



SEMESTER I

| No | Title | Credit | Cat |
|--------|---------------------------------------|-----------|-----|
| AS1010 | Introduction to Aerospace Engineering | 2 | PMT |
| CY1002 | Chemistry Lab I | 3 | SCY |
| GN1100 | Life Skills | 2 | HPF |
| ID1100 | Concepts in Engineering Design | 2 | BET |
| MA1010 | Calculus I Functions of One Variable | 4 | SMA |
| ME1100 | Thermodynamics | 3 | BET |
| ME1120 | Engineering Drawing | 3 | BES |
| PH1010 | Physics I | 3 | SPH |
| PH1030 | Physics Laboratory I | 2 | SPH |
| | TOTAL | 24 | |

Remarks

SEMESTER II

| No | Title | Credit | Cat |
|--------|--|-----------|-----|
| AM1100 | Engineering Mechanics | 4 | BET |
| CS1100 | Computational Engineering | 3 | BET |
| CY1001 | Chemistry: Structure, Bonding & Reactivity | 4 | SCY |
| MA1020 | Calculus II Functions of Several Variables | 4 | SMA |
| PH1020 | Physics II | 3 | SPH |
| PH1040 | Physics Laboratory II | 2 | SPH |
| | TOTAL | 20 | |

SEMESTER III

| No | Title | Credit | Cat |
|--------|-------------------------------|-----------|-----|
| AS1020 | Fluid Mechanics | 4 | PMT |
| AS2010 | Basic Strength of Materials | 4 | PMT |
| AS2100 | Introduction to Aerospace Lab | 4 | PML |
| BT1010 | Life Sciences | 2 | SLS |
| EE1100 | Basic Electrical Engineering | 3 | BET |
| ID1200 | Ecology and Environment | 2 | BET |
| HSE1 | Humanities Elective 1 | 3 | HSS |
| MAE1 | Mathematics Elective 1 | 3 | SMA |
| | TOTAL | 25 | |



SEMESTER IV

| No | Title | Credit | Cat |
|--------|--------------------------------|-----------|-----|
| AS2030 | Gas Dynamics | 4 | PMT |
| AS2050 | Aerodynamics | 4 | PMT |
| AS2070 | Aerospace Structural Mechanics | 4 | PMT |
| AS2080 | Vibrations | 4 | PMT |
| AS2510 | Low Speed Lab | 2 | PML |
| HSE2 | Humanities Elective 2 | 3 | HSS |
| MAE2 | Mathematics Elective 2 | 3 | SMA |
| | TOTAL | 24 | |

SEMESTER V

| No | Title | Credit | Cat |
|--------|---------------------------|-----------|-----|
| AS2040 | Flight Dynamics I | 4 | PMT |
| AS2060 | Experimental Aerodynamics | 3 | PMT |
| AS2520 | Propulsion Lab | 2 | PML |
| AS3020 | Aerospace Structures | 4 | PMT |
| AS3270 | Propulsion | 4 | PMT |
| AS3510 | Aero Lab I | 2 | PML |
| MAE3 | Mathematics Elective 3 | 3 | SMA |
| MNS1 | Minor Elective 1 | 3 | MNS |
| | TOTAL | 25 | |

SEMESTER VI

| No | Title | Credit | Cat |
|--------|----------------------------------|-----------|-----|
| AS3010 | Introduction to Space Technology | 4 | PMT |
| AS3050 | Flight Dynamics II | 3 | PMT |
| AS3500 | Industrial Training[Summer] | 2 | PIT |
| AS3520 | Aero Lab II | 2 | PML |
| AS4020 | Industrial Lecture | 1 | PIL |
| AS5210 | Aerodynamic Design (Self Study) | 4 | PSS |
| DPE1 | Department Elective 1 | 3 | PMT |
| DPE2 | Department Elective 2 | 3 | PMT |
| DPE3 | Department Elective 3 | 3 | PMT |
| MNS2 | Minor Elective 2 | 3 | MNS |
| | TOTAL | 28 | |

SEMESTER VII

| No | Title | Credit | Cat |
|--------|-----------------------|-----------|-----|
| AS4590 | Project I | 0 | PMP |
| DPE4 | Department Elective 4 | 3 | PMT |
| DPE5 | Department Elective 5 | 3 | PMT |
| DPE6 | Department Elective 6 | 3 | PMT |
| FRE1 | Free Elective 1 | 3 | |
| HSE3 | Humanities Elective 3 | 3 | HSS |
| MNS3 | Minor Elective 3 | 3 | MNS |
| | TOTAL | 18 | |



SEMESTER VIII

| No | Title | Credit | Cat |
|--------|---------------------|--------|-----|
| AS4600 | Project II | 9 | PMP |
| HS3050 | Professional Ethics | 2 | HPF |
| FRE2 | Free Elective 2 | 3 | |
| | TOTAL | 14 | |



Electives

| No. | Course Title | Credit |
|--------|---|--------|
| AM5210 | Approx. Methods in Engg Analysis | 3 |
| AS2120 | Matrix Methods in Structural Analysis | 3 |
| AS2140 | Advanced Aerodynamics | 3 |
| AS2160 | Combustion in Aerospace Propulsion | 3 |
| AS3060 | Experimental Stress Analysis | 3 |
| AS3130 | Introduction to Composite Structures | 3 |
| AS3170 | Flight Testing | 3 |
| AS3190 | Design of Gas Turbines | 3 |
| AS5060 | Contact Mechanics | 3 |
| AS5300 | Physical Gas Dynamics | 3 |
| AS5310 | Obj. Oriented Prog. for Sci. & Engrs. | 3 |
| AS5320 | Boundary Layer Theory | 3 |
| AS5330 | Computational Aerodynamics | 3 |
| AS5340 | Advanced Flight Mechanics | 3 |
| AS5350 | Transonic Aerodynamics | 3 |
| AS5360 | Advanced Aerodynamics | 3 |
| AS5370 | Helicopter Aerodynamics | 3 |
| AS5380 | Flight Testing and Performance Reduction | 3 |
| AS5390 | Numerical Methods in Gas Dynamics | 3 |
| AS5400 | Theory & Comptn of Vortex Domin. Flows | 3 |
| AS5410 | Grid Generation | 3 |
| AS5420 | Introduction to CFD | 3 |
| AS5430 | Stability of Shear Flows | 3 |
| AS5440 | Hydrodynamic Stability, Transition and Flow Control | 3 |
| AS5470 | Unsteady Aerodynamis of Moving Bodies | 3 |
| AS5550 | Aerospace Systems Control and Estimation | 3 |
| AS5610 | Rocket Propulsion | 3 |
| AS5620 | Theory and Design of Gas Turbines | 3 |
| AS5630 | Performance of Gas Turbines | 3 |
| AS5640 | Combustion, Explosion and Detonation | 3 |
| AS5650 | Multiphase Flow | 3 |
| AS5660 | Hypersonic Airbreathing Propulsion | 3 |
| AS5670 | Transport Processes in Reacting flows | 3 |
| AS5680 | High Temperature Gas Dynamics | 3 |
| AS5690 | Radiation Heat Transfer | 3 |
| AS5810 | Theories of Modern Plate Structures | 3 |
| AS5820 | Analysis of Plates and Shells | 3 |
| AS5830 | Approx. Methods in Structural Analysis | 3 |
| AS5840 | Thermal Stress Analysis | 3 |
| AS5850 | Finite Element Analysis | 3 |
| AS5860 | Composite Structures | 3 |
| AS5870 | Energy Methods in Structural Analysis | 3 |
| AS5880 | Mechanics of Damage Tolerance | 3 |
| AS5890 | Mechatronics Design | 3 |
| AS5900 | Elasticity | 3 |



Electives

| | | |
|--------|---|---|
| AS5920 | Dynamics of Elastic Systems | 3 |
| AS5950 | Continuum Mechanics | 3 |
| AS5960 | Advanced Strength of Materials | 3 |
| AS5970 | Structural Dynamics and Aero-elasticity | 3 |
| AS5980 | Contact Mechanics and Tribology | 3 |
| AS6010 | Hypersonic Flow Theory | 3 |
| AS6015 | Aerodynamics of Missiles and Launch Vehicles | 3 |
| AS6020 | Int. to Turbulent Flows & their Predictions | 3 |
| AS6030 | Experimental Methods in Aero/ Gas Dynami | 3 |
| AS6040 | Adv.course in Turbulent Flows & their Computation | 3 |
| AS6310 | System Simulation and Process Optimization | 3 |
| AS6320 | Acoustic Instabilities in Aerospace Prop | 3 |
| AS6330 | Aero-acoustics | 3 |
| AS6340 | Combustion and Flow Diagnostics | 3 |
| AS6342 | Spectroscopic Reactive Flow Diagnostics | 3 |
| AS6510 | Experimental Techniques in Struc. Mech. | 3 |
| CH6020 | Computational Fluid Dynamics Tech | 3 |
| CT7200 | Composite Product Design | 3 |
| CT7220 | Comp. Analy. & Des. Using Computers. | 3 |
| ID6030 | An introduction to Nanoscience and Nanotechnology | 3 |
| ME6120 | Air Breathing Engines | 3 |
| ME6800 | Finite Element Analysis | 3 |



SEMESTER I

| No | Title | Credit | Cat |
|--------|--|-----------|-----|
| BT1010 | Life Sciences | 2 | PMT |
| CY1001 | Chemistry: Structure, Bonding & Reactivity | 4 | SCY |
| CY1002 | Chemistry Lab I | 3 | SCY |
| ID1100 | Concepts in Engineering Design | 2 | BET |
| MA1010 | Calculus I Functions of One Variable | 3 | SMA |
| ME1100 | Thermodynamics | 3 | BET |
| PH1010 | Physics I | 3 | SPH |
| PH1030 | Physics Laboratory I | 2 | SPH |
| WS1010 | Workshop I | 4 | BES |
| | TOTAL | 26 | |

SEMESTER II

| No | Title | Credit | Cat |
|--------|--|-----------|-----|
| AM1100 | Engineering Mechanics | 4 | BET |
| CH1020 | Process Calculations | 4 | PMT |
| CS1100 | Computational Engineering | 3 | BET |
| CY1001 | Chemistry: Structure, Bonding & Reactivity | 4 | SCY |
| MA1020 | Calculus II Functions of Several Variables | 4 | SMA |
| ME1120 | Engineering Drawing | 3 | BES |
| PH1020 | Physics II | 3 | SPH |
| PH1040 | Physics Laboratory II | 2 | SPH |
| WS1020 | Workshop II | 2 | BES |
| | TOTAL | 29 | |

SEMESTER III

| No | Title | Credit | Cat |
|--------|----------------------------|-----------|-----|
| AM1100 | Engineering Mechanics | 4 | BET |
| BT2010 | Microbiology | 3 | PMT |
| BT2030 | Biochemical Thermodynamics | 3 | PMT |
| BT2110 | Microbiology Lab | 3 | PML |
| ID1200 | Ecology and Environment | 2 | BET |
| HSE1 | Humanities Elective 1 | 3 | HSS |
| MAE1 | Mathematics Elective 1 | 3 | SMA |
| | TOTAL | 21 | |



SEMESTER IV

| No | Title | Credit | Cat |
|--------|---------------------------------------|-----------|-----|
| BT2020 | Biochemistry | 3 | PMT |
| BT2040 | Genetics | 3 | PMT |
| BT2060 | Reaction Engineering Fundamentals | 3 | PMT |
| BT2080 | Transport Processes & Unit Operations | 3 | PMT |
| BT2120 | Biochemisry Lab | 3 | PML |
| HSE2 | Humanities Elective 2 | 3 | HSS |
| MAE2 | Mathematics Elective 2 | 3 | SMA |
| | TOTAL | 21 | |

SEMESTER V

| No | Title | Credit | Cat |
|--------|---|-----------|-----|
| BT3010 | Cell Biology | 3 | PMT |
| BT3030 | Analytical Techniques in Bio-technology | 3 | PMT |
| BT3050 | Genetic Engineering | 3 | PMT |
| BT3070 | Biochemical Engineering | 3 | PMT |
| BT3110 | Molecular Biology & Genetic Engg Lab | 3 | PML |
| DPE1 | Department Elective 1 | 3 | PMT |
| MNS1 | Minor Elective 1 | 3 | MNS |
| | TOTAL | 21 | |

SEMESTER VI

| No | Title | Credit | Cat |
|--------|---|-----------|-----|
| BT3040 | Immunology | 3 | PMT |
| BT3060 | Downstream Processing in Bio-technology | 3 | PMT |
| BT3080 | Molecular Biology | 3 | PMT |
| BT3120 | Bioreaction Engg. Lab | 3 | PML |
| BT3620 | Summer Training | 2 | PIT |
| DPE2 | Department Elective 2 | 3 | PMT |
| FRE1 | Free Elective 1 | 3 | |
| MNS2 | Minor Elective 2 | 3 | MNS |
| | TOTAL | 23 | |

SEMESTER VII

| No | Title | Credit | Cat |
|--------|----------------------------------|-----------|-----|
| BT4010 | Bioinformatics | 4 | PMT |
| BT4110 | Downstream Processing Laboratory | 2 | PML |
| BT4190 | Structural Biology | 3 | PMT |
| BT4550 | Project I | 2 | PMP |
| DPE3 | Department Elective 3 | 3 | PMT |
| FRE2 | Free Elective 2 | 3 | |
| HSE4 | Humanities Elective 4 | 3 | HSS |
| MNS3 | Minor Elective 3 | 3 | MNS |
| SSE1 | Self Study Elective 1 | 3 | PSS |
| | TOTAL | 26 | |



