

**List of MOOC Courses approved for B.Tech Honours (2015 Regulations)**

| SL. No  | Course Name   | Course Code | Course Type | Regulation             | Course Institution           |
|---|---|-------------|-------------|------------------------|------------------------------|
| <b>APPLIED ELECTRONICS &amp; INSTRUMENTATION/ / ELECTRONICS &amp; INSTRUMENTATION</b> |   |             |             |                        |                              |
| 1   | Introduction to Internet of Things  | OCAE01      | MOOC        | B.Tech Regulation 2015 | IITKGP                       |
| 2   | Deep Learning   | OCAE02      | MOOC        | B.Tech Regulation 2015 | IITKGP                       |
| 3   | Fuzzy Sets, Logic and Systems and Applications  | OCAE03      | MOOC        | B.Tech Regulation 2015 | IITK                         |
| 4   | Introduction to Machine Learning  | OCAE04      | MOOC        | B.Tech Regulation 2015 | IITM                         |
| 5   | Semiconductor devices and Circuits  | OCAE05      | MOOC        | B.Tech Regulation 2015 | IISc                         |
| 6   | Programming in Java   | OCAE06      | MOOC        | B.Tech Regulation 2015 | IITKGP                       |
| 7   | Introduction to Industry 4.0 and Industrial Internet of things                                | OCAE07      | MOOC        | B.Tech Regulation 2015 | IITKGP                       |
| 8   | Introduction to robotics  | OCAE08      | MOOC        | B.Tech Regulation 2015 | IITM                         |
| 9   | Introduction to Fuzzy Set Theory, Arithmetic and Logic  | OCAE09      | MOOC        | B.Tech Regulation 2015 | IITD                         |
| 10  | Remote Sensing: Principles and Application  | OCAE10      | MOOC        | B.Tech Regulation 2015 | IIT Bombay                   |
| <b>AERONAUTICAL ENGINEERING</b>   |   |             |             |                        |                              |
| 1   | Introduction to Air-Breathing propulsion  | OCAO01      | MOOC        | B.Tech Regulation 2015 | IITK                         |
| 2   | Introduction to CFD   | OCAO02      | MOOC        | B.Tech Regulation 2015 | IITKGP                       |
| <b>BIOMEDICAL ENGINEERING</b>   |   |             |             |                        |                              |
| 1   | Introduction to Biomedical Imaging  | OCBM01      | MOOC        | B.Tech Regulation 2015 | The University of Queensland |
| 2   | Biomedical Signal processing  | OCBM02      | MOOC        | B.Tech Regulation 2015 | IITKGP                       |
| 3   | Electronic Systems for Cancer Diagnosis   | OCBM03      | MOOC        | B.Tech Regulation 2015 | IISc                         |
| 4   | Bio-Informatics:Algorithms and Applications   | OCBM04      | MOOC        | B.Tech Regulation 2015 | IITM                         |
| 5   | Computational Systems Biology   | OCBM05      | MOOC        | B.Tech Regulation 2015 | IITM                         |
| 6   | Thermodynamics for Biological Systems: Classical and Statistical Aspects                      | OCBM06      | MOOC        | B.Tech Regulation 2015 | IITM                         |
| 7   | Neuroscience of Human Movements   | OCBM07      | MOOC        | B.Tech Regulation 2015 | IITM                         |
| 8   | Optical Spectroscopy and Microscopy: Fundamentals of optical measurements and instrumentation | OCBM08      | MOOC        | B.Tech Regulation 2015 | IISc                         |
| 9   | Applied Ergonomics  | OCBM09      | MOOC        | B.Tech Regulation 2015 | IITK                         |
| 10  | Introduction to Internet of things  | OCBM10      | MOOC        | B.Tech Regulation 2015 | IITKGP                       |
| 11  | Immunology  | OCBM11      | MOOC        | B.Tech Regulation 2015 | IITKGP                       |
| <b>BIOTECHNOLOGY ENGINEERING</b>  |   |             |             |                        |                              |
| 1   | Drug Delivery: Principles and Engineering   | OCBT01      | MOOC        | B.Tech Regulation 2015 | IISc                         |
| 2   | Environmental Chemistry   | OCBT02      | MOOC        | B.Tech Regulation 2015 | IITR                         |
| 3   | Environmental Studies   | OCBT03      | MOOC        | B.Tech Regulation 2015 | DAVV Indore                  |
| 4   | Immunology  | OCBT04      | MOOC        | B.Tech Regulation 2015 | IITKGP                       |
| 5   | Integrated Waste Management for a Smart City  | OCBT05      | MOOC        | B.Tech Regulation 2015 | IITKGP                       |
| 6   | Municipal Solid Waste Management  | OCBT06      | MOOC        | B.Tech Regulation 2015 | IITG                         |
| 7   | Introduction to Chemical Thermodynamics and Kinetics  | OCBT07      | MOOC        | B.Tech Regulation 2015 | IISER Mohali                 |
| 8   | Introduction To Proteomics  | OCBT08      | MOOC        | B.Tech Regulation 2015 | IITM                         |
| 9   | Applied Environmental Microbiology  | OCBT09      | MOOC        | B.Tech Regulation 2015 | IITR                         |
| 10  | Advanced Chemical Thermodynamics and Kinetics   | OCBT10      | MOOC        | B.Tech Regulation 2015 | IISER Mohali                 |

|    |  |        |      |                        |              |
|----|--|--------|------|------------------------|--------------|
| 11 | Advanced Thermodynamics  | OCBT11 | MOOC | B.Tech Regulation 2015 | IITG         |
| 12 | Applied Environmental Microbiology   | OCBT13 | MOOC | B.Tech Regulation 2015 | IITR         |
| 13 | Basic Principles and calculations in chemical Engineering                                      | OCBT14 | MOOC | B.Tech Regulation 2015 | IITG         |
| 14 | Chemical Principles II   | OCBT15 | MOOC | B.Tech Regulation 2015 | IISER Pune   |
| 15 | Bioinformatics: Algorithms and Applications  | OCBT16 | MOOC | B.Tech Regulation 2015 | IITM         |
| 16 | Chemical Reaction Engineering-II   | OCBT17 | MOOC | B.Tech Regulation 2015 | IITB         |
| 17 | Computational Fluid Dynamics   | OCBT18 | MOOC | B.Tech Regulation 2015 | IITM         |
| 18 | English language for competitive exams   | OCBT19 | MOOC | B.Tech Regulation 2015 | IITM         |
| 19 | Entrepreneurship essentials  | OCBT20 | MOOC | B.Tech Regulation 2015 | IITKGP       |
| 20 | Entrepreneurship   | OCBT21 | MOOC | B.Tech Regulation 2015 | IITM         |
| 21 | Environmental quality monitoring and analysis  | OCBT22 | MOOC | B.Tech Regulation 2015 | IITM         |
| 22 | Environmental remediation of contaminated sites  | OCBT23 | MOOC | B.Tech Regulation 2015 | IITR         |
| 23 | Essentials of biomolecules - nucleic acids and peptides  | OCBT24 | MOOC | B.Tech Regulation 2015 | IITG         |
| 24 | Forests and their management   | OCBT25 | MOOC | B.Tech Regulation 2015 | IITK         |
| 25 | Fundamentals of spectroscopy   | OCBT26 | MOOC | B.Tech Regulation 2015 | IISER Pune   |
| 26 | Heat Transfer  | OCBT27 | MOOC | B.Tech Regulation 2015 | IITKGP       |
| 27 | Intellectual Property  | OCBT28 | MOOC | B.Tech Regulation 2015 | IITM         |
| 28 | Interactomics Basics and Applications  | OCBT29 | MOOC | B.Tech Regulation 2015 | IITB         |
| 29 | Introduction to Internet of Things   | OCBT30 | MOOC | B.Tech Regulation 2015 | IITKGP       |
| 30 | Mass transfer operations-I   | OCBT31 | MOOC | B.Tech Regulation 2015 | IITG         |
| 31 | Material and Energy Balances   | OCBT32 | MOOC | B.Tech Regulation 2015 | IITM         |
| 32 | Mathematical methods and its applications  | OCBT33 | MOOC | B.Tech Regulation 2015 | IITR         |
| 33 | Medicinal chemistry  | OCBT34 | MOOC | B.Tech Regulation 2015 | IISER Pune   |
| 34 | Membrane Technology  | OCBT35 | MOOC | B.Tech Regulation 2015 | IITG         |
| 35 | Non-conventional energy resources  | OCBT36 | MOOC | B.Tech Regulation 2015 | IITM         |
| 36 | Optical Spectroscopy and Microscopy: Fundamentals of Optical measurements and instrumentation. | OCBT37 | MOOC | B.Tech Regulation 2015 | IISc         |
| 37 | Optimization in Chemical Engineering   | OCBT38 | MOOC | B.Tech Regulation 2015 | IITKGP       |
| 38 | Patent law for engineers and scientists  | OCBT39 | MOOC | B.Tech Regulation 2015 | IITM         |
| 39 | Problem solving through programming in C   | OCBT40 | MOOC | B.Tech Regulation 2015 | IITKGP       |
| 40 | Process Control- Design, analysis and assessment   | OCBT41 | MOOC | B.Tech Regulation 2015 | IITM         |
| 41 | Programming in Java  | OCBT42 | MOOC | B.Tech Regulation 2015 | IITKGP       |
| 42 | Quantitative methods in chemistry  | OCBT43 | MOOC | B.Tech Regulation 2015 | IISER Bhopal |
| 43 | The joy of computing using Python  | OCBT44 | MOOC | B.Tech Regulation 2015 | IITRPR       |
| 44 | Thermodynamics for Biological system Classical and statistical aspect                          | OCBT45 | MOOC | B.Tech Regulation 2015 | IITM         |
| 45 | Thermodynamics   | OCBT46 | MOOC | B.Tech Regulation 2015 | IITM         |
| 46 | Transition metal organometallics in catalysis and biology                                      | OCBT47 | MOOC | B.Tech Regulation 2015 | IITB         |
| 47 | Transport phenomena  | OCBT48 | MOOC | B.Tech Regulation 2015 | IITKGP       |
| 48 | Transport Processes I: Heat and Mass Transfer  | OCBT49 | MOOC | B.Tech Regulation 2015 | IISc         |
| 49 | Ultrafast laser spectroscopy   | OCBT50 | MOOC | B.Tech Regulation 2015 | IITB         |
| 50 | Computational Systems Biology  | OCBT51 | MOOC | B.Tech Regulation 2015 | IITM         |
| 51 | Energy resources, economics and environment  | OCBT52 | MOOC | B.Tech Regulation 2015 | IITB         |
| 52 | Environmental Soil Chemistry   | OCBT53 | MOOC | B.Tech Regulation 2015 | IITKGP       |
| 53 | Fundamentals of spectroscopy   | OCBT54 | MOOC | B.Tech Regulation 2015 | NCL Pune     |
| 54 | The joy of computing using Python  | OCBT55 | MOOC | B.Tech Regulation 2015 | IIT Dharwad  |

|    |   |        |      |                        |            |
|----|---|--------|------|------------------------|------------|
| 55 | Industrial Biotechnology                          | OCBT56 | MOOC | B.Tech Regulation 2015 | IITKGP     |
| 56 | Principles Of Downstream Techniques In Bioprocess | OCBT57 | MOOC | B.Tech Regulation 2015 | IIT Madras |

