	Advanced Heat Transfer CHPE1011 Program Elective-1 (Sem- I)
2	Advanced Mass Transfer CHC202 (Sem- II)	Advanced Mass Transfer CHC201(Sem- II)
3	Advanced Process Dynamics and Control CHC203 (Sem- II)	Advanced Process Control and Dynamics CHC202 (Sem- II)
4	Industrial Safety and Hazard Control CHDLO2021 Department Level Optional Course-II (Sem- II)	Industrial Safety and Hazard Control CHPE2021 Program Elective-4 (Semester II)
5	Heterogeneous Catalysis and Reactor Design CHDLO2022 Department Level Optional Course-II (Sem- II)	Heterogeneous Catalysis and Reactor Design CHPE2012 Program Elective-3 (Semester II)
6	Advanced Process Modeling and Simulation CHDLO2023 Department Level Optional Course-II (Sem- II)	Advanced Computer Aided Design CHPE2011 Program Elective-3 (Semester II)
7	Green Chemistry and Engineering CHDLO2024 Department Level Optional Course-II (Sem- II)	Green Chemistry and Engineering CHPE2022 Program Elective-4 (Semester II)
8	Industrial Pollution Control and Prevention CHDLO2025 Department Level Optional Course-II (Sem- II)	Industrial Pollution Control and Prevention CHPE2023 Program Elective-4 (Semester II)
9	Project Management ILO2021 Institute Level Optional Course-II (Sem- II)	Project Management CHIE2011 Institute Elective-2 (Semester II)
10	Finance Management ILO2022 Institute Level Optional Course-II (Sem- II)	Finance Management CHIE2012 Institute Elective-2 (Semester II)
11	Entrepreneurship Development and Management ILO2023 Institute Level Optional Course-II (Sem- II)	Entrepreneurship Development and Management CHIE2013 Institute Elective-2 (Semester II)
12	Human Resource Management ILO2024 Institute Level Optional Course-II (Sem- II)	Human Resource Management CHIE2014 Institute Elective-2 (Semester II)
13	Professional Ethics and Corporate Social Responsibility (CSR) ILO2025 Institute Level Optional Course-II (Sem- II)	Professional Ethics and Corporate Social Responsibility (CSR) CHIE2015 Institute Elective-2 (Semester II)
14	Research Methodology ILO2026 Institute Level Optional Course-II (Sem- II)	Research Methodology CHOCC301 Online Credit Course -1 (Semester III)
15	IPR and Patenting ILO2027 Institute Level Optional Course-II (Sem- II)	IPR CHOCC301 Online Credit Course -1 (Semester III)
16	Digital Business Management ILO2028 Institute Level Optional Course-II (Sem- II)	Digital Business Management CHIE2016 Institute Elective-2 (Semester II)
17	Environmental Management ILO2029 Institute Level Optional Course-II (Sem- II)	Environmental Management CHIE2017 Institute Elective-2 (Semester II)

M.E. Biomedical Engineering
Subjects of R-2016 Equivalent with R-2022 Subjects

Course Code	R2016	Course Code	R2022
BMC101	Anatomy and Physiology For Engineers	BMPE1021	Basics of Human Anatomy & Physiology
BMC102	Bio-Medical Sensors, Applications and Intelligent Instrumentation	BMC102	Biomedical Instrumentation
BMC103	Advanced Digital Signal Processing	BMC202	Medical Imaging & Image Processing
BMDLO1011	Department Level Optional Course-I, Embedded Systems in BME	BMPE1011	Embedded Systems in BME
ILO1017	Institute Level Optional Course-I Disaster Management and Mitigation Measures	BMIE1017	Disaster Management and Mitigation Measures
BMC201	Biomedical Instrumentation and Design	BMC102	Biomedical Instrumentation
BMC202	Biomedical Image Processing	BMC202	Medical Imaging & Image Processing
BMC203	Advanced Medical Imaging	BMC202	Medical Imaging & Image Processing
BMDLO2022	Department Level Optional Course-II, Lasers and Fiber Optics in Medicine and Surgery	BMPE2022	Lasers and Fiber Optics in Medicine
ILO2026	Institute Level Optional Course-II, Research Methodology		Institute Level Optional Course-II, Research Methodology

ME: Computer Engineering

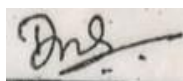
Equivalence Subject Mapping of Syllabus – CBCGS (Rev 2016) to CBCGS (Rev. 2022)