SEMESTER VIII

| No | Title | Credit | Cat |
|--------|-----------------------|--------|-----|
| BT4560 | Project II | 10 | PMP |
| HS3050 | Professional Ethics | 2 | HPF |
| IL3510 | Industrial Lecture | 1 | PIL |
| DPE4 | Department Elective 4 | 3 | PMT |
| | TOTAL | 16 | |



Electives

| No. | Course Title | Credit |
|--------|---|--------|
| BT3060 | Downstream Processing in Bio-technology | 3 |
| BT3080 | Molecular Biology | 3 |
| BT3090 | Spectroscopic Applications in Biotechnology | 3 |
| BT3100 | Bio-materials Science & Technology | 3 |
| BT3150 | Biotechnology for Healthcare | 3 |
| BT3170 | Enzyme Structure and Mechanisms | 3 |
| BT4040 | Patenting and Ipr in Biotechnology | 3 |
| BT4050 | Animal Biotechnology | 3 |
| BT4060 | Plant Biotechnology | 3 |
| BT4070 | Tissue Engineering | 3 |
| BT4220 | Systems Theory | 3 |
| BT5010 | Advanced Cellular & Molecular Biology | 3 |
| BT5040 | Advanced Bioprocess Technology | 3 |
| BT5080 | Genomics and Proteomics | 3 |
| BT5120 | Developmental Biology | 3 |
| BT5130 | Tissue Engineering | 3 |
| BT5170 | Membrane Biology and Signal Transduction | 3 |
| BT5180 | Biological Vision | 3 |
| BT5260 | Plant Cell Bioprocessing | 3 |
| BT5321 | Sustainability in Environmental Biotechnology | 3 |
| BT6010 | Principles of Biology | 3 |
| BT6020 | Principles of Biochemistry | 3 |
| BT6040 | Principles of Genetics | 3 |
| BT6100 | Biocatalysis and Enzyme Mechanism | 3 |
| BT6220 | Introduction to Computational Neuroscience | 3 |
| BT6290 | Molecular Basis to Diseases | 3 |
| BT6530 | Biostatistics | 3 |
| BT6540 | Cellular, Molecular Biology & Genetic Engg | 3 |
| BT6720 | Biomaterials | 3 |
| BT6730 | Biomechanics and Ergonomics | 3 |
| BT6740 | Computer Applications in Biology & Medicine | 3 |
| BT6750 | Ethical Issues and Design of Clinical Trials | 3 |
| BT6760 | Drug Design & Medicinal Chemistry | 3 |
| BT6770 | Bioprocess Engineering | 3 |
| BT6780 | Human Genetics | 3 |
| BT6790 | Clinical Immunology | 3 |
| BT6800 | Medical Microbiology | 3 |
| BT6810 | Human Pathology | 3 |
| BT6820 | Regenerative Medicine | 3 |
| BT6840 | Perfusion, Anaesthesia & Renal dialysis | 3 |
| BT6850 | Medical Imaging | 3 |
| BT7070 | Principles of Bioprocesses | 3 |
| CH3040 | Instrumentation & Process Control | 4 |
| CH3140 | Intro. to Computer Control of Processes | 3 |
| CH3170 | Ecological Engineering | 3 |



Electives

| | | |
|--------|---|---|
| CH4180 | Technology of Biopolymers and Biomaterials | 3 |
| CH4190 | Protein Engineering | 3 |
| CH4200 | Principles of Food Engineering | 3 |
| ID6020 | Introduction to Research | 2 |
| ID6030 | An introduction to Nanoscience and Nanotechnology | 3 |



SEMESTER I

| No | Title | Credit | Cat |
|--------|---------------------------------------|-----------|-----|
| CE1010 | Introduction to Civil Eng. Profession | 2 | PMT |
| CY1002 | Chemistry Lab I | 3 | SCY |
| GN1100 | Life Skills | 2 | HPF |
| ID1100 | Concepts in Engineering Design | 2 | BET |
| MA1010 | Calculus I Functions of One Variable | 4 | SMA |
| ME1100 | Thermodynamics | 3 | BET |
| ME1120 | Engineering Drawing | 3 | BES |
| PH1010 | Physics I | 3 | SPH |
| PH1030 | Physics Laboratory I | 2 | SPH |
| | TOTAL | 24 | |

Remarks

SEMESTER II

| No | Title | Credit | Cat |
|--------|--|-----------|-----|
| AM1100 | Engineering Mechanics | 4 | BET |
| CE1020 | Functional Design of Buildings | 2 | PMT |
| CS1100 | Computational Engineering | 3 | BET |
| CY1001 | Chemistry: Structure, Bonding & Reactivity | 4 | SCY |
| MA1020 | Calculus II Functions of Several Variables | 4 | SMA |
| PH1020 | Physics II | 3 | SPH |
| PH1040 | Physics Laboratory II | 2 | SPH |
| | TOTAL | 22 | |

SEMESTER III

| No | Title | Credit | Cat |
|--------|-------------------------------------|-----------|-----|
| BT1010 | Life Sciences | 2 | SLS |
| CE2050 | Building Drawing | 2 | PML |
| CE2310 | Mechanics of Materials | 4 | PMT |
| CE2330 | Civil Engg Materials & Construction | 4 | PMT |
| EE1100 | Basic Electrical Engineering | 3 | BET |
| ID1200 | Ecology and Environment | 2 | BET |
| HSE1 | Humanities Elective 1 | 3 | HSS |
| MAE1 | Mathematics Elective 1 | 3 | SMA |
| | TOTAL | 23 | |



SEMESTER IV

| No | Title | Credit | Cat |
|--------|----------------------------|-----------|-----|
| CE2020 | Structural Analysis | 4 | PMT |
| CE2040 | Hydraulic Engineering | 4 | PMT |
| CE2060 | Geology and Soil Mechanics | 4 | PMT |
| CE2080 | Surveying | 4 | PMT |
| CE2100 | Surveying Practical | 2 | PML |
| HSE2 | Humanities Elective 2 | 3 | HSS |
| MAE2 | Mathematics Elective 2 | 3 | SMA |
| | TOTAL | 24 | |

SEMESTER V

| No | Title | Credit | Cat |
|--------|-------------------------------|-----------|-----|
| CE3010 | Transportation Engineering I | 3 | PMT |
| CE3030 | Water Resources Engineering | 4 | PMT |
| CE3050 | Basic Structural Steel Design | 4 | PMT |
| CE3350 | Geotechnical Engineering | 4 | PMT |
| CE3410 | Construction Materials Lab | 2 | PML |
| DPE1 | Department Elective 1 | 3 | PMT |
| MNS1 | Minor Elective 1 | 3 | MNS |
| | TOTAL | 23 | |

SEMESTER VI

| No | Title | Credit | Cat |
|--------|------------------------------------|-----------|-----|
| CE3020 | Transportation Engg. II | 3 | PMT |
| CE3040 | Environmental Engineering | 4 | PMT |
| CE3060 | Basic Reinforced Concrete Design | 4 | PMT |
| CE3280 | Industrial Training | 2 | PIT |
| CE4030 | Hydraulic & Environmental Engg Lab | 2 | PMP |
| DPE2 | Department Elective 2 | 3 | PMT |
| FRE1 | Free Elective 1 | 3 | |
| MNS2 | Minor Elective 2 | 3 | MNS |
| | TOTAL | 24 | |

Remarks

SEMESTER VII

| No | Title | Credit | Cat |
|--------|--------------------------------------|--------|-----|
| CE4010 | Estimation & Construction Management | 4 | PMT |
| CE4030 | Hydraulic & Environmental Engg Lab | 2 | PML |
| CE4050 | Project I | 3 | PMP |
| CE4070 | Viva Voce | 2 | PMP |
| DPE3 | Department Elective 3 | 3 | PMT |
| FRE2 | Free Elective 2 | 3 | |
| HSE4 | Humanities Elective 4 | 3 | HSS |
| MNS3 | Minor Elective 3 | 3 | MNS |

| | | | |
|------|-----------------------|----|-----|
| SSE1 | Self Study Elective 1 | 3 | PSS |
| | TOTAL | 26 | |

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SEMESTER VIII

| No | Title | Credit | Cat |
|--------|-----------------------|--------|-----|
| CE4020 | Industrial Lecture | 1 | PIL |
| CE4060 | Project II | 6 | PMP |
| HS3050 | Professional Ethics | 2 | HPF |
| DPE4 | Department Elective 4 | 3 | PMT |
| | TOTAL | 12 | |



Electives

| No. | Course Title | Credit |
|--------|--|--------|
| CE3310 | Advanced Structural Analysis | 3 |
| CE3320 | Design of Steel Structural System | 3 |
| CE3330 | Computer Methods in Civil Engineering | 3 |
| CE3410 | Construction Materials Lab | 2 |
| CE3420 | Concrete Technology | 3 |
| CE3510 | Ground Improvement | 3 |
| CE3520 | Foundation Engineering | 3 |
| CE3530 | Introductory Rock Mechanics | 3 |
| CE3610 | Flow Measurements | 3 |
| CE4310 | Design of Concrete Structural Systems | 3 |
| CE4410 | Structural Masonry | 3 |
| CE4420 | Introduction to GIS and Remote Sensing | 3 |
| CE4510 | Dynamics of Foundations | 3 |
| CE4520 | Principles of Reinforced Soil Structures | 3 |
| CE4610 | Water Management | 3 |
| CE4620 | Watershed Management | 3 |
| CE4640 | Anal & Design for Wind & Earthquake Effe | 3 |
| CE4670 | Case Studies in Structural Engg. | 3 |
| CE4710 | Transport Project Planning & Evaluation | 3 |
| CE4720 | Computer Appls. in Traffic & Highway Engg | 3 |
| CE4810 | Air Pollution Control & Solid Waste Management | 3 |
| CE4820 | Advanced Environmental Engg. | 3 |
| CE4830 | Computational Methods in Water Res.&Env.Engg. | 3 |
| CE5010 | Modern Construction Materials | 3 |
| CE5011 | Advanced Design of Masonry Structures | 3 |
| CE5013 | Bituminous Technology | 3 |
| CE5014 | Sustainable Construction | 3 |
| CE5020 | Construction Planning & Control | 3 |
| CE5030 | Functional Efficiency of Buildings | 3 |
| CE5040 | Construction,Methods & Equipment | 3 |
| CE5080 | Geographical Information System | 3 |
| CE5110 | Building Services | 3 |
| CE5120 | Main. & Rehab. Const.facilities | 3 |
| CE5140 | Building Acoustics & Noise Control | 3 |
| CE5180 | Air Quality Management | 4 |
| CE5210 | Transport of Water & waste water | 3 |
| CE5260 | Models of Water & Air Quality | 3 |
| CE5280 | Hazardous Waste Management | 3 |
| CE5290 | Transportation Network Analysis | 3 |
| CE5330 | Advanced Foundation Engg | 4 |
| CE5331 | Metro Systems and Engineering | 3 |
| CE5332 | Special Topics in Metro Engineering | 3 |
| CE5338 | Underground Space Technology | 3 |
| CE5350 | Geosynthetics & Reinforced Soil Structures | 3 |
| CE5360 | Soil Exploration & Field Tests | 3 |



Electives

| | | |
|--------|--|----|
| CE5370 | Geotechnics for Infrastructure | 3 |
| CE5380 | Struc.design Foundations | 3 |
| CE5390 | Analytical Tech. in Transportation Engg | 3 |
| CE5460 | Ground Water Engg | 4 |
| CE5500 | Hydrosystems Computer Lab | 3 |
| CE5510 | Irrigation Technology | 3 |
| CE5530 | Pavement Materials | 3 |
| CE5540 | Economics of Water Res.plng | 3 |
| CE5550 | Urban Hyd.&storm Drainage Des&mgmt | 3 |
| CE5560 | Hydraulic Modelling | 3 |
| CE5570 | Pipeline Engg | 3 |
| CE5590 | Pavement Management System | 3 |
| CE5610 | Finite Element Analysis | 4 |
| CE5620 | Structural Dynamics | 4 |
| CE5670 | Fuzzy Logic and its Applications | 3 |
| CE5680 | Soil Structure Interaction Analysis | 3 |
| CE5690 | Theory & Design of Plates & Shells | 3 |
| CE5700 | Advanced Topics in Metal Structuers | 3 |
| CE5710 | Prestressed Concrete Design | 3 |
| CE5720 | Stability of Structures | 3 |
| CE5730 | Probability Methods in Civil Engg | 3 |
| CE5740 | Experimental Techniques | 2 |
| CE5800 | Pavement Analysis and Design | 3 |
| CE5870 | Infrastructure Planning and Management | 3 |
| CE5900 | Intelligent Transportation Systems | 3 |
| CE5930 | Pavement Construction Technology | 3 |
| CE5940 | Design & Construction of Hill Roads | 3 |
| CE5950 | Characterization of Construction Materials | 3 |
| CE6010 | Construction Contracts & Specifications | 3 |
| CE6030 | Construction Economics & Finance | 3 |
| CE6050 | Lean Construction Concepts,Tools & Practices | 3 |
| CE6070 | Construction Project Modelling | 3 |
| CE6090 | Project | 12 |
| CE6100 | Structural Systems Design | 3 |
| CE6110 | Advanced Concrete Technology | 3 |
| CE6170 | Seminar | 1 |
| CE6180 | Environmental Impact Assessment | 3 |
| CE6210 | Environmental System Analysis | 3 |
| CE6310 | Earthquake Geotech.engg | 3 |
| CE6320 | Engg. Seismology and Hazard Assessment | 3 |
| CE6330 | Rock Engineering | 3 |
| CE6350 | Critical State Soil Mechanics | 3 |
| CE6370 | Comp.methods in Geotech.engg | 3 |
| CE6380 | Water Distribution System | 3 |
| CE6420 | Ground Improvement Techniques | 3 |