### CIVIL ENGINEERING

|    |   |        |      |                        |        |
|----|---|--------|------|------------------------|--------|
| 1  | Applied Environmental Microbiology  | OCCE01 | MOOC | B.Tech Regulation 2015 | IITR   |
| 2  | Energy Efficiency, Acoustics and daylighting in Building  | OCCE04 | MOOC | B.Tech Regulation 2015 | IITD   |
| 3  | Geo-Environmental Engineering   | OCCE05 | MOOC | B.Tech Regulation 2015 | IITG   |
| 4  | Glass in Buildings-Design and Applications  | OCCE06 | MOOC | B.Tech Regulation 2015 | IITM   |
| 5  | Higher Surveying  | OCCE07 | MOOC | B.Tech Regulation 2015 | IITG   |
| 6  | Integrated Waste Management for a Smart City  | OCCE08 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 7  | Modern Construction Materials   | OCCE09 | MOOC | B.Tech Regulation 2015 | IITM   |
| 8  | Geosynthetics and Reinforced Soil Structures  | OCCE10 | MOOC | B.Tech Regulation 2015 | IITM   |
| 9  | Energy Efficiency, Acoustics and daylighting in Building  | OCCE11 | MOOC | B.Tech Regulation 2015 | IITM   |
| 10 | Geoenvironmental Engineering(Environmental Geotechnology)Landfils,Slurry Ponds Contaminated Sites | OCCE12 | MOOC | B.Tech Regulation 2015 | IITM   |
| 11 | Infrastructure Planning and Management  | OCCE13 | MOOC | B.Tech Regulation 2015 | IITM   |
| 12 | Foundation Engineering  | OCCE14 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 13 | Fire Protection,Services,Maintenance,Management of Building                                       | OCCE15 | MOOC | B.Tech Regulation 2015 | IITD   |
| 14 | Fire Protection,Services,Maintenance,Management of Building                                       | OCCE16 | MOOC | B.Tech Regulation 2015 | IITM   |
| 15 | Environmental Remediation of Contaminated Sites   | OCCE17 | MOOC | B.Tech Regulation 2015 | IITD   |
| 16 | Maintenance and Repair of Concrete Structures   | OCCE18 | MOOC | B.Tech Regulation 2015 | IITM   |
| 17 | Environmental Geomechanics  | OCCE19 | MOOC | B.Tech Regulation 2015 | IITB   |
| 18 | Hydraulic Engineering   | OCCE20 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 19 | Glass Processing Technology   | OCCE21 | MOOC | B.Tech Regulation 2015 | IITR   |
| 20 | Remote Sensing: Principles and Applications   | OCCE22 | MOOC | B.Tech Regulation 2015 | IITB   |
| 21 | Urban Transportation Systems Planning   | OCCE23 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 22 | Rock Engineering  | OCCE24 | MOOC | B.Tech Regulation 2015 | IITR   |
| 23 | Soil Structure Interaction  | OCCE25 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 24 | Municipal Solid waste Management  | OCCE26 | MOOC | B.Tech Regulation 2015 | IITG   |
| 25 | Computational Hydraulics  | OCCE27 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 26 | Advanced Foundation Engineering   | OCCE28 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 27 | Advanced Soil Mechanics   | OCCE29 | MOOC | B.Tech Regulation 2015 | IITG   |
| 28 | Applied Environmental Microbiology  | OCCE30 | MOOC | B.Tech Regulation 2015 | IITR   |
| 29 | Basics of Remote sensing, GIS & GNSS technology and their applications                            | OCCE31 | MOOC | B.Tech Regulation 2015 | IIRS   |
| 30 | Environmental Chemistry and Microbiology  | OCCE32 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 31 | Environmental Remediation of Contaminated Sites   | OCCE33 | MOOC | B.Tech Regulation 2015 | IITR   |
| 32 | Mechanical Characterization of Bituminous Materials   | OCCE34 | MOOC | B.Tech Regulation 2015 | IITM   |
| 33 | Geo Morphology  | OCCE35 | MOOC | B.Tech Regulation 2015 | IITR   |

### CHEMICAL ENGINEERING

|   |   |        |      |                        |        |
|---|---|--------|------|------------------------|--------|
| 1 | Heat Transfer                                 | OCCH01 | MOOC | B.Tech Regulation 2015 | IITB   |
| 2 | Chemical Process Instrumentation              | OCCH02 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 3 | Fluidization Engineering                      | OCCH03 | MOOC | B.Tech Regulation 2015 | IITG   |
| 4 | Transport Processes I: Heat and Mass Transfer | OCCH04 | MOOC | B.Tech Regulation 2015 | IISc   |
| 5 | Applied Time-Series Analysis                  | OCCH05 | MOOC | B.Tech Regulation 2015 | IITM   |
| 6 | Introduction to CFD                           | OCCH06 | MOOC | B.Tech Regulation 2015 | IITKGP |

|    |   |        |      |                        |           |
|----|---|--------|------|------------------------|-----------|
| 7  | Fundamentals of Food Process Engineering                                | OCCH07 | MOOC | B.Tech Regulation 2015 | IITKGP    |
| 8  | Dairy and Food process and products technology                          | OCCH08 | MOOC | B.Tech Regulation 2015 | IITKGP    |
| 9  | Thermal Operations in Food Process Engineering: Theory and Applications | OCCH09 | MOOC | B.Tech Regulation 2015 | IITKGP    |
| 10 | Thermal Processing of Foods   | OCCH10 | MOOC | B.Tech Regulation 2015 | IITG      |
| 11 | Industrial Biotechnology  | OCCH11 | MOOC | B.Tech Regulation 2015 | IITKGP    |
| 12 | Drug Delivery: Principles and Engineering                               | OCCH12 | MOOC | B.Tech Regulation 2015 | IISc      |
| 13 | Principles Of Downstream Techniques In Bioprocess                       | OCCH13 | MOOC | B.Tech Regulation 2015 | IITM      |
| 14 | Chemical Process Intensification  | OCCH14 | MOOC | B.Tech Regulation 2015 | IITG      |
| 15 | Fluidization Engineering  | OCCH15 | MOOC | B.Tech Regulation 2015 | IITG      |
| 16 | Polymers: concepts, properties, uses and sustainability                 | OCCH16 | MOOC | B.Tech Regulation 2015 | IITM      |
| 17 | Technologies For Clean And Renewable Energy Production                  | OCCH17 | MOOC | B.Tech Regulation 2015 | IITR      |
| 18 | Wastewater Treatment and Recycling                                      | OCCH18 | MOOC | B.Tech Regulation 2015 | IITKGP    |
| 19 | Municipal Solid Waste Management  | OCCH19 | MOOC | B.Tech Regulation 2015 | IITG      |
| 20 | Scientific Computing using Matlab                                       | OCCH20 | MOOC | B.Tech Regulation 2015 | IITD      |
| 21 | Basics of Materials Engineering   | OCCH21 | MOOC | B.Tech Regulation 2015 | IITM      |
| 22 | Introduction to Composites  | OCCH22 | MOOC | B.Tech Regulation 2015 | IITK      |
| 23 | Advanced Materials and Processes  | OCCH23 | MOOC | B.Tech Regulation 2015 | IITKGP    |
| 24 | Numerical Methods for Engineers   | OCCH24 | MOOC | B.Tech Regulation 2015 | IITM      |
| 25 | Material and Energy Balances  | OCCH25 | MOOC | B.Tech Regulation 2015 | IITM      |
| 26 | Optimization in Chemical Engineering                                    | OCCH26 | MOOC | B.Tech Regulation 2015 | IITKGP    |
| 27 | Process Control - Design, Analysis and Assessment                       | OCCH27 | MOOC | B.Tech Regulation 2015 | IITM      |
| 28 | Computational Fluid Dynamics  | OCCH28 | MOOC | B.Tech Regulation 2015 | IITM      |
| 29 | Material Characterization   | OCCH29 | MOOC | B.Tech Regulation 2015 | IITM      |
| 30 | Carbon Materials and Manufacturing                                      | OCCH30 | MOOC | B.Tech Regulation 2015 | IIT Mandi |
| 31 | Non-Conventional Energy Resources                                       | OCCH31 | MOOC | B.Tech Regulation 2015 | IITM      |
| 32 | LNG UPSTREAM TECHNOLOGY   | OCCH32 | MOOC | B.Tech Regulation 2015 | IITKGP    |
| 33 | Process Optimization in Chemical Engineering                            | OCCH33 | MOOC | B.Tech Regulation 2015 | IITKGP    |
| 34 | Environmental Quality Monitoring and Analysis                           | OCCH34 | MOOC | B.Tech Regulation 2015 | IITM      |
| 35 | Chemical Process Safety   | OCCH35 | MOOC | B.Tech Regulation 2015 | IITR      |
| 36 | Polymer Reaction Engineering  | OCCH36 | MOOC | B.Tech Regulation 2015 | IITR      |