Semester	Rev. 2016	Rev.2022
SEM: I	Algorithm & Complexity	Algorithm & Complexity
	Advance Computer Network and Design	Advance Computer Network and Design
	Advanced Operating Systems	Modern Operating System
	Logic & Automated Reasoning	Logic & Automated Reasoning
	Image Analysis & Interpretation	Web Application Security
	Computational Intelligence	Computational Intelligence
	User Experience Design	Component Based System Design
	Institute Level Optional Course-I	Institute Level Optional Course-I
	ILO1011 Product Lifecycle Management	ILO1011 Product Lifecycle Management
	ILO1012 Reliability Engineering	ILO1012 Reliability Engineering
	ILO1013 Management Information System	ILO1013 Management Information System
	ILO1014 Design of Experiments	ILO1014 Design of Experiments
	ILO1015 Operation Research	ILO1015 Operation Research
	ILO1016 Cyber Security and Laws	ILO1016 Cyber Security and Laws
	ILO1017 : Disaster Management &Mitigation Measures	ILO1017 Disaster Management &Mitigation Measures
	ILO1018 Energy Audit and Management	ILO1018 Energy Audit and Management
	High performance Computing	Cloud Computing and Service

SEM:II	Data Science	Exploratory Data Analytics and Visualization
	Ethical Hacking and Digital Forensics	Ethical Hacking & Digital Forensic
	Data Storage & Retrieval	Data Storage & Retrieval
	Internet of Things	Internet of Everything
	Advance Soft Computing	Advance Soft Computing
	Semantic Web & Social Network Analysis	Semantic Web & Social Network Analysis
	ICT for Social cause	ICT for Social Cause
	Institute Level Optional Course-II	Institute Level Optional Course-II
	ILO2021 Project Management	ILO2021 Project Management
	ILO2022 Finance Management	ILO2022 Finance Management
	ILO2023 Entrepreneurship Development and Management	ILO2023 Entrepreneurship Development and Management
	ILO2024 Human Resource Management	ILO2024 Human Resource Management
	ILO2025 Professional Ethics and CSR	ILO2025 Professional Ethics and CSR
	ILO 2026 Research Methodology	ILO 2026 Research Methodology
	ILO2027 IPR and Patenting	ILO2027 IPR and Patenting
	ILO2028 Digital Business Management	ILO2028 Digital Business Management
	ILO2029 Environmental Management	ILO2029 Environmental Management

M.E. Civil (Water Resource Engineering)
Equivalence of Rev-2016 Scheme to Rev 2022 Scheme

Sr. No.	Rev-2016 Scheme			Rev-2022 'C' Scheme		
	Course Code	Sem	Course Name	Course Code	Sem	Course Name
1	WRC 101	I	Advanced Fluid Mechanics	WRC 101	I	Advanced Fluid Mechanics
2	WRC 102	I	Applied Hydrology	WRC 102	I	Applied Hydrology
3	WRC 103	I	Ground Water Engineering	WRPE1013	I	Ground Water Engineering
4	WRDLO 101X	I	Department Level Optional Course -I			
5	WRDLO1011	I	Applied Statistics	WRPE1011	I	Applied Statistics
6	WRDLO1012	I	Watershed Development & Management	WRPE1012	I	Watershed Development & Management
7	WRDLO1013	I	Environmental Impact assessment	WRPE1021	I	Environmental Impact assessment
8	WRDLO1014	I	Soil Science & Agro Technology	WRPE1022	I	Soil Science & Agro Technology
9	WRDLO1015	I	Water Power Engineering	WRPE2012	II	Water Power Engineering
10	WRC 201	II	Water Resources Economics Planning Management	WRC 201	II	Water Resources Economics Planning and Management
11	WRC 202	II	Design of Hydraulic Structures	WRC 202	II	Design of Hydraulic Structures
12	WRC 203	II	System Engineering and its Application	WRPE2011	II	System Engineering and Its Application
13	WRDLO201X	II	Department Level Optional Course -II			
14	WRDLO2021	II	Advance Hydraulic Analysis and Design	WRPE2013		Advance Hydraulic Analysis and Design
15	WRDLO2022	II	Integrated River Basin Management	WRPE2021		Integrated River Basin Management
16	WRDLO2023	II	Soft Computing Techniques in Hydrology and Water Resources Engineering	WRPE2022		Soft Computing Techniques in Hydrology and Water Resources Engineering
17	WRDLO2024	II	Advances in Irrigation Engineering	WRPE2023		Advances in Irrigation Engineering



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