Electives

| | | |
|--------|--|---|
| CE6450 | Design Project | 3 |
| CE6480 | Contaminant Transport Modelling | 3 |
| CE6500 | Unsteady Open-channel Flow | 3 |
| CE6510 | Fem in Water Resource | 3 |
| CE6520 | Simulation Modelling in Water Resources | 3 |
| CE6530 | Environmental Hydraulics | 3 |
| CE6710 | Bridge Engineering | 3 |
| CE6720 | Advanced Design of Foundation Engg. | 3 |
| CE6730 | Structural Optimisation | 3 |
| CE6740 | Advanced Analysis & Design for Wind & Earthquake | 3 |
| CE6750 | CAD in Civil Engineering | 3 |
| CE6760 | Structures for Power Plant | 3 |
| CE6770 | Finite Element Analysis Software Lab | 2 |
| CE6790 | Engg. Design Optimization & Reliability | 3 |
| CE6800 | Airport Planning & Design | 3 |
| CE6810 | Geometric Design of Highways | 3 |
| CE6820 | Public Transportation | 3 |
| CE6830 | Rail Transportation | 3 |
| CE6840 | Traffic Flow Theory | 3 |
| CE6850 | Transport and Environment | 3 |
| CE6860 | Transportation Economics | 3 |
| CE6870 | Transportation Systems Analysis | 3 |
| CE6880 | Urban Settlement Plng & Devpt | 3 |
| CE6890 | Waterway Transportation | 3 |
| CE6950 | Traffic Flow Theory | 3 |
| CE6990 | Transport and Environment | 3 |
| CE7011 | Advanced Transportation Network Analysis | 3 |
| CE7012 | Computer Integrated Project Delivery | 3 |
| CE7013 | Advanced Topics in Project Delivery Finance | 3 |
| CE7016 | Nonlinear Analysis of Frame Structures | 3 |
| CE7120 | Advanced Topics in Structural Concrete | 3 |
| CE7200 | Fracture Mechanics of Concrete | 3 |
| CE7210 | Urban Hyd. & Storm Drainage Des. & Mgmt. | 3 |
| CE7610 | Transportation System Analysis | 3 |
| CE7620 | Rheology of Civil Engineering Materials | 3 |
| CE7630 | Urban Settlement Planning & Devp. | 3 |
| CE7640 | Elastic and Plastic Stress Analysis | 3 |
| CE7660 | Transport of Water and Waste Water | 3 |
| CE7700 | Water Quality and Treatment | 3 |
| CE7710 | Advanced Structural Dynamics | 3 |
| CE7720 | Structural Reliability | 3 |
| CE7730 | Advanced Finite Element Analysis | 3 |
| CE7770 | Computational Fracture Mechanics | 3 |
| CE7940 | Gis in Civil Engineering | 3 |

**Electives**

| | | |
|--------|---|---|
| CT7200 | Composite Product Design | 3 |
| EE6970 | Elec. Energy Resource Mgmt. | 3 |
| GN5001 | Self-Awareness | 3 |
| HS7020 | Systems Engineering | 3 |
| HS7180 | Forecasting Methods and Applicn. | 3 |
| HS7310 | Energy Management | 3 |
| ID5010 | High Per.comp.for Engg Applns | 3 |
| ID5020 | Multi Body Dynamics & Applications | 3 |
| ID5030 | Computational Structural Dynamics | 4 |
| ID6010 | Constitutive Modelling in Continuum Mechanics | 3 |
| ID6020 | Introduction to Research | 2 |
| ID6030 | An introduction to Nanoscience and Nanotechnology | 3 |
| ID7010 | Adv.Finite Element Analysis | 3 |
| MA5540 | Probability and Statistics | 3 |



SEMESTER I

| No | Title | Credit | Cat |
|--------|--|-----------|-----|
| CH1010 | Introduction to Chemical Engineering | 2 | PMT |
| CS1100 | Computational Engineering | 3 | BET |
| CY1001 | Chemistry: Structure, Bonding & Reactivity | 4 | SCY |
| GN1100 | Life Skills | 2 | HPF |
| ID1100 | Concepts in Engineering Design | 2 | BET |
| MA1010 | Calculus I Functions of One Variable | 4 | SMA |
| PH1010 | Physics I | 3 | SPH |
| PH1030 | Physics Laboratory I | 2 | SPH |
| | TOTAL | 22 | |

Remarks

SEMESTER II

| No | Title | Credit | Cat |
|--------|--|-----------|-----|
| CH1020 | Process Calculations | 4 | PMT |
| CY1002 | Chemistry Lab I | 3 | SCY |
| EE1100 | Basic Electrical Engineering | 3 | BET |
| MA1020 | Calculus II Functions of Several Variables | 4 | SMA |
| ME1100 | Thermodynamics | 3 | BET |
| ME1120 | Engineering Drawing | 3 | BES |
| PH1020 | Physics II | 3 | SPH |
| PH1040 | Physics Laboratory II | 2 | SPH |
| | TOTAL | 25 | |

SEMESTER III

| No | Title | Credit | Cat |
|--------|-------------------------------------|-----------|-----|
| AM1100 | Engineering Mechanics | 4 | BET |
| BT1010 | Life Sciences | 2 | SLS |
| CH2010 | Chemical Engineering Thermodynamics | 4 | PMT |
| CH2030 | Momentum Transfer | 4 | PMT |
| ID1200 | Ecology and Environment | 2 | BET |
| HSE1 | Humanities Elective 1 | 3 | HSS |
| MAE1 | Mathematics Elective 1 | 3 | SMA |
| | TOTAL | 22 | |



SEMESTER IV

| No | Title | Credit | Cat |
|--------|--|-----------|-----|
| CH2020 | Principles of Mass Transfer | 4 | PMT |
| CH2040 | Mechanical Operations | 4 | PMT |
| CH2061 | Computational Techniques | 4 | PMT |
| CH2082 | Computational Prog. & Process Simulation Lab | 2 | PML |
| CH2100 | Chemical Technology | 3 | PMT |
| HSE2 | Humanities Elective 2 | 3 | HSS |
| MAE2 | Mathematics Elective 2 | 3 | SMA |
| | TOTAL | 23 | |

SEMESTER V

| No | Title | Credit | Cat |
|--------|---------------------------------|-----------|-----|
| CH3010 | Chemical Reaction Engineering I | 3 | PMT |
| CH3030 | Applications of Mass Transfer | 4 | PMT |
| CH3051 | Process Heat Transfer | 4 | PMT |
| CH3510 | Momentum Transfer & MO Lab | 4 | PML |
| DPE1 | Department Elective 1 | 3 | PMT |
| FRE1 | Free Elective 1 | 3 | |
| MNS1 | Minor Elective 1 | 3 | MNS |
| | TOTAL | 24 | |

Remarks

SEMESTER VI

| No | Title | Credit | Cat |
|--------|-----------------------------------|-----------|-----|
| CH3020 | Chemical Reaction Engg. II | 4 | PMT |
| CH3040 | Instrumentation & Process Control | 4 | PMT |
| CH3060 | Transport Phenomena | 3 | PMT |
| CH3080 | Process Equipment Design | 4 | PSS |
| CH3500 | Summer Training | 2 | PIT |
| CH3520 | Heat & Mass Transfer Lab | 4 | PML |
| DPE2 | Department Elective 2 | 3 | PMT |
| MNS2 | Minor Elective 2 | 3 | MNS |
| | TOTAL | 27 | |

SEMESTER VII

| No | Title | Credit | Cat |
|--------|-----------------------------------|--------|-----|
| CH3500 | Summer Training | 2 | PIT |
| CH4010 | Chemical Process Des. & Economics | 4 | PMT |
| CH4510 | CRE & TDC Lab | 2 | PML |
| CH4530 | Project I | 3 | PMP |
| DPE3 | Department Elective 3 | 3 | PMT |
| FRE2 | Free Elective 2 | 3 | |
| HSE4 | Humanities Elective 4 | 3 | HSS |
| MNS3 | Minor Elective 3 | 3 | MNS |

| | | | |
|--|-------|----|--|
| | TOTAL | 23 | |
|--|-------|----|--|

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SEMESTER VIII

| No | Title | Credit | Cat |
|--------|-----------------------|--------|-----|
| CH4560 | Project II | 6 | PMP |
| CH4620 | Industrial Lecture | 1 | PIL |
| HS3050 | Professional Ethics | 2 | HPF |
| DPE4 | Department Elective 4 | 3 | PMT |
| | TOTAL | 12 | |



Electives

| No. | Course Title | Credit |
|--------|---|--------|
| CA5350 | Catalysis in Petroleum Technology | 3 |
| CA5360 | Catalysis in Production of Chemicals | 3 |
| CA5370 | Nano-materials in Catalysis | 3 |
| CA6110 | Catalysis in Green Chemistry & Emt. | 3 |
| CA6120 | Photo-Catalysis | 3 |
| CH3060 | Transport Phenomena | 3 |
| CH3080 | Process Equipment Design | 4 |
| CH3120 | Mineral Process Simulation | 3 |
| CH3130 | Polymer Technology | 3 |
| CH3140 | Intro. to Computer Control of Processes | 3 |
| CH3150 | Renewable Energy Sources | 3 |
| CH3160 | Polymeric Materials | 3 |
| CH3170 | Ecological Engineering | 3 |
| CH3180 | Polymer Kinetic Theory | 3 |
| CH3190 | Intro. to Industrial Biotechnology | 3 |
| CH3200 | Chemical Engg Prin.in Paper Tech | 3 |
| CH3240 | Introduction to Semiconductor Mfg Processes | 3 |
| CH4110 | Biochemical Engineering | 3 |
| CH4120 | Molecular Thermodynamics | 3 |
| CH4130 | Petroleum Refinery Engineering | 3 |
| CH4140 | Hazard Ass.&mitigation in Che Proc Inds. | 3 |
| CH4150 | Advanced Momentum Transfer | 3 |
| CH4160 | Processing of Polymeric Composites | 3 |
| CH4170 | Catalyst Science & Technology | 3 |
| CH4180 | Technology of Biopolymers and Biomaterials | 3 |
| CH4190 | Protein Engineering | 3 |
| CH4200 | Principles of Food Engineering | 3 |
| CH4210 | Plastics Engineering | 3 |
| CH5011 | Colloids and Surfaces | 3 |
| CH5020 | Statistical Design and Analysis of Experiments | 3 |
| CH5030 | Transport Phenomena | 4 |
| CH5050 | Advanced Chemical Engg Thermodynamics | 4 |
| CH5060 | Seminar | 2 |
| CH5070 | Computer Process Control | 3 |
| CH5080 | Theory & Appln. of Multi Component Mass Transfer | 3 |
| CH5090 | Bioprocess Engineering | 3 |
| CH5100 | Multiphase Systems | 3 |
| CH5110 | Environmental Pollution Control | 3 |
| CH5120 | Modern Control Theory | 3 |
| CH5130 | Rheology of Complex Materials | 3 |
| CH5140 | Process Analysis and Simulation | 3 |
| CH5150 | Industrial Instrumentation | 3 |
| CH5160 | Chemical and Catalytic Reaction Engg. | 3 |
| CH5170 | Process Optimization | 3 |
| CH5180 | Steady State & Dynamic Analysis of Physiochemical | 3 |



Electives

| | | |
|--------|--|---|
| CH5190 | Introduction of Macromolecules | 3 |
| CH5200 | Bioreactor Design and Analysis | 3 |
| CH5210 | Chemical Process Flow Sheetting | 3 |
| CH5220 | Bioconversion & Fermentation Technology | 3 |
| CH5230 | System Identification | 3 |
| CH5240 | Upstream & Downstream Bioprocessing | 3 |
| CH5250 | Chemical Engg Principles of CVD Processes | 3 |
| CH5260 | Applied Genetics | 3 |
| CH5270 | Polymers for Devices | 3 |
| CH5280 | Air Pollution Monitoring & Control | 3 |
| CH5300 | Solid Waste Management | 3 |
| CH5310 | Molecular Science and Engineering | 3 |
| CH5320 | Industrial Wastewater Management | 3 |
| CH5340 | Environmental Impact Assessment | 3 |
| CH5350 | Applied Time Series Analysis | 3 |
| CH5360 | Polymer Processing | 3 |
| CH5370 | Environmental Quality Monitoring & Analysis | 3 |
| CH5380 | Testing of Polymers | 3 |
| CH5400 | Microelectronic Fabrication | 3 |
| CH5430 | Rheology of Polymer | 3 |
| CH5440 | Multivariate Data Analysis for Process Modeling | 3 |
| CH5450 | Applications of Particle Science in High-Tech. | 3 |
| CH5460 | Unit Operation and Processes in Env.Engg. | 3 |
| CH5470 | Graph Theory & Its Applns. in Process Design | 3 |
| CH5480 | Bioprocesses in Environmental Mgmt. | 3 |
| CH6010 | Interacting Fluid Particle System | 3 |
| CH6020 | Computational Fluid Dynamics Tech | 3 |
| CH6030 | Simulation, Optimization & Control of Mineral Proc | 3 |
| CH6040 | Chemical Reactor Design for Process Plants | 3 |
| CH6050 | Molecular Thermodynamics of Fluid Phase | 3 |
| CH6060 | Numerical Tech for Engrs | 3 |
| CH6070 | Environmental Biology & Microbiology | 3 |
| CH6090 | Env. Risk Assess & Hazard Mgmt | 3 |
| CH6100 | Composite Proc & Manufacture | 3 |
| CH6110 | Finite Element Methods in Engg | 3 |
| CH6120 | Particle Characterization | 3 |
| CH6130 | Proc & Handling of Fine Particles | 3 |
| CH6140 | Advanced Topics in Trans.phenomena | 3 |
| CH6150 | Multiphase Reactors | 3 |
| CH6160 | Advances in Fluidized Bed Chemical Process | 3 |
| CH6170 | Advanced Biochemical Engg & Biotech. | 3 |
| CH6180 | Molecular Theory of Solutions | 3 |
| CH6200 | Environmental Chemodynamics | 3 |
| CH6250 | Analysis of Rotary Reactors | 3 |
| CH6560 | Optical Measurement Techniques in Flow Systems | 3 |