### COMPUTER SCIENCE AND ENGINEERING

|    |  |        |      |                        |        |
|----|--|--------|------|------------------------|--------|
| 1  | Foundations to Computer systems Design                         | OCCS01 | MOOC | B.Tech Regulation 2015 | IITM   |
| 2  | Computer Organization and Architecture: A Pedagogical Aspect   | OCCS02 | MOOC | B.Tech Regulation 2015 | IITG   |
| 3  | Discrete Mathematics   | OCCS03 | MOOC | B.Tech Regulation 2015 | IITRPR |
| 4  | Problem solving through Programming in C                       | OCCS04 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 5  | Programming in Java  | OCCS05 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 6  | Joy of Computing using Python                                  | OCCS06 | MOOC | B.Tech Regulation 2015 | IITRPR |
| 7  | Cryptography and Network Security                              | OCCS07 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 8  | Introduction to Internet of Things                             | OCCS08 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 9  | Introduction to Industry 4.0 and Industrial Internet of Things | OCCS09 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 10 | Machine Learning for Engineering and Science Applications      | OCCS10 | MOOC | B.Tech Regulation 2015 | IITM   |
| 11 | AI:Knowledge Representation and Reasoning                      | OCCS11 | MOOC | B.Tech Regulation 2015 | IITM   |
| 12 | Blockchain Architecture Design and Use Cases                   | OCCS12 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 13 | Social Networks  | OCCS13 | MOOC | B.Tech Regulation 2015 | IITRPR |
| 14 | Embedded Systems Design  | OCCS14 | MOOC | B.Tech Regulation 2015 | IITKGP |

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|----|--|--------|------|------------------------|--------------------------------------|
| 15 | VLSI Physical Design   | OCCS15 | MOOC | B.Tech Regulation 2015 | IITKGP                               |
| 16 | Synthesis of Digital Systems   | OCCS16 | MOOC | B.Tech Regulation 2015 | IITD                                 |
| 17 | Introduction to Machine Learning   | OCCS17 | MOOC | B.Tech Regulation 2015 | IITM                                 |
| 18 | Reinforcement Learning   | OCCS18 | MOOC | B.Tech Regulation 2015 | IITM                                 |
| 19 | Joy of Computing using Python  | OCCS19 | MOOC | B.Tech Regulation 2015 | IITM                                 |
| 20 | Developing Android Apps with App Inventor  | OCCS20 | MOOC | B.Tech Regulation 2015 | HKUST                                |
| 21 | Social Networks  | OCCS21 | MOOC | B.Tech Regulation 2015 | IITM                                 |
| 22 | Introduction to Machine Learning   | OCCS22 | MOOC | B.Tech Regulation 2015 | IITKGP                               |
| 23 | AI: Search Methods for Problem Solving   | OCCS23 | MOOC | B.Tech Regulation 2015 | IITM                                 |
| 24 | Ethical Hacking  | OCCS24 | MOOC | B.Tech Regulation 2015 | IITKGP                               |
| 25 | Introduction to Machine Learning   | OCCS25 | MOOC | B.Tech Regulation 2015 | IITM                                 |
| 26 | An Introduction to Artificial Intelligence   | OCCS26 | MOOC | B.Tech Regulation 2015 | IITD                                 |
| 27 | Deep Learning - Part I   | OCCS27 | MOOC | B.Tech Regulation 2015 | IITM                                 |
| 28 | Deep Learning  | OCCS28 | MOOC | B.Tech Regulation 2015 | IITKGP                               |
| 29 | Data Analytics with Python   | OCCS29 | MOOC | B.Tech Regulation 2015 | IITR                                 |
| 30 | Randomized Algorithms  | OCCS30 | MOOC | B.Tech Regulation 2015 | IITG                                 |
| 31 | Introduction to Cyber Security   | OCCS31 | MOOC | B.Tech Regulation 2015 | Uttarakhand Open University Haldwani |
| 32 | Computational Geometry   | OCCS32 | MOOC | B.Tech Regulation 2015 | IITD                                 |
| 33 | GPU Architectures and Programming  | OCCS33 | MOOC | B.Tech Regulation 2015 | IITKGP                               |
| 34 | Computational Complexity Theory  | OCCS34 | MOOC | B.Tech Regulation 2015 | IITK                                 |
| 35 | Randomized Methods in Complexity   | OCCS35 | MOOC | B.Tech Regulation 2015 | IITK                                 |
| 36 | Essentials of Data Science With R Software - 1: Probability and Statistical Inference          | OCCS36 | MOOC | B.Tech Regulation 2015 | IITK                                 |
| 37 | Essentials of Data Science With R Software - 2: Sampling Theory and Linear Regression Analysis | OCCS37 | MOOC | B.Tech Regulation 2015 | IITK                                 |
| 38 | Computer Vision and Image Processingfundamentals and applications                              | OCCS38 | MOOC | B.Tech Regulation 2015 | IITG                                 |
| 39 | Artificial Intelligence: Knowledge Representation and Reasoning                                | OCCS39 | MOOC | B.Tech Regulation 2015 | IITM                                 |
| 40 | Randomized methods in complexity   | OCCS40 | MOOC | B.Tech Regulation 2015 | IITK                                 |
| 41 | Deep Learning For Visual Computing   | OCCS41 | MOOC | B.Tech Regulation 2015 | IITKGP                               |
| 42 | Virtual Reality Engineering  | OCCS42 | MOOC | B.Tech Regulation 2015 | IITM                                 |
| 43 | Business analysis and data mining Modeling using R   | OCCS43 | MOOC | B.Tech Regulation 2015 | IITR                                 |
| 44 | Deep Learning Specialization   | OCCS44 | MOOC | B.Tech Regulation 2015 | DeepLearning.AI                      |
| 45 | Problem Solving, Python Programming, and Video Games   | OCCS45 | MOOC | B.Tech Regulation 2015 | University of Alberta                |
| 46 | Google IT Automation with Python Professional Certificate                                      | OCCS46 | MOOC | B.Tech Regulation 2015 | Google                               |
| 47 | Introduction to Cyber Security Specialization  | OCCS47 | MOOC | B.Tech Regulation 2015 | New York University                  |
| 48 | Full-Stack Web Development with React Specialization   | OCCS48 | MOOC | B.Tech Regulation 2015 | HKUST                                |

### ELECTRONICS AND BIOMEDICAL ENGINEERING

|   |  |        |      |                        |        |
|---|--|--------|------|------------------------|--------|
| 1 | Analog Electronic Circuits   | OCEB01 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 2 | Biomedical Signal Processing   | OCEB02 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 3 | Bio-Informatics:Algorithms and Applications                              | OCEB03 | MOOC | B.Tech Regulation 2015 | IITM   |
| 4 | Computational Systems Biology  | OCEB04 | MOOC | B.Tech Regulation 2015 | IITM   |
| 5 | Thermodynamics for Biological Systems: Classical and Statistical Aspects | OCEB05 | MOOC | B.Tech Regulation 2015 | IITM   |
| 6 | An Introduction to Programming through C++                               | OCEB06 | MOOC | B.Tech Regulation 2015 | IITB   |

|    |  |        |      |                        |        |
|----|--|--------|------|------------------------|--------|
| 7  | Biomolecules: Structure, Function in Health and Disease              | OCEB07 | MOOC | B.Tech Regulation 2015 | AIIMS  |
| 8  | Machine Learning for Engineering and Science Applications            | OCEB08 | MOOC | B.Tech Regulation 2015 | IITM   |
| 9  | Neuroscience of Human Movements                                      | OCEB09 | MOOC | B.Tech Regulation 2015 | IITM   |
| 10 | Fabrication Techniques for MEMS- based sensors: clinical Perspective | OCEB10 | MOOC | B.Tech Regulation 2015 | IISc   |
| 11 | Fundamentals of micro and nanofabrication                            | OCEB11 | MOOC | B.Tech Regulation 2015 | IISc   |
| 12 | Physics of Biological Systems  | OCEB12 | MOOC | B.Tech Regulation 2015 | IITB   |
| 13 | Integrated Circuits MOSFETs OP-Amps and their Applications           | OCEB13 | MOOC | B.Tech Regulation 2015 | IISc   |
| 14 | Introduction to Machine Learning                                     | OCEB14 | MOOC | B.Tech Regulation 2015 | IITM   |
| 15 | The Joy of computing Using Python                                    | OCEB15 | MOOC | B.Tech Regulation 2015 | IITRPR |
| 16 | Numerical Linear Algebra   | OCEB16 | MOOC | B.Tech Regulation 2015 | IITR   |
| 17 | Programming in Java  | OCEB17 | MOOC | B.Tech Regulation 2015 | IITKGP |

### ELECTRONICS AND COMMUNICATION ENGINEERING

|    |  |        |      |                        |              |
|----|--|--------|------|------------------------|--------------|
| 1  | Biomedical Signal Processing                                   | OCEC01 | MOOC | B.Tech Regulation 2015 | IITKGP       |
| 2  | Microprocessors And Microcontrollers                           | OCEC02 | MOOC | B.Tech Regulation 2015 | IITKGP       |
| 3  | Analog Ic Design   | OCEC03 | MOOC | B.Tech Regulation 2015 | IITM         |
| 4  | Mathematical Methods and Techniques in Signal Processing       | OCEC04 | MOOC | B.Tech Regulation 2015 | IISc         |
| 5  | Integrated Circuits, Mosfets, OP-Amps and their Applications   | OCEC05 | MOOC | B.Tech Regulation 2015 | IISc         |
| 6  | Machine Learning for Engineering and Science Applications      | OCEC07 | MOOC | B.Tech Regulation 2015 | IITM         |
| 7  | Multirate DSP  | OCEC08 | MOOC | B.Tech Regulation 2015 | IITM         |
| 8  | AI:Knowledge Representation and Reasoning                      | OCEC09 | MOOC | B.Tech Regulation 2015 | IITM         |
| 9  | Blockchain Architecture Design and Use Cases                   | OCEC10 | MOOC | B.Tech Regulation 2015 | IITKGP       |
| 10 | Introduction to Machine Learning                               | OCEC11 | MOOC | B.Tech Regulation 2015 | IITM         |
| 11 | Solar Photovoltaics-Fundamentals, and Applications             | OCEC12 | MOOC | B.Tech Regulation 2015 | IITR         |
| 12 | Deep Learning For Visual Computing                             | OCEC13 | MOOC | B.Tech Regulation 2015 | IITKGP       |
| 13 | Rheology of Complex Materials                                  | OCEC14 | MOOC | B.Tech Regulation 2015 | IITM         |
| 14 | Virtual Reality Engineering                                    | OCEC15 | MOOC | B.Tech Regulation 2015 | IITM         |
| 15 | Semiconductor Optoelectronics                                  | OCEC16 | MOOC | B.Tech Regulation 2015 | IITD         |
| 16 | Business Analytics For Management Decision                     | OCEC17 | MOOC | B.Tech Regulation 2015 | IITKGP       |
| 17 | Business analysis and data mining Modeling using R             | OCEC18 | MOOC | B.Tech Regulation 2015 | IITR         |
| 18 | Financial Statement Analysis and Reporting                     | OCEC19 | MOOC | B.Tech Regulation 2015 | IITR         |
| 19 | Six Sigma  | OCEC20 | MOOC | B.Tech Regulation 2015 | IITKGP       |
| 20 | Joy of Computing using Python                                  | OCEC21 | MOOC | B.Tech Regulation 2015 | IITRPR       |
| 21 | Developing Android Apps with App Inventor                      | OCEC22 | MOOC | B.Tech Regulation 2015 | HKUST        |
| 22 | Product Design and Manufacturing                               | OCEC23 | MOOC | B.Tech Regulation 2015 | IITK         |
| 23 | A Brief introduction to micro sensors                          | OCEC24 | MOOC | B.Tech Regulation 2015 | IISER Bhopal |
| 24 | VLSI Signal processing   | OCEC25 | MOOC | B.Tech Regulation 2015 | IITKGP       |
| 25 | Foundations to Computer systems Design                         | OCEC26 | MOOC | B.Tech Regulation 2015 | IITM         |
| 26 | Embedded Systems Design  | OCEC27 | MOOC | B.Tech Regulation 2015 | IITKGP       |
| 27 | VLSI Physical Design   | OCEC28 | MOOC | B.Tech Regulation 2015 | IITKGP       |
| 28 | Mathematical Methods and Techniques in Signal Processing       | OCEC29 | MOOC | B.Tech Regulation 2015 | IISc         |
| 29 | Soft Skills For Business Negotiations And Marketing Strategies | OCEC30 | MOOC | B.Tech Regulation 2015 | IITKGP       |
| 30 | Fiber-Optic Communication Systems and Techniques               | OCEC31 | MOOC | B.Tech Regulation 2015 | IITK         |
| 31 | Introduction to Information Theory, Coding and Cryptography    | OCEC32 | MOOC | B.Tech Regulation 2015 | IITD         |
| 32 | Advanced Power Electronics and Control                         | OCEC33 | MOOC | B.Tech Regulation 2015 | IITR         |
| 33 | Transmission Lines and Electromagnetic Waves                   | OCEC34 | MOOC | B.Tech Regulation 2015 | IITM         |

|    |   |        |      |                        |                            |
|----|---|--------|------|------------------------|----------------------------|
| 34 | Applied Optimization for Wireless, Machine learning, Big data                     | OCEC35 | MOOC | B.Tech Regulation 2015 | IITK                       |
| 35 | Design of photovoltaic systems  | OCEC36 | MOOC | B.Tech Regulation 2015 | IISc                       |
| 36 | Introduction to Embedded system Design  | OCEC37 | MOOC | B.Tech Regulation 2015 | IITM                       |
| 37 | Introduction to Wireless and Cellular Communications                              | OCEC38 | MOOC | B.Tech Regulation 2015 | IITM                       |
| 38 | Introduction to Industry 4.0 and Industrial Internet of Things                    | OCEC39 | MOOC | B.Tech Regulation 2015 | IITKGP                     |
| 39 | Artificial Intelligence Search Methods For Problem Solving                        | OCEC40 | MOOC | B.Tech Regulation 2015 | IITM                       |
| 40 | Deep Learning   | OCEC41 | MOOC | B.Tech Regulation 2015 | IITKGP                     |
| 41 | Digital VLSI Testing  | OCEC42 | MOOC | B.Tech Regulation 2015 | IITKGP                     |
| 42 | Computer Organization and Architecture: A Pedagogical Aspect                      | OCEC43 | MOOC | B.Tech Regulation 2015 | IITG                       |
| 43 | Discrete Mathematics  | OCEC44 | MOOC | B.Tech Regulation 2015 | IITRPR                     |
| 44 | Problem Solving through Programming in C  | OCEC45 | MOOC | B.Tech Regulation 2015 | IITKGP                     |
| 45 | Programming in Java   | OCEC46 | MOOC | B.Tech Regulation 2015 | IITKGP                     |
| 46 | Cryptography and Network Security   | OCEC47 | MOOC | B.Tech Regulation 2015 | IITKGP                     |
| 47 | Introduction to Internet of Things  | OCEC48 | MOOC | B.Tech Regulation 2015 | IITKGP                     |
| 48 | Modern Digital Communication Techniques   | OCEC49 | MOOC | B.Tech Regulation 2015 | IITKGP                     |
| 49 | Introduction to Photonics   | OCEC50 | MOOC | B.Tech Regulation 2015 | IITM                       |
| 50 | Electronic Systems for Cancer Diagnosis   | OCEC51 | MOOC | B.Tech Regulation 2015 | IISc                       |
| 51 | Biophotonics  | OCEC52 | MOOC | B.Tech Regulation 2015 | IITKGP                     |
| 52 | Python for Everybody  | OCEC53 | MOOC | B.Tech Regulation 2015 | University of Michigan     |
| 53 | Python for Everybody  | OCEC54 | MOOC | B.Tech Regulation 2015 | University of Michigan     |
| 54 | Machine Learning  | OCEC55 | MOOC | B.Tech Regulation 2015 | University of Washington   |
| 55 | Mathematics for Machine Learning  | OCEC56 | MOOC | B.Tech Regulation 2015 | Imperial College London    |
| 56 | Python 3 Programming  | OCEC57 | MOOC | B.Tech Regulation 2015 | University of Michigan     |
| 57 | Data Structures And Algorithms  | OCEC58 | MOOC | B.Tech Regulation 2015 | Higher School of Economics |
| 58 | Introductory Neuroscience and Neuro Instrumentation                               | OCEC59 | MOOC | B.Tech Regulation 2015 | IISc                       |
| 59 | Applied Linear Algebra For Signal Processing, Data Analytics and Machine Learning | OCEC60 | MOOC | B.Tech Regulation 2015 | IITK                       |

### ELECTRICAL AND ELECTRONICS ENGINEERING

|    |  |        |      |                        |        |
|----|--|--------|------|------------------------|--------|
| 1  | Modern Digital Communication Techniques                  | OCEE01 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 2  | Introduction to Photonics                                | OCEE02 | MOOC | B.Tech Regulation 2015 | IITM   |
| 3  | Biomedical Signal Processing                             | OCEE03 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 4  | Multirate DSP  | OCEE04 | MOOC | B.Tech Regulation 2015 | IITM   |
| 5  | Electronic Systems for Cancer Diagnosis                  | OCEE05 | MOOC | B.Tech Regulation 2015 | IISc   |
| 6  | Solar Technology-Fundamentals and Applications           | OCEE06 | MOOC | B.Tech Regulation 2015 | IITG   |
| 7  | E-Mobility and Charging Infrastructure                   | OCEE07 | MOOC | B.Tech Regulation 2015 | IITG   |
| 8  | Mathematical Methods and Techniques in Signal Processing | OCEE08 | MOOC | B.Tech Regulation 2015 | IISc   |
| 9  | Principles of Signals and Systems                        | OCEE09 | MOOC | B.Tech Regulation 2015 | IITK   |
| 10 | Principles of Communication Systems - 1                  | OCEE10 | MOOC | B.Tech Regulation 2015 | IITK   |
| 11 | Electromagnetic Theory                                   | OCEE11 | MOOC | B.Tech Regulation 2015 | IITK   |
| 12 | Control Engineering                                      | OCEE12 | MOOC | B.Tech Regulation 2015 | IITM   |
| 13 | Deep Learning For Visual Computing                       | OCEE13 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 14 | Power System Engineering                                 | OCEE14 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 15 | Basic Electronics  | OCEE15 | MOOC | B.Tech Regulation 2015 | IITB   |
| 16 | Antennas   | OCEE16 | MOOC | B.Tech Regulation 2015 | IITB   |