Electives

| | | |
|--------|---|---|
| CH8010 | Advanced Topics in CFD | 3 |
| CY6720 | Chemical and Electrochemical Energy Syst | 3 |
| CY6760 | Principles of Surface Chemistry | 3 |
| ID6010 | Constitutive Modelling in Continuum Mechanics | 3 |
| ID6030 | An introduction to Nanoscience and Nanotechnology | 3 |
| ID6070 | Mechanics of Viscoelastic Materials | 3 |



SEMESTER I

| No | Title | Credit | Cat |
|--------|--|-----------|-----|
| CS1100 | Computational Engineering | 3 | BET |
| CS1300 | Introduction to Computer Science & Engineering | 2 | PMT |
| CY1001 | Chemistry: Structure, Bonding & Reactivity | 4 | SCY |
| GN1100 | Life Skills | 2 | HPF |
| ID1100 | Concepts in Engineering Design | 2 | BET |
| MA1010 | Calculus I Functions of One Variable | 4 | SMA |
| PH1010 | Physics I | 3 | SPH |
| PH1030 | Physics Laboratory I | 2 | SPH |
| | TOTAL | 22 | |

Remarks

SEMESTER II

| No | Title | Credit | Cat |
|--------|--|-----------|-----|
| CY1002 | Chemistry Lab I | 3 | SCY |
| EE1100 | Basic Electrical Engineering | 3 | BES |
| MA1020 | Calculus II Functions of Several Variables | 4 | SMA |
| ME1100 | Thermodynamics | 3 | BET |
| ME1120 | Engineering Drawing | 3 | BES |
| PH1020 | Physics II | 3 | SPH |
| PH1040 | Physics Laboratory II | 2 | SPH |
| | TOTAL | 21 | |

SEMESTER III

| No | Title | Credit | Cat |
|--------|---|-----------|-----|
| AM1100 | Engineering Mechanics | 4 | BET |
| BT1010 | Life Sciences | 2 | SLS |
| CS2100 | Discrete Mathematics for Computer Science | 3 | PMT |
| CS2110 | Computer Programming Lab | 2 | PML |
| CS2300 | Switching Theory & Digital Design | 3 | PMT |
| CS2310 | Digital Logic and Design Lab | 2 | PML |
| ID1200 | Ecology and Environment | 2 | BET |
| HSE1 | Humanities Elective 1 | 3 | HSS |
| MAE1 | Mathematics Elective 1 | 3 | SMA |
| | TOTAL | 24 | |



SEMESTER IV

| No | Title | Credit | Cat |
|--------|------------------------------------|-----------|-----|
| CS2200 | Language Machines and Computations | 3 | PMT |
| CS2400 | Principles of Communication | 3 | PMT |
| CS2600 | Computer Organisation | 3 | PMT |
| CS2610 | Assembly Language Programming Lab | 2 | PML |
| CS2800 | Data Structures and Algorithms | 4 | PMT |
| CS2810 | Advanced Programming Lab | 2 | PML |
| HSE2 | Humanities Elective 2 | 3 | HSS |
| MAE2 | Mathematics Elective 2 | 3 | SMA |
| | TOTAL | 23 | |

SEMESTER V

| No | Title | Credit | Cat |
|--------|----------------------------------|-----------|-----|
| CS3100 | Paradigms of Programming | 4 | PMT |
| CS3300 | Language Translators | 3 | PMT |
| CS3310 | Language Translators Lab | 2 | PML |
| CS3500 | Operating Systems | 3 | PMT |
| CS3510 | Operating Systems Lab | 2 | PML |
| CS3700 | Introduction to Database Systems | 4 | PMT |
| DPE1 | Department Elective 1 | 4 | PMT |
| MNS1 | Minor Elective 1 | 3 | MNS |
| | TOTAL | 25 | |

SEMESTER VI

| No | Title | Credit | Cat |
|--------|------------------------------|-----------|-----|
| CS3200 | Computer Networks | 3 | PMT |
| CS3210 | Computer Networks Lab | 2 | PML |
| CS3400 | Principles of Software Engg. | 3 | PMT |
| CS3410 | Software Engg Lab | 2 | PML |
| CS3660 | Industrial Training | 2 | PIT |
| DPE2 | Department Elective 2 | 4 | PMT |
| FRE1 | Free Elective 1 | 3 | |
| MNS2 | Minor Elective 2 | 3 | MNS |
| SSE1 | Self Study Elective 1 | 4 | PSS |
| | TOTAL | 26 | |

SEMESTER VII

| No | Title | Credit | Cat |
|--------|----------------------------|-----------|-----|
| CS4100 | Computer System Design | 3 | PMT |
| CS4110 | Computer System Design Lab | 2 | PML |
| DPE4 | Department Elective 4 | 4 | PMT |
| DPE5 | Department Elective 5 | 4 | PMT |
| DPE6 | Department Elective 6 | 4 | PMT |
| FRE2 | Free Elective 2 | 3 | |
| HSE4 | Humanities Elective 4 | 3 | HSS |
| MNS3 | Minor Elective 3 | 3 | MNS |
| | TOTAL | 26 | |



SEMESTER VIII

| No | Title | Credit | Cat |
|--------|---------------------|--------|-----|
| CS4800 | Project | 8 | PMP |
| CS4880 | Industrial Lecture | 1 | PIL |
| HS3050 | Professional Ethics | 2 | HPF |
| | TOTAL | 11 | |



Electives

| No. | Course Title | Credit |
|--------|---|--------|
| CS5011 | Introduction to Machine Learning | 4 |
| CS5040 | Mini Project | 2 |
| CS5100 | MFCS | 4 |
| CS5800 | Advance Data Structures & Algorithms | 4 |
| CS6012 | Social Network Analysis | 4 |
| CS6013 | Modern Compilers-Theory&Practice | 4 |
| CS6014 | Advanced Theory of Computation | 4 |
| CS6040 | Advanced Computer Networks | 5 |
| CS6060 | Computer Architecture Lab | 2 |
| CS6070 | Object-oriented Software Devpt Lab | 2 |
| CS6080 | Intelligent Systems | 4 |
| CS6090 | Tech. Enhanced Learning & Teaching Theory & Prac. | 3 |
| CS6100 | Topics in Design & Analysis of Algorithms | 4 |
| CS610P | Topics in Design & Analysis of Algorithms | 4 |
| CS6110 | Computational Geometry | 4 |
| CS611P | Computational Geometry | 4 |
| CS6120 | Wireless Communication and Networks | 4 |
| CS612P | Mathematical Foundations of Cs | 4 |
| CS6140 | Advanced Programming Laboratory | 4 |
| CS6170 | Parallel and Randomized Algorithms | 4 |
| CS617P | Parallel & Randomised Algorithms | 4 |
| CS6180 | Adv. Topics in Formal Lang. & Automata | 4 |
| CS618P | Advanced Topics in Formal Lang & Automaata | 4 |
| CS6190 | Recent Dev. in Theoretical Computer Scie | 4 |
| CS619P | Recent Devpts in Theoretical CS | 4 |
| CS6200 | Advanced Computer Architecture | 4 |
| CS620P | Advanced Computer Architecture | 4 |
| CS6210 | Perf. Evaluation of Comp. Systems | 4 |
| CS621P | Performance Evaluation of Comp Systems & Networks | 4 |
| CS6220 | Multimedia Systems | 4 |
| CS622P | Multimedia Systems | 4 |
| CS6230 | CAD for VLSI Systems | 4 |
| CS623P | CAD for VLSI Systems | 4 |
| CS6250 | Memory Based Reasoning in Art.Int. | 4 |
| CS625P | Memory Based Reasoning in AI | 4 |
| CS6300 | Speech Technology | 4 |
| CS630P | Speech Technology | 4 |
| CS6310 | Artificial Neural Networks | 4 |
| CS631P | Artificial Neural Networks | 4 |
| CS6320 | Signals and Systems | 4 |
| CS632P | Signals and Systems | 4 |
| CS6330 | Digital System Testing & Testable Design | 4 |
| CS6340 | Soft Computing | 4 |
| CS634P | Soft Computing | 4 |
| CS6350 | Computer Vision | 4 |



Electives

| | | |
|--------|---|---|
| CS635P | Computer Vision | 4 |
| CS6360 | Computer Graphics | 4 |
| CS636P | Computer Graphics | 4 |
| CS6370 | Natural Language Processing | 4 |
| CS637P | Natural Lang Processing | 4 |
| CS6380 | Artificial Intelligence | 4 |
| CS638P | Computational Intelligence | 4 |
| CS6390 | Model Based & Qualitative Reasoning in AI | 4 |
| CS639P | Model Based & Qualitative Reasoning in AI | 4 |
| CS6400 | High Performance Computing | 4 |
| CS640P | High Performance Computing | 4 |
| CS6410 | Real Time Computing and Communication | 4 |
| CS641P | Real-time Computing & Communications | 4 |
| CS6420 | Dependable Computing and Comm. | 4 |
| CS642P | Dependable Computing & Communications | 4 |
| CS6430 | Optical Networks | 4 |
| CS6440 | Distributed Computing | 4 |
| CS644P | Distributed Computing | 4 |
| CS6450 | Object Oriented Software Development | 4 |
| CS6460 | Protocol Software Engg | 4 |
| CS646P | Protocol Software Engg | 4 |
| CS6470 | Network Management Systems | 4 |
| CS6480 | E Commerce | 4 |
| CS6490 | Device Drivers Practicum | 4 |
| CS6500 | Cryptography & Network Security | 4 |
| CS650P | Cryptography & Network Security | 4 |
| CS6510 | Advances in Database Technology | 4 |
| CS6520 | Software Architecture -Theory & Practice | 4 |
| CS6540 | Distributed Systems Lab | 2 |
| CS6550 | Database Management System | 4 |
| CS6560 | Parallel Computer Architecture | 4 |
| CS6640 | Mobile Computing | 4 |
| CS6650 | Software Project Management | 4 |
| CS6660 | Unconventional Models of Computing | 4 |
| CS6680 | Planning and Constraint Satisfaction | 4 |
| CS6690 | Pattern Recognition | 4 |
| CS6700 | Reinforcement Learning | 4 |
| CS6710 | Advances in Visual Perception | 4 |
| CS6730 | Probabilistic reasoning | 4 |
| CS6750 | Grid Computing | 4 |
| CS6760 | Digital Design Verification | 4 |
| CS6770 | Knowledge Representation & Reasoning | 4 |
| CS6790 | Geometry & Photometry-based Computer Vision | 4 |
| CS6800 | VLSI Design Automation Algorithms | 4 |
| CS6810 | Information Theory and Coding | 4 |



Electives

| | | |
|--------|---|---|
| CS6840 | Advanced Complexity Theory | 4 |
| CS6841 | Advanced Algorithms | 4 |
| CS6845 | Modern Techniques in Theory of Computation | 4 |
| CS6846 | Quantum Algorithms and Quantum Complexity | 4 |
| CS6847 | Cloud Computing | 4 |
| CS6848 | Principles of Programming Languages | 4 |
| CS6849 | Modern Trends in Computer Graphics | 4 |
| CS6850 | Advances in Complexity Theory | 4 |
| CS6860 | Algorithms for Computational Biology | 4 |
| CS6868 | Concurrent Programming | 4 |
| CS6870 | Digital Video Processing | 4 |
| CS6980 | Project 1 | 4 |
| HS335P | Technology & Devpt | 3 |
| HS406P | Fundamentals of Or | 3 |
| HS704P | Comp Applns to Managerial Decisions | 3 |
| HS7060 | Operations Research II | 3 |
| HS732P | Computer Simulation | 3 |
| HS742P | Technology Management | 3 |
| ID6030 | An introduction to Nanoscience and Nanotechnology | 3 |
| MA490P | Computability | 3 |
| MA5540 | Probability and Statistics | 3 |
| MA571P | Mathematical Modelling in Industry | 3 |
| MA5760 | Discrete Mathematics | 3 |
| MA5790 | Computer Modelling and Simulation | 3 |
| MA5930 | Database Management Systems & File Organ | 3 |
| MA6190 | Mathematical Logic | 3 |
| MA619P | Elements of Logic | 3 |
| MA6230 | Graph Theory | 3 |
| MA6240 | Algorithmic Graph Theory | 3 |
| MA631P | Operations Research 1 | 3 |
| MA654P | Queuing Models for Comp&Commn.systems | 3 |
| MP502P | Management Theory & Practice | 2 |
| MP503P | Data Analysis for Management | 2 |
| MP505P | Systems Thinking & Applications | 2 |
| MP511P | Business,govt & Int. Economy | 2 |
| MP513P | Operations Research | 2 |
| MP515P | Proccessional Devpt Workshop | 1 |



SEMESTER I

| No | Title | Credit | Cat |
|--------|--|-----------|-----|
| CS1100 | Computational Engineering | 3 | BET |
| CY1001 | Chemistry: Structure, Bonding & Reactivity | 4 | SCY |
| EC1000 | Introduction to Electrical Engineering | 2 | BET |
| GN1100 | Life Skills | 2 | HPF |
| ID1100 | Concepts in Engineering Design | 2 | BET |
| MA1010 | Calculus I Functions of One Variable | 4 | SMA |
| PH1010 | Physics I | 3 | SPH |
| PH1030 | Physics Laboratory I | 2 | SPH |
| | TOTAL | 22 | |