|    |   |        |      |                        |         |
|----|---|--------|------|------------------------|---------|
| 17 | Industrial Automation And Control   | OCEE17 | MOOC | B.Tech Regulation 2015 | IITKGP  |
| 18 | Design of Photovoltaic System   | OCEE18 | MOOC | B.Tech Regulation 2015 | IISc    |
| 19 | Fiber-optic communication systems and techniques  | OCEE19 | MOOC | B.Tech Regulation 2015 | IITK    |
| 20 | Heat exchangers: Fundamentals and design analysis   | OCEE20 | MOOC | B.Tech Regulation 2015 | IITKGP  |
| 21 | Coding Information theory and Cryptography  | OCEE21 | MOOC | B.Tech Regulation 2015 | IITD    |
| 22 | Programming in Java   | OCEE22 | MOOC | B.Tech Regulation 2015 | IITKGP  |
| 23 | Machine Learning for Engineering and Science Applications                                       | OCEE23 | MOOC | B.Tech Regulation 2015 | IITM    |
| 24 | Joy of Computing using Python   | OCEE24 | MOOC | B.Tech Regulation 2015 | IITM    |
| 25 | Joy of Computing using Python   | OCEE25 | MOOC | B.Tech Regulation 2015 | IITRPR  |
| 26 | AI Programming with Python  | OCEE26 | MOOC | B.Tech Regulation 2015 | Udacity |
| 27 | System Design for Sustainability  | OCEE27 | MOOC | B.Tech Regulation 2015 | IITG    |
| 28 | Human Resource Development  | OCEE28 | MOOC | B.Tech Regulation 2015 | IITKGP  |
| 29 | DC Power Transmission Systems   | OCEE29 | MOOC | B.Tech Regulation 2015 | IITM    |
| 30 | Sensors and Actuators   | OCEE30 | MOOC | B.Tech Regulation 2015 | IISc    |
| 31 | Digital Image Processing  | OCEE31 | MOOC | B.Tech Regulation 2015 | IITKGP  |
| 32 | Mapping Signal Processing Algorithms to Architectures   | OCEE32 | MOOC | B.Tech Regulation 2015 | IITM    |
| 33 | Introduction to Computer Vision   | OCEE33 | MOOC | B.Tech Regulation 2015 | IITD    |
| 34 | Op-Amp Practical Applications: Design, Simulation and Implementation                            | OCEE34 | MOOC | B.Tech Regulation 2015 | IISc    |
| 35 | Fabrication Techniques for MEMS- based sensors: clinical Perspective                            | OCEE35 | MOOC | B.Tech Regulation 2015 | IISc    |
| 36 | Introduction to Wireless and Cellular Communications  | OCEE36 | MOOC | B.Tech Regulation 2015 | IITM    |
| 37 | Neural Networks for Signal Processing I   | OCEE37 | MOOC | B.Tech Regulation 2015 | IISc    |
| 38 | Microelectronics: Devices To Circuits   | OCEE38 | MOOC | B.Tech Regulation 2015 | IITR    |
| 39 | Pattern Recognition and Application   | OCEE39 | MOOC | B.Tech Regulation 2015 | IITKGP  |
| 40 | Microwave Theory and Techniques   | OCEE40 | MOOC | B.Tech Regulation 2015 | IITB    |
| 41 | Principles and Techniques of Modern Radar Systems   | OCEE41 | MOOC | B.Tech Regulation 2015 | IITKGP  |
| 42 | Computational Electromagnetics  | OCEE42 | MOOC | B.Tech Regulation 2015 | IITM    |
| 43 | Fiber-Optic Communication Systems and Techniques  | OCEE43 | MOOC | B.Tech Regulation 2015 | IITK    |
| 44 | Microwave Engineering   | OCEE44 | MOOC | B.Tech Regulation 2015 | IITG    |
| 45 | Fuzzy sets logic & Systems and applications   | OCEE45 | MOOC | B.Tech Regulation 2015 | IITK    |
| 46 | Project Management for Managers   | OCEE46 | MOOC | B.Tech Regulation 2015 | IITR    |
| 47 | Training Of Trainers  | OCEE47 | MOOC | B.Tech Regulation 2015 | IITR    |
| 48 | Management Accounting   | OCEE48 | MOOC | B.Tech Regulation 2015 | IITR    |
| 49 | Introduction to Environmental Engineering and Science - Fundamental and Sustainability Concepts | OCEE49 | MOOC | B.Tech Regulation 2015 | IITKGP  |
| 50 | Numerical Methods for Engineers   | OCEE50 | MOOC | B.Tech Regulation 2015 | IITM    |
| 51 | Mathematical Finance  | OCEE51 | MOOC | B.Tech Regulation 2015 | IITG    |
| 52 | Stochastic Processes  | OCEE52 | MOOC | B.Tech Regulation 2015 | IITD    |
| 53 | Introduction to Fuzzy Set Theory, Arithmetic and Logic  | OCEE53 | MOOC | B.Tech Regulation 2015 | IITD    |
| 54 | Fundamentals of Micro and Nanofabrication   | OCEE54 | MOOC | B.Tech Regulation 2015 | IISc    |
| 55 | Digital VLSI Testing  | OCEE55 | MOOC | B.Tech Regulation 2015 | IITKGP  |
| 56 | Semiconductor Devices and Circuits  | OCEE56 | MOOC | B.Tech Regulation 2015 | IISc    |
| 57 | Image Signal Processing   | OCEE57 | MOOC | B.Tech Regulation 2015 | IITM    |
| 58 | Computer Aided Power System Analysis  | OCEE58 | MOOC | B.Tech Regulation 2015 | IITR    |
| 59 | Linear System Theory  | OCEE59 | MOOC | B.Tech Regulation 2015 | IITM    |
| 60 | Applied Electromagnetics For Engineers  | OCEE60 | MOOC | B.Tech Regulation 2015 | IITK    |

|     |  |         |      |                        |  |
|-----|--|---------|------|------------------------|--|
| 61  | Introduction to Embedded System Design                               | OCEE61  | MOOC | B.Tech Regulation 2015 | Netaji Subhas University of Technology |
| 62  | Introduction to Embedded System Design                               | OCEE62  | MOOC | B.Tech Regulation 2015 | IIT Jammu                              |
| 63  | Introductory Neuroscience & Neuro-Instrumentation                    | OCEE63  | MOOC | B.Tech Regulation 2015 | IISc                                   |
| 64  | Aircraft Stability and Control                                       | OCEE64  | MOOC | B.Tech Regulation 2015 | IITK                                   |
| 65  | Space Flight Mechanics   | OCEE65  | MOOC | B.Tech Regulation 2015 | IITKGP                                 |
| 66  | Introduction to Aerospace Engineering                                | OCEE66  | MOOC | B.Tech Regulation 2015 | IITB                                   |
| 67  | Deep Learning  | OCEE67  | MOOC | B.Tech Regulation 2015 | IITKGP                                 |
| 68  | Computer architecture and organization                               | OCEE68  | MOOC | B.Tech Regulation 2015 | IITKGP                                 |
| 69  | Introduction to internet of things                                   | OCEE69  | MOOC | B.Tech Regulation 2015 | IITKGP                                 |
| 70  | Switching Circuits and Logic Design                                  | OCEE70  | MOOC | B.Tech Regulation 2015 | IITKGP                                 |
| 71  | Software Engineering   | OCEE71  | MOOC | B.Tech Regulation 2015 | IITKGP                                 |
| 72  | Introduction to Industry 4.0 and Industrial Internet of Things       | OCEE72  | MOOC | B.Tech Regulation 2015 | IITKGP                                 |
| 73  | Introduction to Machine Learning                                     | OCEE73  | MOOC | B.Tech Regulation 2015 | IITM                                   |
| 74  | Reinforcement Learning   | OCEE74  | MOOC | B.Tech Regulation 2015 | IITM                                   |
| 75  | Software Testing   | OCEE75  | MOOC | B.Tech Regulation 2015 | IITB                                   |
| 76  | Artificial Intelligence Search Methods For Problem Solving           | OCEE76  | MOOC | B.Tech Regulation 2015 | IITM                                   |
| 77  | Deep Learning For Computer Vision                                    | OCEE77  | MOOC | B.Tech Regulation 2015 | IIT Hyderabad                          |
| 78  | Introduction to algorithms and analysis                              | OCEE78  | MOOC | B.Tech Regulation 2015 | IITKGP                                 |
| 79  | Bandit Algorithm (Online Machine Learning)                           | OCEE79  | MOOC | B.Tech Regulation 2015 | IITB                                   |
| 80  | Functional and Conceptual Design                                     | OCEE80  | MOOC | B.Tech Regulation 2015 | IITM                                   |
| 81  | Introduction to robotics   | OCEE81  | MOOC | B.Tech Regulation 2015 | IITM                                   |
| 82  | Decision Support System for Managers                                 | OCEE82  | MOOC | B.Tech Regulation 2015 | IITKGP                                 |
| 83  | Management Information System  | OCEE83  | MOOC | B.Tech Regulation 2015 | IITKGP                                 |
| 84  | Regression Analysis  | OCEE84  | MOOC | B.Tech Regulation 2015 | IISER Pune                             |
| 85  | Constrained and unconstrained optimization                           | OCEE85  | MOOC | B.Tech Regulation 2015 | IITKGP                                 |
| 86  | Computational Commutative Algebra                                    | OCEE86  | MOOC | B.Tech Regulation 2015 | CMI                                    |
| 87  | A basic course in number theory                                      | OCEE87  | MOOC | B.Tech Regulation 2015 | IITB                                   |
| 88  | Scientific Computing using Matlab                                    | OCEE88  | MOOC | B.Tech Regulation 2015 | IITD                                   |
| 89  | Dynamical System and Control   | OCEE89  | MOOC | B.Tech Regulation 2015 | IITR                                   |
| 90  | Fundamentals Of Artificial Intelligence                              | OCEE90  | MOOC | B.Tech Regulation 2015 | IITG                                   |
| 91  | Solar Energy Engineering and Technology                              | OCEE91  | MOOC | B.Tech Regulation 2015 | IITG                                   |
| 92  | Soft Skills  | OCEE92  | MOOC | B.Tech Regulation 2015 | IITR                                   |
| 93  | Python for everybody   | OCEE93  | MOOC | B.Tech Regulation 2015 | University of Michigan                 |
| 94  | Non-conventional energy resources                                    | OCEE94  | MOOC | B.Tech Regulation 2015 | IITM                                   |
| 95  | AI: Knowledge Representation and Reasoning                           | OCEE95  | MOOC | B.Tech Regulation 2015 | IITM                                   |
| 96  | Blockchain Architecture and Use Cases                                | OCEE96  | MOOC | B.Tech Regulation 2015 | IITKGP                                 |
| 97  | Social Networks  | OCEE97  | MOOC | B.Tech Regulation 2015 | IITRPR                                 |
| 98  | Architectural Design of Digital Integrated Circuits                  | OCEE98  | MOOC | B.Tech Regulation 2015 | IITKGP                                 |
| 99  | Computer Architecture  | OCEE99  | MOOC | B.Tech Regulation 2015 | IITD                                   |
| 100 | Computer Networks and Internet Protocol                              | OCEE100 | MOOC | B.Tech Regulation 2015 | IITKGP                                 |
| 101 | Computer Vision and Image Processing - Fundamentals and Applications | OCEE101 | MOOC | B.Tech Regulation 2015 | IITG                                   |
| 102 | Data Analytics with Python   | OCEE102 | MOOC | B.Tech Regulation 2015 | IITR                                   |
| 103 | Digital Electronic Circuits  | OCEE103 | MOOC | B.Tech Regulation 2015 | IITKGP                                 |
| 104 | Digital IC Design  | OCEE104 | MOOC | B.Tech Regulation 2015 | IITM                                   |

|     |  |         |      |                        |        |
|-----|--|---------|------|------------------------|--------|
| 105 | Digital Signal Processing and its Applications                             | OCEE105 | MOOC | B.Tech Regulation 2015 | IITB   |
| 106 | Digital System Design  | OCEE106 | MOOC | B.Tech Regulation 2015 | IITRPR |
| 107 | Elements of Solar Energy Conversion  | OCEE107 | MOOC | B.Tech Regulation 2015 | IITK   |
| 108 | Embedded Systems Design  | OCEE108 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 109 | Fundamentals of power Electronics  | OCEE109 | MOOC | B.Tech Regulation 2015 | IISc   |
| 110 | Fundamentals of semiconductor devices                                      | OCEE110 | MOOC | B.Tech Regulation 2015 | IISc   |
| 111 | Introduction to Time - Varying Electrical networks                         | OCEE111 | MOOC | B.Tech Regulation 2015 | IITM   |
| 112 | Microprocessors and Interfacing  | OCEE112 | MOOC | B.Tech Regulation 2015 | IITG   |
| 113 | Microprocessors and Microcontrollers                                       | OCEE113 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 114 | Non-Conventional Energy Resources  | OCEE114 | MOOC | B.Tech Regulation 2015 | IITM   |
| 115 | Nonlinear System Analysis  | OCEE115 | MOOC | B.Tech Regulation 2015 | IITM   |
| 116 | Power Management Integrated Circuits                                       | OCEE116 | MOOC | B.Tech Regulation 2015 | IITM   |
| 117 | Power System Dynamics, Control and Monitoring                              | OCEE117 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 118 | Power System Engineering   | OCEE118 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 119 | Principles of Digital Communications                                       | OCEE119 | MOOC | B.Tech Regulation 2015 | IITD   |
| 120 | Principles of Signals and Systems  | OCEE120 | MOOC | B.Tech Regulation 2015 | IITK   |
| 121 | Reinforcement Learning   | OCEE121 | MOOC | B.Tech Regulation 2015 | IITM   |
| 122 | Robotics: Basics and Selected Advanced Concepts                            | OCEE122 | MOOC | B.Tech Regulation 2015 | IISc   |
| 123 | Transmission Lines and Electromagnetic Waves                               | OCEE123 | MOOC | B.Tech Regulation 2015 | IITM   |
| 124 | Photonic Integrated Circuit  | OCEE124 | MOOC | B.Tech Regulation 2015 | IISc   |
| 125 | High Power Multilevel Converters - Analysis, Design and Operational Issues | OCEE125 | MOOC | B.Tech Regulation 2015 | IITD   |
| 126 | Patent Law for Engineers and Scientists                                    | OCEE126 | MOOC | B.Tech Regulation 2015 | IITM   |
| 127 | Virtual Reality Engineering  | OCEE127 | MOOC | B.Tech Regulation 2015 | IITM   |
| 128 | Six Sigma  | OCEE128 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 129 | E-Business   | OCEE129 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 130 | Programming in Java  | OCEE130 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 131 | Advanced Power Electronics and Control                                     | OCEE131 | MOOC | B.Tech Regulation 2015 | IITR   |
| 132 | Cryptography and Network Security  | OCEE132 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 133 | Foundations to Computer Systems Design                                     | OCEE133 | MOOC | B.Tech Regulation 2015 | IITM   |

#### SAFETY AND FIRE ENGINEERING

|   |   |        |      |                        |        |
|---|---|--------|------|------------------------|--------|
| 1 | Chemical Process Instrumentation                  | OCFS01 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 2 | Heat Transfer                                     | OCFS02 | MOOC | B.Tech Regulation 2015 | IITB   |
| 3 | Introduction to Materials Science and Engineering | OCFS03 | MOOC | B.Tech Regulation 2015 | IITD   |
| 4 | Manufacturing Process Technology I & II           | OCFS04 | MOOC | B.Tech Regulation 2015 | IITK   |
| 5 | Reliability of offshore structures                | OCFS05 | MOOC | B.Tech Regulation 2015 | IITM   |
| 6 | Applied Ergonomics                                | OCFS06 | MOOC | B.Tech Regulation 2015 | IITK   |
| 7 | Industrial Safety Engineering                     | OCFS07 | MOOC | B.Tech Regulation 2015 | IITKGP |

#### FOOD TECHNOLOGY

|   |  |        |      |                        |                            |
|---|--|--------|------|------------------------|----------------------------|
| 1 | Fundamentals of Food Process Engineering                               | OCFT01 | MOOC | B.Tech Regulation 2015 | IITKGP                     |
| 2 | Dairy and Food process and products technology                         | OCFT02 | MOOC | B.Tech Regulation 2015 | IITKGP                     |
| 3 | Thermal Operations in Food Process Engineering:Theory and Applications | OCFT03 | MOOC | B.Tech Regulation 2015 | IITKGP                     |
| 4 | Thermal Processing of Foods  | OCFT04 | MOOC | B.Tech Regulation 2015 | IITG                       |
| 5 | Food Laws and Standards  | OCFT05 | MOOC | B.Tech Regulation 2015 | IGNOU                      |
| 6 | Post Harvest Management of Fruits and Vegetables                       | OCFT06 | MOOC | B.Tech Regulation 2015 | Food Safety Administration |
| 7 | Membrane Technology  | OCFT07 | MOOC | B.Tech Regulation 2015 | IITG                       |

|    |   |        |      |                        |        |
|----|---|--------|------|------------------------|--------|
| 8  | Principles Of Downstream Techniques In Bioprocess | OCFT08 | MOOC | B.Tech Regulation 2015 | IITM   |
| 9  | Industrial Biotechnology                          | OCFT09 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 10 | Heat Transfer                                     | OCFT10 | MOOC | B.Tech Regulation 2015 | IITKGP |

### INSTUMENTATION AND CONTROL ENGINEERING

|    |   |        |      |                        |  |
|----|---|--------|------|------------------------|--|
| 1  | Aircraft Stability and Control  | OCIC01 | MOOC | B.Tech Regulation 2015 | IITK                                   |
| 2  | Industrial Biotechnology  | OCIC02 | MOOC | B.Tech Regulation 2015 | IITKGP                                 |
| 3  | Fundamentals of micro and nanofabrication   | OCIC03 | MOOC | B.Tech Regulation 2015 | IISc                                   |
| 4  | Chemical Process Safety   | OCIC04 | MOOC | B.Tech Regulation 2015 | IITR                                   |
| 5  | Deep Learning   | OCIC05 | MOOC | B.Tech Regulation 2015 | IITKGP                                 |
| 6  | Introduction to internet of things  | OCIC06 | MOOC | B.Tech Regulation 2015 | IITKGP                                 |
| 7  | Introduction to Industry 4.0 and Industrial Internet of Things                                | OCIC07 | MOOC | B.Tech Regulation 2015 | IITKGP                                 |
| 8  | Introduction to Machine Learning  | OCIC08 | MOOC | B.Tech Regulation 2015 | IITM                                   |
| 9  | Artificial Intelligence Search Methods For Problem Solving                                    | OCIC09 | MOOC | B.Tech Regulation 2015 | IITM                                   |
| 10 | The Joy of Computing using Python   | OCIC10 | MOOC | B.Tech Regulation 2015 | IITRPR                                 |
| 11 | Spectroscopic Techniques for Pharmaceutical and Biopharmaceutical Industries                  | OCIC11 | MOOC | B.Tech Regulation 2015 | IITD                                   |
| 12 | Introduction to robotics  | OCIC12 | MOOC | B.Tech Regulation 2015 | IITM                                   |
| 13 | Principles of Signal Estimation for MIMO/ OFDM Wireless Communication                         | OCIC13 | MOOC | B.Tech Regulation 2015 | IITK                                   |
| 14 | Fiber Optic Communication Technology  | OCIC14 | MOOC | B.Tech Regulation 2015 | IITM                                   |
| 15 | Introductory Neuroscience & Neuro- Instrumentation  | OCIC15 | MOOC | B.Tech Regulation 2015 | IISc                                   |
| 16 | Power Electronics   | OCIC16 | MOOC | B.Tech Regulation 2015 | IITD                                   |
| 17 | Introduction to Embedded System Design  | OCIC17 | MOOC | B.Tech Regulation 2015 | Netaji Subhas University of Technology |
| 18 | Introduction to Embedded System Design  | OCIC18 | MOOC | B.Tech Regulation 2015 | IIT Jammu                              |
| 19 | Constrained and unconstrained optimization  | OCIC19 | MOOC | B.Tech Regulation 2015 | IITKGP                                 |
| 20 | Scientific Computing using Matlab   | OCIC20 | MOOC | B.Tech Regulation 2015 | IITD                                   |
| 21 | Dynamical System and Control  | OCIC21 | MOOC | B.Tech Regulation 2015 | IITR                                   |
| 22 | Introduction to Fuzzy Set Theory, Arithmetic and Logic  | OCIC22 | MOOC | B.Tech Regulation 2015 | IITD                                   |
| 23 | Fundamentals Of Artificial Intelligence   | OCIC23 | MOOC | B.Tech Regulation 2015 | IITG                                   |
| 24 | Biomedical Signal Processing  | OCIC24 | MOOC | B.Tech Regulation 2015 | IITKGP                                 |
| 25 | Optical Spectroscopy and Microscopy: Fundamentals of Optical Measurements and Instrumentation | OCIC25 | MOOC | B.Tech Regulation 2015 | IISc                                   |
| 26 | Process Control - Design, Analysis and Assessment   | OCIC26 | MOOC | B.Tech Regulation 2015 | IITM                                   |
| 27 | Model Predictive Control: Theory and Applications   | OCIC27 | MOOC | B.Tech Regulation 2015 | IITM                                   |
| 28 | Computer Aided Applied Single Objective Optimization  | OCIC28 | MOOC | B.Tech Regulation 2015 | IITG                                   |
| 29 | Nonlinear System Analysis   | OCIC29 | MOOC | B.Tech Regulation 2015 | IITM                                   |
| 30 | Optical Fiber Sensors   | OCIC30 | MOOC | B.Tech Regulation 2015 | IITM                                   |
| 31 | Robotics: Basics and Selected Advanced Concepts   | OCIC31 | MOOC | B.Tech Regulation 2015 | IISc                                   |

### INDUSTRIAL ENGINEERING

|   |                               |        |      |                        |        |
|---|-------------------------------|--------|------|------------------------|--------|
| 1 | Industrial Safety Engineering | OCIE01 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 2 | Six Sigma                     | OCIE02 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 3 | Decision Support System       | OCIE03 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 4 | E-Business                    | OCIE04 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 5 | Entrepreneurship              | OCIE05 | MOOC | B.Tech Regulation 2015 | IITM   |
| 6 | Virtual Reality Engineering   | OCIE06 | MOOC | B.Tech Regulation 2015 | IITM   |

|    |  |        |      |                        |                          |
|----|--|--------|------|------------------------|--------------------------|
| 7  | Introduction to Industry 4.0 and Industrial Internet of Things | OCIE07 | MOOC | B.Tech Regulation 2015 | IITKGP                   |
| 8  | Learning Analytics Tools                                       | OCIE08 | MOOC | B.Tech Regulation 2015 | IITB                     |
| 9  | Marketing Analytics  | OCIE09 | MOOC | B.Tech Regulation 2015 | IITKGP                   |
| 10 | Advanced Green Manufacturing Systems                           | OCIE10 | MOOC | B.Tech Regulation 2015 | IITK                     |
| 11 | Continuous Quality Improvement :Tools and Techniques           | OCIE11 | MOOC | B.Tech Regulation 2015 | Quality Council of India |
| 12 | Consumer Buyer Behaviour                                       | OCIE12 | MOOC | B.Tech Regulation 2015 | LNWIMDR                  |
| 13 | Managerial Skills For Interpersonal Dynamics                   | OCIE13 | MOOC | B.Tech Regulation 2015 | IITR                     |