Remarks

SEMESTER II

| No | Title | Credit | Cat |
|--------|--|-----------|-----|
| CY1002 | Chemistry Lab I | 3 | SCY |
| EC1010 | Electrical and Magnetic Circuits | 4 | PMT |
| MA1020 | Calculus II Functions of Several Variables | 4 | SMA |
| ME1100 | Thermodynamics | 3 | BET |
| ME1120 | Engineering Drawing | 3 | BES |
| PH1020 | Physics II | 3 | SPH |
| PH1040 | Physics Laboratory II | 2 | SPH |
| | TOTAL | 22 | |

SEMESTER III

| No | Title | Credit | Cat |
|--------|-------------------------|-----------|-----|
| AM1100 | Engineering Mechanics | 4 | BET |
| BT1010 | Life Sciences | 2 | SLS |
| EE2001 | Digital Systems | 4 | PMT |
| EE2002 | Networks and Systems | 4 | PMT |
| EE2701 | CAD Laboratory | 2 | PML |
| ID1200 | Ecology and Environment | 2 | BET |
| HSE1 | Humanities Elective 1 | 3 | HSS |
| MAE1 | Mathematics Elective 1 | 3 | SMA |
| | TOTAL | 24 | |



SEMESTER IV

| No | Title | Credit | Cat |
|--------|-----------------------------|-----------|-----|
| EE2003 | Computer Organization | 4 | PMT |
| EE2004 | Digital Signal Processing | 4 | PMT |
| EE2005 | Electrical Machines | 4 | PMT |
| EE2006 | Electromagnetic Fields | 4 | PMT |
| EE2702 | Digital Circuits Laboratory | 2 | PML |
| HSE2 | Humanities Elective 2 | 3 | HSS |
| MAE2 | Mathematics Elective 2 | 3 | SMA |
| | TOTAL | 24 | |

SEMESTER V

| No | Title | Credit | Cat |
|--------|--------------------------------|-----------|-----|
| EE3001 | Solid State Devices | 4 | PMT |
| EE3002 | Analog Circuits | 4 | PMT |
| EE3003 | Power Systems | 4 | PMT |
| EE3004 | Control Engineering | 4 | PMT |
| EE3701 | Microprocessor Laboratory | 2 | PML |
| EE3702 | Electrical Machines Laboratory | 2 | PML |
| MNS1 | Minor Elective 1 | 3 | MNS |
| | TOTAL | 23 | |

SEMESTER VI

| No | Title | Credit | Cat |
|--------|----------------------------|-----------|-----|
| EE3005 | Communication Systems | 4 | PMT |
| EE3006 | Principles of Measurement | 4 | PMT |
| EE3020 | Industrial Training | 2 | PIT |
| EE3703 | Analog Circuits Laboratory | 2 | PML |
| DPE1 | Department Elective 1 | 3 | PMT |
| DPE2 | Department Elective 2 | 3 | PMT |
| DPE3 | Department Elective 3 | 3 | PMT |
| MNS2 | Minor Elective 2 | 3 | MNS |
| | TOTAL | 24 | |

SEMESTER VII

| No | Title | Credit | Cat |
|--------|-----------------------------------|-----------|-----|
| EE4701 | Advanced EE Laboratory | 2 | PML |
| EE4900 | B.Tech Project | 9 | PMP |
| IL4103 | Industrial Lecture | 1 | PIL |
| DPE4 | Department Elective 4 | 3 | PMT |
| DPE5 | Department Elective 5 | 3 | PMT |
| DPE6 | Department Elective 6 | 3 | PMT |
| FRE1 | Free Elective 1 | 3 | |
| FRE2 | Free Elective 2 | 3 | |
| HSP3 | Humanities Elective [Pass/Fail] 3 | 2 | HPF |
| MNS3 | Minor Elective 3 | 3 | MNS |
| | TOTAL | 32 | |



SEMESTER VIII

| No | Title | Credit | Cat |
|--------|-----------------------|--------|-----|
| EC4201 | Project II | 8 | PMP |
| FRE3 | Free Electrive 3 | 3 | |
| HSE4 | Humanities Elective 4 | 3 | HSS |
| | TOTAL | 14 | |



Electives

| No. | Course Title | Credit |
|--------|---|--------|
| EE3040 | Power Electronics | 4 |
| EE4010 | Instrumentation Systems | 3 |
| EE4240 | Image Signal Processing | 3 |
| EE4280 | VLSI Design | 3 |
| EE4350 | Quantum Electronics and Lasers | 3 |
| EE4360 | Introduction to Robotics | 3 |
| EE4370 | Electromagnetic Wave Propagation | 3 |
| EE4420 | Design and Layout of Power App.&Sys | 3 |
| EE4440 | Power System Analysis | 3 |
| EE4450 | Guidance and Control | 3 |
| EE4460 | EHV AC and DC Power Transmission | 3 |
| EE4480 | Solid State Drives | 3 |
| EE4540 | Power System Protection and Switchgear | 3 |
| EE5020 | Topics in Electromagnetic Compatibility | 3 |
| EE5050 | Microwave Circuit Theory | 3 |
| EE5090 | Antennas | 3 |
| EE5182 | Computational Electromagnetics | 4 |
| EE5270 | Microwave Solid State Devices | 3 |
| EE5290 | High Speed ICs | 3 |
| EE5470 | Digital Tech.in TV Engg | 3 |
| EE5630 | Telemetry | 3 |
| EE5740 | Neural Networks | 3 |
| EE5820 | Finite Element Analysis of Elec Apparatus | 3 |
| EE5850 | Software Engg for Electrical Engineers | 4 |
| EE5940 | Power Circuit Breakers | 3 |
| EE6220 | Intro. to Computational Neuroscience | 3 |
| EE6250 | Mobile Robotics S,v & Control | 3 |
| EE6270 | Microwave Solid State Devices | 3 |
| EE6346 | Advanced CMOS Devices and Technology | 3 |
| EE6410 | Fibre Optic Communication | 3 |
| EE6690 | Micro Processor Design of CGI Systems | 3 |
| EE6850 | VLSI Broadband Communication Circuits | 4 |
| EE6950 | DSP Systems Lab | 2 |
| EE7030 | Advanced Topics in VLSI | 3 |
| ID6030 | An introduction to Nanoscience and Nanotechnology | 3 |



Electives

| No. | Course Title | Credit |
|--------|---|--------|
| EE3040 | Power Electronics | 4 |
| EE4010 | Instrumentation Systems | 3 |
| EE4240 | Image Signal Processing | 3 |
| EE4280 | VLSI Design | 3 |
| EE4350 | Quantum Electronics and Lasers | 3 |
| EE4360 | Introduction to Robotics | 3 |
| EE4370 | Electromagnetic Wave Propagation | 3 |
| EE4420 | Design and Layout of Power App.&Sys | 3 |
| EE4440 | Power System Analysis | 3 |
| EE4450 | Guidance and Control | 3 |
| EE4460 | EHV AC and DC Power Transmission | 3 |
| EE4480 | Solid State Drives | 3 |
| EE4540 | Power System Protection and Switchgear | 3 |
| EE5020 | Topics in Electromagnetic Compatibility | 3 |
| EE5050 | Microwave Circuit Theory | 3 |
| EE5090 | Antennas | 3 |
| EE5182 | Computational Electromagnetics | 4 |
| EE5270 | Microwave Solid State Devices | 3 |
| EE5290 | High Speed ICs | 3 |
| EE5470 | Digital Tech.in TV Engg | 3 |
| EE5630 | Telemetry | 3 |
| EE5740 | Neural Networks | 3 |
| EE5820 | Finite Element Analysis of Elec Apparatus | 3 |
| EE5850 | Software Engg for Electrical Engineers | 4 |
| EE5940 | Power Circuit Breakers | 3 |
| EE6220 | Intro. to Computational Neuroscience | 3 |
| EE6250 | Mobile Robotics S,v & Control | 3 |
| EE6270 | Microwave Solid State Devices | 3 |
| EE6346 | Advanced CMOS Devices and Technology | 3 |
| EE6410 | Fibre Optic Communication | 3 |
| EE6690 | Micro Processor Design of CGI Systems | 3 |
| EE6850 | VLSI Broadband Communication Circuits | 4 |
| EE6950 | DSP Systems Lab | 2 |
| EE7030 | Advanced Topics in VLSI | 3 |
| ID6030 | An introduction to Nanoscience and Nanotechnology | 3 |



Electives

| No. | Course Title | Credit |
|--------|---|--------|
| EE3040 | Power Electronics | 4 |
| EE4010 | Instrumentation Systems | 3 |
| EE4240 | Image Signal Processing | 3 |
| EE4280 | VLSI Design | 3 |
| EE4350 | Quantum Electronics and Lasers | 3 |
| EE4360 | Introduction to Robotics | 3 |
| EE4370 | Electromagnetic Wave Propagation | 3 |
| EE4420 | Design and Layout of Power App.&Sys | 3 |
| EE4440 | Power System Analysis | 3 |
| EE4450 | Guidance and Control | 3 |
| EE4460 | EHV AC and DC Power Transmission | 3 |
| EE4480 | Solid State Drives | 3 |
| EE4540 | Power System Protection and Switchgear | 3 |
| EE5020 | Topics in Electromagnetic Compatibility | 3 |
| EE5050 | Microwave Circuit Theory | 3 |
| EE5090 | Antennas | 3 |
| EE5182 | Computational Electromagnetics | 4 |
| EE5270 | Microwave Solid State Devices | 3 |
| EE5290 | High Speed ICs | 3 |
| EE5470 | Digital Tech.in TV Engg | 3 |
| EE5630 | Telemetry | 3 |
| EE5740 | Neural Networks | 3 |
| EE5820 | Finite Element Analysis of Elec Apparatus | 3 |
| EE5850 | Software Engg for Electrical Engineers | 4 |
| EE5940 | Power Circuit Breakers | 3 |
| EE6220 | Intro. to Computational Neuroscience | 3 |
| EE6250 | Mobile Robotics S,v & Control | 3 |
| EE6270 | Microwave Solid State Devices | 3 |
| EE6346 | Advanced CMOS Devices and Technology | 3 |
| EE6410 | Fibre Optic Communication | 3 |
| EE6690 | Micro Processor Design of CGI Systems | 3 |
| EE6850 | VLSI Broadband Communication Circuits | 4 |
| EE6950 | DSP Systems Lab | 2 |
| EE7030 | Advanced Topics in VLSI | 3 |
| ID6030 | An introduction to Nanoscience and Nanotechnology | 3 |



SEMESTER I

| No | Title | Credit | Cat |
|--------|--|-----------|-----|
| CY1002 | Chemistry Lab I | 3 | SCY |
| GN1100 | Life Skills | 2 | HPF |
| ID1100 | Concepts in Engineering Design | 2 | BET |
| MA1010 | Calculus I Functions of One Variable | 4 | SMA |
| ME1100 | Thermodynamics | 3 | BET |
| ME1110 | Introduction to Mechanical Engineering | 2 | PMT |
| ME1120 | Engineering Drawing | 3 | BES |
| PH1010 | Physics I | 3 | SPH |
| PH1030 | Physics Laboratory I | 2 | SPH |
| | TOTAL | 24 | |

Remarks

SEMESTER II

| No | Title | Credit | Cat |
|--------|--|-----------|-----|
| AM1100 | Engineering Mechanics | 4 | BET |
| CS1100 | Computational Engineering | 3 | BET |
| CY1001 | Chemistry: Structure, Bonding & Reactivity | 4 | SCY |
| MA1020 | Calculus II Functions of Several Variables | 4 | SMA |
| PH1020 | Physics II | 3 | SPH |
| PH1040 | Physics Laboratory II | 2 | SPH |
| | TOTAL | 20 | |

SEMESTER III

| No | Title | Credit | Cat |
|--------|------------------------------|-----------|-----|
| AM2200 | Strength of Materials | 4 | PMT |
| BT1010 | Life Sciences | 2 | SLS |
| EE1100 | Basic Electrical Engineering | 3 | BET |
| ID1200 | Ecology and Environment | 2 | BET |
| ME2050 | Machine Drawing Practice | 5 | PML |
| HSE1 | Humanities Elective 1 | 3 | HSS |
| MAE1 | Mathematics Elective 1 | 3 | SMA |
| | TOTAL | 22 | |



SEMESTER IV

| No | Title | Credit | Cat |
|--------|--------------------------------------|-----------|-----|
| AM2530 | Foundations of Fluid Mechanics | 4 | PMT |
| AM2540 | Applied Mechanics Lab | 2 | PML |
| EE2100 | Electrical Sciences | 3 | PMT |
| ME2220 | Kinematics and Dynamics of Machinery | 4 | PMT |
| ME2240 | Instrumentation and Control | 4 | PMT |
| ME2260 | Materials and Design | 4 | PMT |
| ME2280 | Manufacturing Technology | 4 | PMT |
| MAE4 | Mathematics Elective 4 | 3 | SMA |
| | TOTAL | 28 | |

SEMESTER V

| No | Title | Credit | Cat |
|--------|-----------------------------|-----------|-----|
| ME3170 | Heat Transfer | 4 | PMT |
| ME3190 | Machine Tools & Metrology | 4 | PMT |
| ME3270 | Mechanical Engg Lab I | 2 | PML |
| ME3310 | Turbomachines | 4 | PMT |
| ME3330 | Internal Combustion Engines | 3 | PMT |
| ME3350 | Design of Machine Elements | 4 | PMT |
| MNS1 | Minor Elective 1 | 3 | MNS |
| | TOTAL | 24 | |