### INFORMATION TECHNOLOGY

|    |  |        |      |                        |                       |
|----|--|--------|------|------------------------|-----------------------|
| 1  | Artificial Intelligence - Knowledge representation and reasoning                               | OCIT01 | MOOC | B.Tech Regulation 2015 | IITM                  |
| 2  | Computational Complexity Theory  | OCIT02 | MOOC | B.Tech Regulation 2015 | IITK                  |
| 3  | Computational Geometry   | OCIT03 | MOOC | B.Tech Regulation 2015 | IITD                  |
| 4  | Computer Vision and Image Processing - fundamentals and applications                           | OCIT04 | MOOC | B.Tech Regulation 2015 | IITG                  |
| 5  | Cryptography and Network Security  | OCIT05 | MOOC | B.Tech Regulation 2015 | IITKGP                |
| 6  | Data Analytics with Python   | OCIT06 | MOOC | B.Tech Regulation 2015 | IITR                  |
| 7  | Deep Learning  | OCIT07 | MOOC | B.Tech Regulation 2015 | IITKGP                |
| 8  | Deep Learning  | OCIT08 | MOOC | B.Tech Regulation 2015 | IITRPR                |
| 9  | Foundation of Cryptography   | OCIT09 | MOOC | B.Tech Regulation 2015 | IIT Bangalore         |
| 10 | GPU Architecture and Programming   | OCIT10 | MOOC | B.Tech Regulation 2015 | IITKGP                |
| 11 | Randomized methods in complexity   | OCIT11 | MOOC | B.Tech Regulation 2015 | IITK                  |
| 12 | Reinforcement Learning   | OCIT12 | MOOC | B.Tech Regulation 2015 | IITM                  |
| 13 | Machine Learning for Engineering and Science Applications                                      | OCIT13 | MOOC | B.Tech Regulation 2015 | IITM                  |
| 14 | Blockchain Architecture Design and Use Cases   | OCIT14 | MOOC | B.Tech Regulation 2015 | IITKGP                |
| 15 | Developing Android Apps with App Inventor  | OCIT15 | MOOC | B.Tech Regulation 2015 | HKUST                 |
| 16 | Programming in Java  | OCIT16 | MOOC | B.Tech Regulation 2015 | IITKGP                |
| 17 | Deep Learning for Visual Computing   | OCIT17 | MOOC | B.Tech Regulation 2015 | IITKGP                |
| 18 | Virtual Reality Engineering  | OCIT18 | MOOC | B.Tech Regulation 2015 | IITM                  |
| 19 | Business Analysis and Data Mining Modelling using R  | OCIT19 | MOOC | B.Tech Regulation 2015 | IITR                  |
| 20 | Introduction to Information Theory, Coding and Cryptography                                    | OCIT20 | MOOC | B.Tech Regulation 2015 | IITD                  |
| 21 | Artificial Intelligence Search Methods for Problem Solving                                     | OCIT21 | MOOC | B.Tech Regulation 2015 | IITM                  |
| 22 | Web Based Technologies and Multimedia Applications   | OCIT22 | MOOC | B.Tech Regulation 2015 | IGNOU                 |
| 23 | Web Content Management   | OCIT23 | MOOC | B.Tech Regulation 2015 | IGNOU                 |
| 24 | Essentials of Data Science With R Software - 1: Probability and Statistical Inference          | OCIT24 | MOOC | B.Tech Regulation 2015 | IITK                  |
| 25 | Essentials of Data Science With R Software - 2: Sampling Theory and Linear Regression Analysis | OCIT25 | MOOC | B.Tech Regulation 2015 | IITK                  |
| 26 | Information Security and Cyber Forensics   | OCIT26 | MOOC | B.Tech Regulation 2015 | DAVV Indore           |
| 27 | Introduction to Industry 4.0 and Industrial Internet of Things                                 | OCIT27 | MOOC | B.Tech Regulation 2015 | IITKGP                |
| 28 | Basics of High Performance Computing   | OCIT28 | MOOC | B.Tech Regulation 2015 | IIT Goa               |
| 29 | Introduction to Internet of Things   | OCIT29 | MOOC | B.Tech Regulation 2015 | IITKGP                |
| 30 | Social Networks  | OCIT30 | MOOC | B.Tech Regulation 2015 | IITM                  |
| 31 | Problem Solving, Python Programming, and Video Games   | OCIT31 | MOOC | B.Tech Regulation 2015 | University of Alberta |

### MULTI DISCIPLINARY(COMMON TO ALL BRANCHES)

|   |   |        |      |                        |        |
|---|---|--------|------|------------------------|--------|
| 1 | Non-Conventional Energy Resources           | OCMD01 | MOOC | B.Tech Regulation 2015 | IITM   |
| 2 | Bio-Informatics:Algorithms and Applications | OCMD02 | MOOC | B.Tech Regulation 2015 | IITM   |
| 3 | Aspects Of Biochemical Engineering          | OCMD03 | MOOC | B.Tech Regulation 2015 | IITKGP |

|    |   |        |      |                        |              |
|----|---|--------|------|------------------------|--------------|
| 4  | Chemistry Of Main Group Elements                                      | OCMD04 | MOOC | B.Tech Regulation 2015 | IITB         |
| 5  | Transition Metal Organometallic Chemistry: Principles To Applications | OCMD05 | MOOC | B.Tech Regulation 2015 | IITB         |
| 6  | A Study Guide In Organic Retrosynthesis: Problem Solving Approach     | OCMD06 | MOOC | B.Tech Regulation 2015 | IITKGP       |
| 7  | Thermodynamics Kinetics   | OCMD07 | MOOC | B.Tech Regulation 2015 | IISER Mohali |
| 8  | Biochemistry  | OCMD08 | MOOC | B.Tech Regulation 2015 | IITKGP       |
| 9  | Quantum Computing   | OCMD09 | MOOC | B.Tech Regulation 2015 | IITK         |
| 10 | Mineral Resources: Geology, Exploration, Economics And Environment    | OCMD10 | MOOC | B.Tech Regulation 2015 | IITKGP       |
| 11 | Introduction To Mineral Processing                                    | OCMD11 | MOOC | B.Tech Regulation 2015 | IITKGP       |
| 12 | An Introduction to Microeconomics                                     | OCMD12 | MOOC | B.Tech Regulation 2015 | IITK         |
| 13 | Sociological Perspectives on Modernity                                | OCMD13 | MOOC | B.Tech Regulation 2015 | IITG         |
| 14 | Introduction to Cognitive Psychology                                  | OCMD14 | MOOC | B.Tech Regulation 2015 | IITG         |
| 15 | Patent Law For Engineers And Scientists                               | OCMD15 | MOOC | B.Tech Regulation 2015 | IITM         |
| 16 | Better Spoken English   | OCMD16 | MOOC | B.Tech Regulation 2015 | IITM         |
| 17 | Numerical Linear Algebra  | OCMD17 | MOOC | B.Tech Regulation 2015 | IITR         |
| 18 | Chaotic Dynamical Systems   | OCMD18 | MOOC | B.Tech Regulation 2015 | IITD         |
| 19 | Stochastic Process  | OCMD19 | MOOC | B.Tech Regulation 2015 | IITD         |
| 20 | Rheology of Complex Materials   | OCMD20 | MOOC | B.Tech Regulation 2015 | IITM         |
| 21 | Virtual Reality Engineering   | OCMD21 | MOOC | B.Tech Regulation 2015 | IITM         |
| 22 | Computer Methods Of Structural Analysis of Offshore Structures        | OCMD22 | MOOC | B.Tech Regulation 2015 | IITM         |
| 23 | Water Economics And Governance  | OCMD23 | MOOC | B.Tech Regulation 2015 | IITKGP       |
| 24 | Reliability Of Offshore Structures                                    | OCMD24 | MOOC | B.Tech Regulation 2015 | IITM         |
| 25 | Atomic And Molecular Physics  | OCMD25 | MOOC | B.Tech Regulation 2015 | IITKGP       |
| 26 | Nuclear and Particle Physics  | OCMD26 | MOOC | B.Tech Regulation 2015 | IITG         |
| 27 | Semiconductor Optoelectronics   | OCMD27 | MOOC | B.Tech Regulation 2015 | IITD         |