SEMESTER VI

| No | Title | Credit | Cat |
|--------|---------------------------------|-----------|-----|
| ME3250 | Refrigeration & Airconditioning | 3 | PMT |
| ME3260 | Thermal Power Engineering | 4 | PMT |
| ME3280 | Mechanical Engineering Lab II | 2 | PML |
| ME3300 | Mechanical Engg. Lab III | 2 | PML |
| ME3500 | Summer Training | 2 | PIT |
| DPE1 | Department Elective 1 | 3 | PMT |
| FRE1 | Free Elective 1 | 3 | |
| HSE2 | Humanities Elective 2 | 3 | HSS |
| MNS2 | Minor Elective 2 | 3 | MNS |
| | TOTAL | 25 | |

SEMESTER VII

| No | Title | Credit | Cat |
|--------|-----------------------|-----------|-----|
| HS3050 | Professional Ethics | 2 | HPF |
| IL4020 | Industrial Lecture | 1 | PIL |
| ME4545 | Viva voce | 2 | PMP |
| ME4550 | Project I | 3 | PMP |
| DPE2 | Department Elective 2 | 3 | PMT |
| DPE3 | Department Elective 3 | 3 | PMT |
| FRE2 | Free Elective 2 | 3 | |
| MNS3 | Minor Elective 3 | 3 | MNS |
| SSE1 | Self Study Elective 1 | 3 | PSS |
| | TOTAL | 23 | |



SEMESTER VIII

| No | Title | Credit | Cat |
|--------|-----------------------|--------|-----|
| ME4560 | Project II | 6 | PMP |
| DPE4 | Department Elective 4 | 3 | PMT |
| HSE3 | Humanities Elective 3 | 3 | HSS |
| | TOTAL | 12 | |



Electives

| No. | Course Title | Credit |
|--------|---|--------|
| AM5840 | Rotor Dynamics | 3 |
| ID5020 | Multi Body Dynamics & Applications | 3 |
| ID6010 | Constitutive Modelling in Continuum Mechanics | 3 |
| ID6030 | An introduction to Nanoscience and Nanotechnology | 3 |
| ID6070 | Mechanics of Viscoelastic Materials | 3 |
| ME3330 | Internal Combustion Engines | 3 |
| ME3380 | Trends in Manufacturing | 3 |
| ME3480 | CNC Machining | 3 |
| ME3520 | Mechanical Handling Equipment | 3 |
| ME4020 | Combustion Engineering | 3 |
| ME4080 | Modelling of Heat Transfer Processes | 3 |
| ME4100 | Quality Control | 3 |
| ME4120 | Hydroturbomachines Appln.engg | 3 |
| ME4130 | Combustion I | 3 |
| ME4140 | Axial Flow Hydroturbomachines | 3 |
| ME4150 | Utilisation of Solar Energy | 3 |
| ME4160 | Design of Pumps | 3 |
| ME4180 | Automobile Engineering | 3 |
| ME4190 | Industrial Heat Transfer Equipment | 3 |
| ME4230 | Design Practice | 3 |
| ME4240 | Vehicle Mechanism and Dynamics | 3 |
| ME4250 | Advanced Refrigeration & AC | 3 |
| ME4260 | Cryogenic Systems | 3 |
| ME4270 | Solar Heating and Cooling | 3 |
| ME4290 | Fans, Blowers and Compressors | 3 |
| ME4310 | Mechanisms and Transmissions | 3 |
| ME4320 | Gas Turbine Engineering | 3 |
| ME4340 | Steam Turbines & Their Accessories | 3 |
| ME4360 | Failure Analysis & Design | 3 |
| ME4390 | Metal Cutting & Cutting Tool Design | 3 |
| ME4400 | Manufacturing Planning | 3 |
| ME4410 | Tooling for Production | 3 |
| ME4420 | Unconventional Mfg Techniques | 3 |
| ME4430 | Oil Hydraulics & Pneumatic Sys. & Circt. | 3 |
| ME4440 | Gear Manufacture and Inspection | 3 |
| ME4450 | Fluid Mechanics in Turbomachines | 3 |
| ME4460 | Control of Production Systems | 3 |
| ME4470 | Automated Manufacturing | 3 |
| ME4480 | Advances in Machine Tools | 3 |
| ME4510 | Systems Design & Optimization in Thermal Engg | 3 |
| ME5520 | Explosion & Safety | 3 |
| ME5530 | Introduction to Atmospheric Science | 3 |
| ME5550 | Flow and Thermal Instabilities | 3 |
| ME5560 | Heat and Mass Transfer in Biological Systems | 3 |
| ME5570 | Jet Flow and Acoustics | 3 |



Electives

| | | |
|--------|--|---|
| ME6000 | Computational Methods in Engg | 3 |
| ME6001 | Theory of Fire Propagation | 3 |
| ME6002 | Turbomachinery Noise and Control | 3 |
| ME6003 | Variational Principles in Mechanics | 3 |
| ME6004 | Micro & Nanoscale Energy Transport | 3 |
| ME6005 | Solar Energy For Process Heat & Power Generation | 3 |
| ME6006 | Computational Heat & Fluid Flow | 3 |
| ME6008 | Microfluidics and Microsystems | 3 |
| ME6020 | IC Engine Combustion and Pollution | 3 |
| ME6040 | Incompressible Fluid Flow | 3 |
| ME6080 | Measurement in Thermal Engg | 4 |
| ME6100 | Rocket Technology | 3 |
| ME6110 | Combustion Technology | 3 |
| ME6120 | Air Breathing Engines | 3 |
| ME6130 | Transport Phenomena | 3 |
| ME6140 | Applied Thermodynamics | 3 |
| ME6150 | Numerical Methods in Thermal Engg | 4 |
| ME6180 | Energy & Environment | 3 |
| ME6200 | Conduction & Radiation | 3 |
| ME6220 | Heat Exchanger Design | 3 |
| ME6230 | Convection & Two Phase Flow | 3 |
| ME6250 | Heat Transfer in Ener. Sys | 3 |
| ME6270 | Design of Power Plant Sys | 3 |
| ME6280 | Design & Optimisation of Energy Systems | 3 |
| ME6320 | Pump Application Engg. | 3 |
| ME6330 | Cavitation | 3 |
| ME6340 | Vortex Element Method | 3 |
| ME6350 | Mech Design of Hydroturbomachines | 3 |
| ME6360 | Standards in Hydroturbomachines | 3 |
| ME6370 | Exp. Methods in Hydroturbomachines | 3 |
| ME6390 | Micro Hydro Power | 3 |
| ME6400 | Design of Combustion Engines | 3 |
| ME6410 | Two Stroke Engines | 3 |
| ME6420 | Simulation of IC Engine Processes | 3 |
| ME6430 | Engine Systems & Performance | 3 |
| ME6440 | Alternate Fuels for IC Engines | 3 |
| ME6450 | Gas Turbines | 3 |
| ME6460 | CFD & its Applications to Engine Processes | 3 |
| ME6470 | Engine Inst. & Elec.Mgmt | 3 |
| ME6480 | Transport Process in IC Engines | 3 |
| ME6490 | Laser Diagnostics in Engines | 3 |
| ME6500 | Airconditioning & Ventilation | 3 |
| ME6510 | Refrigeration Machinery & Components | 3 |
| ME6520 | Sorption,Refrgn & Heating Systems | 3 |
| ME6530 | HVAC Systems & Applications | 3 |



Electives

| | | |
|--------|--|---|
| ME6540 | Food Processing, Storage & Transport | 3 |
| ME6550 | Vacuum Engineering | 3 |
| ME6560 | Advanced Cryogenics Systems | 3 |
| ME6570 | Thermal Energy Conservation | 3 |
| ME6580 | Utilisation of Solar Energy | 3 |
| ME6590 | Renewable Energy Technology | 3 |
| ME6600 | Aerodyn. Design of Axial Compressors & Turbines | 3 |
| ME6610 | Theory of Steam and Gas Turbines | 3 |
| ME6620 | Theory & Des. of Cen. Mach. | 3 |
| ME6630 | Theory of Axial Compressors | 3 |
| ME6640 | Advanced Topics in Turbomachinery | 3 |
| ME6650 | Computational Fluid Dynamics of Turbomachinery | 3 |
| ME6660 | Fans, Blowers & Compressors | 3 |
| ME6670 | Gas Turbine Engineering | 3 |
| ME6680 | Meas. Tech. in Ther. Turbomachinery | 3 |
| ME6700 | Advanced Mechanics of Solids | 3 |
| ME6710 | Theory of Mechanisms | 3 |
| ME6740 | Computer Aided Machine Design | 3 |
| ME6750 | Gear Design | 3 |
| ME6760 | Design of Mechanical Transmission systems | 3 |
| ME6770 | Design of Pressure Vessels & Piping | 3 |
| ME6780 | Design Synthesis | 3 |
| ME6800 | Finite Element Analysis | 3 |
| ME6810 | Transmission Mechanism & Manipulators | 3 |
| ME6840 | Design for Manufacture and Assembly | 3 |
| ME6850 | Product Reliability | 3 |
| ME6870 | CAD/CAM for Product Design | 3 |
| ME6910 | Diagnostic Methods in Combustion Systems | 3 |
| ME6920 | Performance Analysis of Hydroturbomachines | 3 |
| ME6930 | Engine Tribology | 3 |
| ME6940 | Engine Noise and Vibrations | 3 |
| ME6960 | Design of Materials Handling Equipment | 3 |
| ME6970 | Flow of Bulk Solids | 3 |
| ME7020 | Robotics and Robot Applications | 3 |
| ME7021 | Nonlinear Finite Element Analysis of Solild Continua | 3 |
| ME7040 | CAD in Manufacturing | 3 |
| ME7080 | Compact Heat Exchangers | 3 |
| ME7100 | Prod. Sys. Des. & Control | 3 |
| ME7110 | Handling Systems Design & Tooling for Auto.Mfg.Ass | 3 |
| ME7120 | Sensors for Intelligent Manufacturing | 3 |
| ME7150 | Artificial Intelligence in Mfg. | 3 |
| ME7160 | Computational Methods in Design & Mfg. | 3 |
| ME7170 | Flexible Manufacturing Systems | 3 |
| ME7180 | Machine Vision & its Applns. | 3 |



Electives

| | | |
|--------|---|---|
| ME7190 | Introduction to Fracture Mechanics | 3 |
| ME7200 | Treatment of Material | 3 |
| ME7210 | Machine Tool Dynamics | 3 |
| ME7220 | Metal Removal Processes | 3 |
| ME7240 | Modelling and Simulation in Manufacturing | 3 |
| ME7250 | Rapid Response Manufacturing | 3 |
| ME7270 | Microscale Fluid Flow & Machinery | 3 |
| ME7300 | Friction and Wear in Machinery | 3 |
| ME7330 | Geometric Modelling | 3 |
| ME7360 | Theory of Vibration | 3 |
| ME7400 | Mechatronic Systems | 3 |
| ME7420 | Manufacturing Methods in Precision Engg. | 3 |
| ME7430 | Oil Hyd. & Pneumatic Systems | 3 |
| ME7450 | Precision Electric Drives & Actuators | 3 |
| ME7460 | Inertial Instrumentation | 3 |
| ME7470 | Industrial Instrumentation | 3 |
| ME7480 | Optical Instrumentation | 3 |
| ME7490 | Design & Packaging of Elec Equipment | 3 |
| ME7500 | Measurement Systems | 3 |
| ME7510 | Precision Engg. Design | 3 |
| ME7520 | Prop. & Servo Hyd. Controls | 3 |
| ME7530 | Design of Robotic Manipulators | 3 |
| ME7540 | Horological Instruments | 3 |
| ME7550 | Control System Design:a Computer Aided Approach | 3 |
| ME7560 | Precision Engg. Elements & Instruments | 3 |
| ME7640 | Tribology in Design | 3 |
| ME7660 | Nonlinear Solid Mechanics | 3 |
| ME7680 | Optimization Methods for Mechanical Design | 3 |
| ME7710 | Advanced Vibration and Acoustics | 3 |
| ME7740 | Structural Health and Integrity Monitoring | 3 |
| ME7770 | Theory and Technology of Fuel Cells | 3 |
| ME7790 | Heat and Mass Transport in Porous Media | 3 |
| ME7820 | Rotor Dynamics | 3 |
| ME7830 | Random Vibrations | 3 |
| ME7840 | Signal Processing of Mechanical Systems | 3 |
| ME7850 | Modal Analysis of Mechanical Systems | 3 |
| ME7860 | Tribo-Instrumentation | 3 |
| ME7870 | Diagnostic Maintenance | 3 |
| ME7880 | Vehicular Vibration | 3 |
| ME7890 | Advanced Applied Finite Element | 3 |
| ME7910 | Acoustics and Noise Control | 3 |
| ME7920 | Applied Finite Element Analysis | 3 |
| ME7930 | Chaotic Vibrations | 3 |
| ME7970 | Vehicle Systems Design | 3 |
| NE6360 | Radiation Effects on Materials | 3 |



SEMESTER I

| No | Title | Credit | Cat |
|--------|--|-----------|-----|
| CS1100 | Computational Engineering | 3 | BET |
| CY1001 | Chemistry: Structure, Bonding & Reactivity | 4 | SCY |
| GN1100 | Life Skills | 2 | HPF |
| ID1100 | Concepts in Engineering Design | 2 | BET |
| MA1010 | Calculus I Functions of One Variable | 4 | SMA |
| MM1010 | Introduction to Materials Engineering | 2 | PMT |
| PH1010 | Physics I | 3 | SPH |
| PH1030 | Physics Laboratory I | 2 | SPH |
| | TOTAL | 22 | |

Remarks

SEMESTER II

| No | Title | Credit | Cat |
|--------|--|-----------|-----|
| CY1002 | Chemistry Lab I | 3 | SCY |
| EE1100 | Basic Electrical Engineering | 3 | BET |
| MA1020 | Calculus II Functions of Several Variables | 4 | SMA |
| ME1100 | Thermodynamics | 3 | BET |
| ME1120 | Engineering Drawing | 3 | BES |
| MM1020 | Science and Engineering of Materials | 3 | PMT |
| PH1020 | Physics II | 3 | SPH |
| PH1040 | Physics Laboratory II | 2 | SPH |
| | TOTAL | 24 | |

SEMESTER III

| No | Title | Credit | Cat |
|--------|-----------------------------------|-----------|-----|
| AM1100 | Engineering Mechanics | 4 | BET |
| BT1010 | Life Sciences | 2 | SLS |
| ID1200 | Ecology and Environment | 2 | BET |
| MM2010 | Principles of Physical Metallurgy | 4 | PMT |
| MM2011 | Optical Micrography Lab | 2 | PML |
| MM2030 | Metallurgical Thermodynamics | 4 | PMT |
| HSE1 | Humanities Elective 1 | 3 | HSS |
| MAE1 | Mathematics Elective 1 | 3 | SMA |
| | TOTAL | 24 | |



SEMESTER IV

| No | Title | Credit | Cat |
|--------|---|-----------|-----|
| MM2012 | Physical Metallurgy & Ceramics Lab | 2 | PML |
| MM2014 | Materials Chemistry & Powder Metallurgy Lab | 2 | PML |
| MM2020 | Mechanical Metallurgy | 3 | PMT |
| MM2040 | Introduction to Transport Phenomena | 3 | PMT |
| MM2060 | Phase Transformations | 3 | PMT |
| MM2080 | Principles of Extractive Metallurgy | 3 | PMT |
| HSE2 | Humanities Elective 2 | 3 | HSS |
| MAE2 | Mathematics Elective 2 | 3 | SMA |
| | TOTAL | 22 | |

SEMESTER V

| No | Title | Credit | Cat |
|--------|--|-----------|-----|
| MM3010 | Physics of Materials | 3 | PMT |
| MM3011 | Mechanical Metallurgy & Tribology Lab | 2 | PML |
| MM3012 | Joining & NDT Lab | 2 | PML |
| MM3030 | Materials Characterization | 4 | PMT |
| MM3050 | Creep Fatigue and Fracture Mechanics | 3 | PMT |
| MM3060 | Metal Joining Technology | 3 | PMT |
| MM3090 | Environmental Degradation of Materials | 3 | PMT |
| MNS1 | Minor Elective 1 | 3 | MNS |
| | TOTAL | 23 | |

SEMESTER VI

| No | Title | Credit | Cat |
|--------|--------------------------------|-----------|-----|
| MM3013 | Forming & Casting Lab | 2 | PML |
| MM3020 | Iron Making and Steel Making | 4 | PMT |
| MM3040 | Metal Forming Technology | 3 | PMT |
| MM3070 | Solidification Processing | 3 | PMT |
| MM3100 | Materials Characterisation Lab | 2 | PML |
| DPE1 | Department Elective 1 | 3 | PMT |
| FRE1 | Free Elective 1 | 3 | |
| MNS2 | Minor Elective 2 | 3 | MNS |
| | TOTAL | 23 | |

SEMESTER VII

| No | Title | Credit | Cat |
|--------|-------------------------------|-----------|-----|
| HS3050 | Professional Ethics | 2 | HPF |
| MM4010 | P/M Refractories and Ceramics | 4 | PMT |
| MM4020 | Industrial Training | 2 | PIT |
| MM4105 | Viva Voce | 2 | PMP |
| MM4110 | Project I | 2 | PMP |
| DPE3 | Department Elective 3 | 3 | PMT |
| FRE2 | Free Elective 2 | 3 | |
| MNS3 | Minor Elective 3 | 3 | MNS |
| SSE1 | Self Study Elective 1 | 3 | PSS |
| | TOTAL | 24 | |



SEMESTER VIII

| No | Title | Credit | Cat |
|--------|-----------------------|--------|-----|
| IL4020 | Industrial Lecture | 1 | PIL |
| MM4120 | Project II | 9 | PMP |
| DPE4 | Department Elective 4 | 3 | PMT |
| HSE4 | Humanities Elective 4 | 3 | HSS |
| | TOTAL | 16 | |



Electives

| No. | Course Title | Credit |
|--------|---|--------|
| ID6020 | Introduction to Research | 2 |
| ID6030 | An introduction to Nanoscience and Nanotechnology | 3 |
| MM3180 | Advanced Materials & Processes | 3 |
| MM3200 | Surface Modifications | 3 |
| MM4070 | Modern Materials | 3 |
| MM4110 | Project I | 2 |
| MM4150 | Defects & Failure in Mfg & Service | 3 |
| MM4190 | Metallurgical Plant Design | 3 |
| MM5010 | Advanced Engg. Materials | 3 |
| MM5011 | Modeling of Transport Phenomena in Met. Processes | 3 |
| MM5012 | Welding Processes | 3 |
| MM5013 | Textures in Materials | 3 |
| MM5021 | Deformation and Failure of Materials at Elevated Temperatures | 3 |
| MM5022 | Fundamentals of Iron & Steel Making | 3 |
| MM5023 | Iron & Steel Making Technology | 3 |
| MM5024 | Numerical Methods for Metallurgists | 3 |
| MM5025 | Physical Metallurgy of Ferrous Alloys | 3 |
| MM5026 | Special Topics in Iron & Steel Tech. | 3 |
| MM5027 | Computational Tools in Materials Tech. | 3 |
| MM5028 | Advanced Materials Characterisation Lab | 2 |
| MM5110 | Materials Technology | 3 |
| MM5130 | Materials under Extreme Environments | 3 |
| MM5160 | Mechanical Behaviour of Materials | 3 |
| MM5180 | Non-Destructive Evaluation | 3 |
| MM5190 | Non-Destructive Testing Lab | 2 |
| MM5210 | X-Ray Diffraction Techniques | 3 |
| MM5220 | X-Ray Diffraction Laboratory | 2 |
| MM5240 | Electron Diffraction and Microscopy | 3 |
| MM5250 | Additive Manufacturing | 3 |
| MM5290 | Stability of Microstructures | 3 |
| MM5320 | Corrosion Engineering | 3 |
| MM5330 | Surface Degradation Process | 3 |
| MM5340 | Surface Engineering | 3 |
| MM5350 | Advanced Metallurgical Thermodynamics | 3 |
| MM5380 | Transport Phenomena in Met. Processes | 3 |
| MM5410 | Ceramic Science & Technology | 3 |
| MM5420 | Advanced Ceramics | 3 |
| MM5430 | Advanced Powder Processing | 3 |
| MM5460 | Physical Ceramics | 3 |
| MM5480 | Advanced Phase Transformations | 3 |
| MM5520 | Solidification Phenomena | 3 |
| MM5610 | Metal Forming Processes | 3 |
| MM5620 | Metal Forming Equipment | 3 |
| MM5630 | Plasticity & Plastic Deformation | 3 |
| MM5650 | Press Tools for Metal Forming | 3 |

**Electives**

| | | |
|--------|--|---|
| MM5660 | Metal Forming Laboratory I | 2 |
| MM5670 | Metal Forming Laboratory II | 2 |
| MM5680 | Smart Materials | 3 |
| MM5700 | Topics in Nanomaterials | 3 |
| MM5730 | Stress Analysis in Weld Design | 3 |
| MM5740 | Welding Metallurgy | 3 |
| MM5750 | Welding Application Technology | 3 |
| MM5760 | Advanced Topics in Metal Joining | 3 |
| MM5770 | Welding Laboratory I | 2 |
| MM5780 | Welding Laboratory II | 2 |
| MM6001 | Brittle Fracture and Indentation Mechanics | 3 |
| MT4030 | Materials Processing Laboratory | 2 |
| NE6310 | Advanced Non-destructive Evaluation | 3 |
| NE6330 | CFD for Nuclear Engg. Applications | 5 |
| NE6340 | Nuclear Materials Processing | 3 |
| NE6350 | Codes, Stds., & Regulatory Practises in the Design | 3 |



SEMESTER I

| No | Title | Credit | Cat |
|--------|---|-----------|-----|
| CY1002 | Chemistry Lab I | 3 | SCY |
| GN1100 | Life Skills | 2 | HPF |
| ID1100 | Concepts in Engineering Design | 2 | BET |
| MA1010 | Calculus I Functions of One Variable | 4 | SMA |
| ME1100 | Thermodynamics | 3 | BET |
| ME1120 | Engineering Drawing | 3 | BES |
| OE1010 | Introduction to Ocean Engg & Oceanography | 2 | PMT |
| PH1010 | Physics I | 3 | SPH |
| PH1030 | Physics Laboratory I | 2 | SPH |
| | TOTAL | 24 | |

Remarks

SEMESTER II

| No | Title | Credit | Cat |
|--------|--|-----------|-----|
| AM1100 | Engineering Mechanics | 4 | BET |
| CS1100 | Computational Engineering | 3 | BET |
| CY1001 | Chemistry: Structure, Bonding & Reactivity | 4 | SCY |
| MA1020 | Calculus II Functions of Several Variables | 4 | SMA |
| OE1020 | Materials and Production Processes | 4 | PMT |
| PH1020 | Physics II | 3 | SPH |
| PH1040 | Physics Laboratory II | 2 | SPH |
| | TOTAL | 24 | |

SEMESTER III

| No | Title | Credit | Cat |
|--------|------------------------------|-----------|-----|
| AM2200 | Strength of Materials | 4 | PMT |
| BT1010 | Life Sciences | 2 | SLS |
| EE1100 | Basic Electrical Engineering | 3 | BET |
| ID1200 | Ecology and Environment | 2 | BET |
| OE2010 | Ship Theory | 3 | PMT |
| HSE1 | Humanities Elective 1 | 3 | HSS |
| MAE1 | Mathematics Elective 1 | 3 | SMA |
| | TOTAL | 20 | |



SEMESTER IV

| No | Title | Credit | Cat |
|--------|--------------------------------|-----------|-----|
| AM2530 | Foundations of Fluid Mechanics | 4 | PMT |
| AM2540 | Applied Mechanics Lab | 2 | PML |
| OE2020 | Analysis of Structures | 4 | PMT |
| OE2060 | Ship Resistance and Propulsion | 3 | PMT |
| OE2100 | CASDD I | 5 | PML |
| HSE2 | Humanities Elective 2 | 3 | HSS |
| MAE2 | Mathematics Elective 2 | 3 | SMA |
| | TOTAL | 24 | |

SEMESTER V

| No | Title | Credit | Cat |
|--------|----------------------------|-----------|-----|
| OE3010 | Ship Hydrodynamics | 3 | PMT |
| OE3050 | Ocean Wave Hydrodynamics | 3 | PMT |
| OE3070 | Ship Structure | 3 | PMT |
| OE3090 | CASDD II | 4 | PML |
| OE3110 | Ocean Engg Lab I | 4 | PML |
| OE3190 | Design of Ocean Structures | 3 | PMT |
| MNS1 | Minor Elective 1 | 3 | MNS |
| SSE1 | Self Study Elective 1 | 3 | PSS |
| | TOTAL | 26 | |

SEMESTER VI

| No | Title | Credit | Cat |
|--------|--------------------------------------|-----------|-----|
| OE3020 | Ship Design | 3 | PMT |
| OE3030 | Marine Engineering | 3 | PMT |
| OE3040 | Vib of Marine Structures & Acoustics | 3 | PMT |
| OE3140 | Lab II | 4 | PML |
| OE3160 | Industrial Training | 2 | PIT |
| DPE2 | Department Elective 2 | 3 | PMT |
| FRE1 | Free Elective 1 | 3 | |
| MNS2 | Minor Elective 2 | 3 | MNS |
| | TOTAL | 24 | |

SEMESTER VII

| No | Title | Credit | Cat |
|--------|---|-----------|-----|
| OE4030 | Dynamics of Floating Systems and Manoeuvring of Marine Vehicles | 3 | PMT |
| OE4050 | Project I | 2 | PMP |
| OE4055 | Viva voce | 2 | PMP |
| DPE3 | Department Elective 3 | 3 | PMT |
| DPE4 | Department Elective 4 | 3 | PMT |
| FRE2 | Free Elective 2 | 3 | |
| HSE3 | Humanities Elective 3 | 3 | HSS |
| MNS3 | Minor Elective 3 | 3 | MNS |
| | TOTAL | 22 | |



SEMESTER VIII

| No | Title | Credit | Cat |
|--------|-----------------------|--------|-----|
| HS3050 | Professional Ethics | 2 | HPF |
| OE4020 | Industrial Lecture | 1 | PIL |
| OE4060 | Project II | 10 | PMP |
| DPE5 | Department Elective 5 | 3 | PMT |
| | TOTAL | 16 | |



Electives

| No. | Course Title | Credit |
|--------|---|--------|
| ID6030 | An introduction to Nanoscience and Nanotechnology | 3 |
| OE3030 | Marine Engineering | 3 |
| OE3130 | Physical Modelling & Instrumentation | 3 |
| OE4300 | Ocean Energy | 3 |
| OE4320 | Ships and Floating Systems | 3 |
| OE4400 | Drilling Vessels & Support Crafts | 3 |
| OE4600 | Advanced Ship Hydrodynamics | 3 |
| OE5011 | Marine Robotics | 3 |
| OE5100 | Sea Surveying | 3 |
| OE5170 | Ocean Acoustics | 3 |
| OE5200 | Dynamics of Ocean Structures | 3 |
| OE5300 | Dynamics of Floating Bodies | 3 |
| OE5310 | Guidance & Control of Marine Vehicles | 3 |
| OE5320 | Nonlinear Problems in Ocean Engineering | 3 |
| OE5330 | Advanced Marine Structures | 3 |
| OE5340 | Ocean Env. Policy & Coastal Zone Mgmt. | 3 |
| OE5400 | Port and Harbour Structures | 3 |
| OE5450 | Numerical Techniques in Ocean Hydrodynamics | 4 |
| OE5500 | FEM Applied to Ocean Engineering | 3 |
| OE5600 | Advanced Wave Dynamics | 3 |
| OE5800 | Coastal Engineering | 3 |
| OE5860 | Design of Coastal Structures | 3 |
| OE5960 | Wave Simulation, Measurement and Analysis | 4 |
| OE6001 | Materials and Fabrication of Offshore Structures | 3 |
| OE6002 | Installation of Offshore Structures | 3 |
| OE6003 | Analysis of Offshore Structures | 3 |
| OE6004 | Numerical Modelling of Offshore Structures | 4 |
| OE6005 | Reliability of Offshore Structures | 3 |
| OE6100 | Ocean Mining and Dredging | 3 |
| OE6300 | Plated Structures and Shells | 3 |
| OE6400 | Marine Foundation | 3 |
| OE6500 | Marine Corrosion & Control | 3 |
| OE6800 | Optimisation of Ocean Structures | 3 |
| OE6850 | Concrete & Concrete Structures for Oceans | 3 |
| OE6950 | Behaviour of Marine Clays | 3 |
| OE6960 | Wave Simulation, Measurement & Analysis | 3 |
| OE6970 | Comp. Aided Analysis of Offshore Struc. & Ships | 3 |
| OE6980 | Comp. Aid. Surface Dev. for Marine Vehicles | 3 |
| OE6990 | Advanced Marine Vehicles | 3 |
| PE6020 | Drilling Technology | 3 |
| PE6031 | Reservoir Simulation | 3 |
| PE6060 | Offshore Oil and Gas Production Systems | 3 |
| PE6080 | Petroleum Refining Technology | 3 |
| PE6180 | Natural Gas Engineering | 3 |
| PE6311 | Well Logging & Formation Evaluation | 3 |



Electives

| | | | |
|-----------------|---|---------------|------------|
| PE6312 | Enhanced Oil Recovery | 3 | |
| PE6313 | Applied Scientific Computing in Ocean & PE | 3 | |
| SEMESTER | Drilling Fluid Design and Analysis | 3 | |
| No | Title | Credit | Cat |
| OE401 | Offshore Structural Design | 3 | PMT |
| OE403 | Dynamics of Floating Systems and Manoeuvring of Marine Vehicles | 3 | PMT |
| OE405 | Project I | 2 | PMP |
| OE5 | Pass/Fail Elective | 3 | PMT |
| | TOTAL | 12 | |



SEMESTER VIII

| No | Title | Credit | Cat |
|--------|------------|--------|-----|
| OE4060 | Project II | 10 | PMP |
| | TOTAL | 10 | |



Electives

| No. | Course Title | Credit |
|--------|---|--------|
| ID6030 | An introduction to Nanoscience and Nanotechnology | 3 |
| OE3030 | Marine Engineering | 3 |
| OE3130 | Physical Modelling & Instrumentation | 3 |
| OE4300 | Ocean Energy | 3 |
| OE4320 | Ships and Floating Systems | 3 |
| OE4400 | Drilling Vessels & Support Crafts | 3 |
| OE4600 | Advanced Ship Hydrodynamics | 3 |
| OE5011 | Marine Robotics | 3 |
| OE5100 | Sea Surveying | 3 |
| OE5170 | Ocean Acoustics | 3 |
| OE5200 | Dynamics of Ocean Structures | 3 |
| OE5300 | Dynamics of Floating Bodies | 3 |
| OE5310 | Guidance & Control of Marine Vehicles | 3 |
| OE5320 | Nonlinear Problems in Ocean Engineering | 3 |
| OE5330 | Advanced Marine Structures | 3 |
| OE5340 | Ocean Env. Policy & Coastal Zone Mgmt. | 3 |
| OE5400 | Port and Harbour Structures | 3 |
| OE5450 | Numerical Techniques in Ocean Hydrodynamics | 4 |
| OE5500 | FEM Applied to Ocean Engineering | 3 |
| OE5600 | Advanced Wave Dynamics | 3 |
| OE5800 | Coastal Engineering | 3 |
| OE5860 | Design of Coastal Structures | 3 |
| OE5960 | Wave Simulation, Measurement and Analysis | 4 |
| OE6001 | Materials and Fabrication of Offshore Structures | 3 |
| OE6002 | Installation of Offshore Structures | 3 |
| OE6003 | Analysis of Offshore Structures | 3 |
| OE6004 | Numerical Modelling of Offshore Structures | 4 |
| OE6005 | Reliability of Offshore Structures | 3 |
| OE6100 | Ocean Mining and Dredging | 3 |
| OE6300 | Plated Structures and Shells | 3 |
| OE6400 | Marine Foundation | 3 |
| OE6500 | Marine Corrosion & Control | 3 |
| OE6800 | Optimisation of Ocean Structures | 3 |
| OE6850 | Concrete & Concrete Structures for Oceans | 3 |
| OE6950 | Behaviour of Marine Clays | 3 |
| OE6960 | Wave Simulation, Measurement & Analysis | 3 |
| OE6970 | Comp. Aided Analysis of Offshore Struc. & Ships | 3 |
| OE6980 | Comp. Aid. Surface Dev. for Marine Vehicles | 3 |
| OE6990 | Advanced Marine Vehicles | 3 |
| PE6020 | Drilling Technology | 3 |
| PE6031 | Reservoir Simulation | 3 |
| PE6060 | Offshore Oil and Gas Production Systems | 3 |
| PE6080 | Petroleum Refining Technology | 3 |
| PE6180 | Natural Gas Engineering | 3 |
| PE6311 | Well Logging & Formation Evaluation | 3 |



Electives

| | | |
|--------|--|---|
| PE6312 | Enhanced Oil Recovery | 3 |
| PE6313 | Applied Scientific Computing in Ocean & PE | 3 |
| PE6314 | Drilling Fluid Design and Analysis | 3 |



SEMESTER I

| No | Title | Credit | Cat |
|--------|--|-----------|-----|
| CS1100 | Computational Engineering | 3 | BET |
| CY1001 | Chemistry: Structure, Bonding & Reactivity | 4 | SCY |
| EP1010 | Introduction to Engg Physics | 2 | PMT |
| GN1100 | Life Skills | 2 | HPF |
| ID1100 | Concepts in Engineering Design | 2 | BET |
| MA1010 | Calculus I Functions of One Variable | 4 | SMA |
| PH1010 | Physics I | 3 | SPH |
| PH1030 | Physics Laboratory I | 2 | SPH |
| | TOTAL | 22 | |

Remarks

SEMESTER II

| No | Title | Credit | Cat |
|--------|--|-----------|-----|
| CY1002 | Chemistry Lab I | 3 | SCY |
| EC1010 | Electrical and Magnetic Circuits | 4 | PMT |
| MA1020 | Calculus II Functions of Several Variables | 4 | SMA |
| ME1100 | Thermodynamics | 3 | BET |
| ME1120 | Engineering Drawing | 3 | BES |
| PH1020 | Physics II | 3 | SPH |
| PH1040 | Physics Laboratory II | 2 | SPH |
| | TOTAL | 22 | |

SEMESTER III

| No | Title | Credit | Cat |
|--------|--------------------------------|-----------|-----|
| BT1010 | Life Sciences | 2 | SLS |
| EE2001 | Digital Systems | 4 | PMT |
| EE2002 | Networks and Systems | 4 | PMT |
| EP2010 | Elements of Classical Dynamics | 3 | PMT |
| EP2090 | Engineering Physics Lab I | 4 | PML |
| ID1200 | Ecology and Environment | 2 | BET |
| HSE1 | Humanities Elective 1 | 3 | HSS |
| MAE1 | Mathematics Elective 1 | 3 | SMA |
| | TOTAL | 25 | |



SEMESTER IV

| No | Title | Credit | Cat |
|--------|--------------------------------------|-----------|-----|
| AM1100 | Engineering Mechanics | 4 | BET |
| EE2004 | Digital Signal Processing | 4 | PMT |
| EE2702 | Digital Circuits Laboratory | 2 | PML |
| EP2110 | Introduction to Mathematical Physics | 3 | PMT |
| EP3110 | Electromagnetics and Applications | 3 | PMT |
| EP3190 | Engineering Physics Lab II | 2 | PML |
| HSE2 | Humanities Elective 2 | 3 | HSS |
| MAE2 | Mathematics Elective 2 | 3 | SMA |
| | TOTAL | 24 | |

SEMESTER V

| No | Title | Credit | Cat |
|--------|--------------------------------------|-----------|-----|
| EE3001 | Solid State Devices | 4 | PMT |
| EE3002 | Analog Circuits | 4 | PMT |
| EP2100 | Introduction to Engineering Optics | 3 | PMT |
| EP2210 | Principles of Quantum Mechanics | 3 | PMT |
| EP3120 | Statistical Physics and Applications | 3 | PMT |
| EP3220 | Solid State Physics | 4 | PMT |
| EP3290 | Engg Physics Lab III | 2 | PML |
| MNS1 | Minor Elective 1 | 3 | MNS |
| | TOTAL | 26 | |

SEMESTER VI

| No | Title | Credit | Cat |
|--------|---------------------------------|-----------|-----|
| EE3006 | Principles of Measurement | 4 | PMT |
| EE3703 | Analog Circuits Laboratory | 2 | PML |
| EP3100 | Atomic & Molecular Spectroscopy | 3 | PMT |
| EP3291 | Engineering Physics Lab IV | 2 | PML |
| EP3610 | Industrial Training | 2 | PIT |
| DPE1 | Department Elective 1 | 3 | PMT |
| DPE2 | Department Elective 2 | 3 | PMT |
| FRE1 | Free Elective 1 | 3 | |
| MNS2 | Minor Elective 2 | 3 | MNS |
| | TOTAL | 25 | |

SEMESTER VII

| No | Title | Credit | Cat |
|--------|-----------------------|-----------|-----|
| EP4140 | Project | 1 | PMP |
| DPE3 | Department Elective 3 | 3 | PMT |
| FRE2 | Free Elective 2 | 3 | |
| HSE3 | Humanities Elective 3 | 3 | HSS |
| MNS3 | Minor Elective 3 | 3 | MNS |
| SSE1 | Self Study Elective 1 | 3 | PSS |
| | TOTAL | 16 | |



Remarks:



SEMESTER VIII

| No | Title | Credit | Cat |
|---------|-----------------------|-----------|-----|
| EP3180 | Industrial Lecture | 1 | PIL |
| EP4040 | Seminar | 1 | PMT |
| EP4160* | Project II | 11 | PMP |
| HS3050 | Professional Ethics | 2 | HPF |
| DPE4 | Department Elective 4 | 3 | PMT |
| | TOTAL | 18 | |

Remarks



Electives

| No. | Course Title | Credit |
|--------|---|--------|
| ID6030 | An introduction to Nanoscience and Nanotechnology | 3 |
| PH3500 | Classical Physics | 3 |
| PH4030 | Conceptual Framework of Physics | 3 |
| PH5050 | Mathematical Physics II | 3 |
| PH5110 | Optics & Photonics | 3 |
| PH5150 | Nuclear and Particle Physics | 3 |
| PH5160 | Condensed Matter Physics I | 4 |
| PH5180 | Atomic and Molecular Physics | 3 |
| PH5210 | Condensed Matter Physics II | 3 |
| PH5460 | Classical Field Theory | 3 |
| PH5461 | Introduction to Physics of the Cell | 3 |
| PH5462 | Magnetism in Solids | 3 |
| PH5470 | Green Function Techniques in Solid State Physics | 3 |
| PH5480 | Quantum Field Theory | 3 |
| PH5490 | Advanced Statistical Physics | 3 |
| PH5500 | Dynamical Systems | 3 |
| PH5510 | Theory of Atomic Collisions & Spectroscopy | 3 |
| PH5520 | Advanced Mathematical Physics | 3 |
| PH5530 | Defect Solid State | 3 |
| PH5540 | Semiconductor Physics | 3 |
| PH5550 | Xray Crystallography | 3 |
| PH5560 | Amorphous Semiconductors | 3 |
| PH5580 | Resonance Spectroscopy | 3 |
| PH5590 | Microwave Physics | 3 |
| PH5600 | Physics At Low Temperatures | 3 |
| PH5610 | Modern Optics | 3 |
| PH5620 | Coherent and Quantum Optics | 3 |
| PH5630 | Laser Devices | 3 |
| PH5640 | Laser Applications | 3 |
| PH5650 | Laser Theory | 3 |
| PH5660 | Non-linear Optical Processes & Devices | 3 |
| PH5670 | Physics & Tech. of Thin Films | 3 |
| PH5680 | Superconductivity & Its Applications | 3 |
| PH5690 | Applied Magnetism | 3 |
| PH5700 | Applied Optics | 3 |
| PH5710 | Physics of Semiconductor Devices | 3 |
| PH5730 | Methods of Computational Physics | 3 |
| PH5740 | Microprocessor Based Physics Instrumentation | 3 |
| PH5750 | Microprocessor Laboratory | 3 |
| PH5760 | Electroacoustic Transducer Technology | 3 |
| PH5770 | Physics of Semiconductor Devices | 3 |
| PH5790 | Science & Technology of Nanomaterials | 3 |
| PH5810 | Introduction to Softmatter Physics | 3 |
| PH5840 | Quantum Computation and Quantum Information | 3 |
| PH5850 | Laser Cooling and Trapping | 3 |



Electives

| | | |
|--------|-------------------------------------|---|
| PH5860 | Atmospheric & Environmental Physics | 3 |
| PH5870 | General Relativity and Cosmology | 3 |
| PH5890 | Ultrafast lasers and Applications | 3 |
| PH7090 | Foundations in Experimental Physics | 4 |
| PH8090 | Exp. Solid State Physics | 3 |