### MECHANICAL ENGINEERING

|    |   |        |      |                        |                        |
|----|---|--------|------|------------------------|------------------------|
| 1  | Design And Analysis Of Experiments                | OCME01 | MOOC | B.Tech Regulation 2015 | IITKGP                 |
| 2  | Quality Design And Control                        | OCME02 | MOOC | B.Tech Regulation 2015 | IITKGP                 |
| 3  | Introduction to Materials Science and Engineering | OCME03 | MOOC | B.Tech Regulation 2015 | IITD                   |
| 4  | Introduction To Composites                        | OCME04 | MOOC | B.Tech Regulation 2015 | IITK                   |
| 5  | Manufacturing Process Technology I and II         | OCME05 | MOOC | B.Tech Regulation 2015 | IITK                   |
| 6  | Advanced Fluid Mechanics                          | OCME06 | MOOC | B.Tech Regulation 2015 | IITKGP                 |
| 7  | Introduction To Mechanical Micro Machining        | OCME07 | MOOC | B.Tech Regulation 2015 | IITKGP                 |
| 8  | Machinery Fault Diagnosis And Signal Processing   | OCME08 | MOOC | B.Tech Regulation 2015 | IITKGP                 |
| 9  | Fundamentals of Nuclear Power Generation          | OCME09 | MOOC | B.Tech Regulation 2015 | IITG                   |
| 10 | Spray Theory                                      | OCME10 | MOOC | B.Tech Regulation 2015 | IITM                   |
| 11 | Compliant Mechanisms:Principles and Design        | OCME11 | MOOC | B.Tech Regulation 2015 | IISc                   |
| 12 | Convective Heat Transfer                          | OCME12 | MOOC | B.Tech Regulation 2015 | IISc                   |
| 13 | Operations Management                             | OCME13 | MOOC | B.Tech Regulation 2015 | IITR                   |
| 14 | Theory of Production Processes                    | OCME14 | MOOC | B.Tech Regulation 2015 | IITR                   |
| 15 | Experimental Stress Analysis                      | OCME15 | MOOC | B.Tech Regulation 2015 | IITM                   |
| 16 | Physics Of Materials                              | OCME16 | MOOC | B.Tech Regulation 2015 | IITM                   |
| 17 | Material Characterization                         | OCME17 | MOOC | B.Tech Regulation 2015 | IITM                   |
| 18 | Industrial Safety Engineering                     | OCME18 | MOOC | B.Tech Regulation 2015 | IITKGP                 |
| 19 | The Finite Element Method for Problems in Physics | OCME19 | MOOC | B.Tech Regulation 2015 | University of Michigan |
| 20 | Product Design and Manufacturing                  | OCME20 | MOOC | B.Tech Regulation 2015 | IITK                   |

|    |  |        |      |                        |                              |
|----|--|--------|------|------------------------|------------------------------|
| 21 | Energy Conservation and Waste Heat Recovery                                    | OCME21 | MOOC | B.Tech Regulation 2015 | IITKGP                       |
| 22 | Mechanics of Human Movement  | OCME22 | MOOC | B.Tech Regulation 2015 | IITM                         |
| 23 | Work System Design   | OCME23 | MOOC | B.Tech Regulation 2015 | IITR                         |
| 24 | Fundamentals of Surface Engineering:Mechanisms,Processes and Characterizations | OCME24 | MOOC | B.Tech Regulation 2015 | IITR                         |
| 25 | Principles of mechanical measurement   | OCME25 | MOOC | B.Tech Regulation 2015 | IITG                         |
| 26 | Conduction and convection heat transfer  | OCME26 | MOOC | B.Tech Regulation 2015 | IITKGP                       |
| 27 | IC Engines and Gas turbines  | OCME27 | MOOC | B.Tech Regulation 2015 | IITG                         |
| 28 | Rapid manufacturing  | OCME28 | MOOC | B.Tech Regulation 2015 | IITK                         |
| 29 | Computational fluid mechanics  | OCME29 | MOOC | B.Tech Regulation 2015 | IITKGP                       |
| 30 | Fundamentals of manufacturing processes  | OCME30 | MOOC | B.Tech Regulation 2015 | IITR                         |
| 31 | Advanced composites  | OCME31 | MOOC | B.Tech Regulation 2015 | IITK                         |
| 32 | Engineering metrology  | OCME32 | MOOC | B.Tech Regulation 2015 | IITK                         |
| 33 | Noise management and control   | OCME33 | MOOC | B.Tech Regulation 2015 | IITK                         |
| 34 | Engineering Fracture Mechanics   | OCME34 | MOOC | B.Tech Regulation 2015 | IITM                         |
| 35 | Manufacturing Systems Technology i and ii                                      | OCME35 | MOOC | B.Tech Regulation 2015 | IITK                         |
| 36 | Introduction to Haptics  | OCME36 | MOOC | B.Tech Regulation 2015 | Stanford University          |
| 37 | Data Science: Machine Learning   | OCME37 | MOOC | B.Tech Regulation 2015 | Harvard University           |
| 38 | Computational Fluid Dynamics   | OCME38 | MOOC | B.Tech Regulation 2015 | IITM                         |
| 39 | Machine Learning for Science and Engineering Applications                      | OCME39 | MOOC | B.Tech Regulation 2015 | IITM                         |
| 40 | Aircraft Design  | OCME40 | MOOC | B.Tech Regulation 2015 | IITK                         |
| 41 | Fundamentals of Automotive Systems   | OCME41 | MOOC | B.Tech Regulation 2015 | IITM                         |
| 42 | E-Business   | OCME42 | MOOC | B.Tech Regulation 2015 | IITKGP                       |
| 43 | Manufacturing Systems Technology I and II                                      | OCME43 | MOOC | B.Tech Regulation 2015 | IITK                         |
| 44 | Fundamental of Automotive Systems  | OCME44 | MOOC | B.Tech Regulation 2015 | IITM                         |
| 45 | Space Flight Mechanics   | OCME45 | MOOC | B.Tech Regulation 2015 | IITKGP                       |
| 46 | Introduction to CFD  | OCME46 | MOOC | B.Tech Regulation 2015 | IITKGP                       |
| 47 | Fundamentals of Combustion   | OCME47 | MOOC | B.Tech Regulation 2015 | IITM                         |
| 48 | Rocket Propulsion  | OCME48 | MOOC | B.Tech Regulation 2015 | IITM                         |
| 49 | Aircraft Propulsion  | OCME49 | MOOC | B.Tech Regulation 2015 | IITG                         |
| 50 | Computational I Fluid Dynamics For Incompressible Flows                        | OCME50 | MOOC | B.Tech Regulation 2015 | IITG                         |
| 51 | Financial Mathematics  | OCME51 | MOOC | B.Tech Regulation 2015 | IITR                         |
| 52 | Introduction to Internet of Things   | OCME52 | MOOC | B.Tech Regulation 2015 | IITKGP                       |
| 53 | The joy of computing using Python  | OCME53 | MOOC | B.Tech Regulation 2015 | IITRPR                       |
| 54 | Automation in Manufacturing  | OCME54 | MOOC | B.Tech Regulation 2015 | IITG                         |
| 55 | Welding Processes  | OCME55 | MOOC | B.Tech Regulation 2015 | IITM                         |
| 56 | CAD and Digital Manufacturing Specialization                                   | OCME56 | MOOC | B.Tech Regulation 2015 | Autodesk                     |
| 57 | Engineering Project Management Specialization                                  | OCME57 | MOOC | B.Tech Regulation 2015 | Rice University              |
| 58 | Six Sigma Yellow belt Specialization   | OCME58 | MOOC | B.Tech Regulation 2015 | University System of Georgia |
| 59 | Material Science   | OCME59 | MOOC | B.Tech Regulation 2015 | IGNOU                        |
| 60 | Quality Engineering and Management   | OCME60 | MOOC | B.Tech Regulation 2015 | IGNOU                        |
| 61 | Introduction to Air Breathing Propulsion                                       | OCME61 | MOOC | B.Tech Regulation 2015 | IITK                         |
| 62 | Engineering Meterology   | OCME62 | MOOC | B.Tech Regulation 2015 | IIT Roorkee                  |
| 63 | Heat Transfer  | OCME63 | MOOC | B.Tech Regulation 2015 | IIT Kharagpur                |
| 64 | Introduction to Robotics   | OCME64 | MOOC | B.Tech Regulation 2015 | IIT Kanpur                   |

|   |  |        |      |                        |               |
|---|--|--------|------|------------------------|---------------|
| 65  | Introduction to Industry 4.0 and Industrial Internet of Things                   | OCME65 | MOOC | B.Tech Regulation 2015 | IIT Kharagpur |
| <b>MANAGEMENT(COMMON TO ALL BRANCHES)</b> |  |        |      |                        |               |
| 1   | Business Analytics For Management Decision                                       | OCMG01 | MOOC | B.Tech Regulation 2015 | IITKGP        |
| 2   | Soft Skills For Business Negotiations And Marketing Strategies                   | OCMG02 | MOOC | B.Tech Regulation 2015 | IITKGP        |
| 3   | Business analysis and data mining Modeling using R                               | OCMG03 | MOOC | B.Tech Regulation 2015 | IITR          |
| 4   | Financial Statement Analysis and Reporting                                       | OCMG04 | MOOC | B.Tech Regulation 2015 | IITR          |
| 5   | Six Sigma  | OCMG05 | MOOC | B.Tech Regulation 2015 | IITKGP        |
| <b>MECHANICAL PRODUCTION ENGINEERING</b>  |  |        |      |                        |               |
| 1   | Fundamentals of Artificial Intelligence  | OCMP01 | MOOC | B.Tech Regulation 2015 | IITG          |
| 2   | Management of Inventory Systems  | OCMP02 | MOOC | B.Tech Regulation 2015 | IITKGP        |
| 3   | Product Design and Manufacturing   | OCMP03 | MOOC | B.Tech Regulation 2015 | IITK          |
| 4   | Six Sigma  | OCMP04 | MOOC | B.Tech Regulation 2015 | IITKGP        |
| 5   | Operations and Supply Chain Management   | OCMP05 | MOOC | B.Tech Regulation 2015 | IITM          |
| 6   | Quality Design and Control   | OCMP06 | MOOC | B.Tech Regulation 2015 | IITKGP        |
| 7   | Advanced Green Manufacturing Systems   | OCMP07 | MOOC | B.Tech Regulation 2015 | IITK          |
| 8   | Rapid Manufacturing  | OCMP08 | MOOC | B.Tech Regulation 2015 | IITK          |
| 9   | Fundamentals of Manufacturing Processes  | OCMP09 | MOOC | B.Tech Regulation 2015 | IITR          |
| 10  | Manufacturing Process Technology I and II  | OCMP10 | MOOC | B.Tech Regulation 2015 | IITK          |
| 11  | Introduction To Mechanical Micromachining  | OCMP11 | MOOC | B.Tech Regulation 2015 | IITKGP        |
| 12  | Principles of Mechanical Measurement   | OCMP12 | MOOC | B.Tech Regulation 2015 | IITG          |
| 13  | IC Engines and Gas Turbines  | OCMP13 | MOOC | B.Tech Regulation 2015 | IITG          |
| 14  | Advanced Fluid Mechanics   | OCMP14 | MOOC | B.Tech Regulation 2015 | IITKGP        |
| 15  | Fundamentals of Surface Engineering: Mechanisms, Processes and Characterizations | OCMP15 | MOOC | B.Tech Regulation 2015 | IITR          |
| <b>MECHATRONICS</b>                       |  |        |      |                        |               |
| 1   | Programming in Java  | OCMR01 | MOOC | B.Tech Regulation 2015 | IITKGP        |
| 2   | Joy of Computing using Python  | OCMR02 | MOOC | B.Tech Regulation 2015 | IITRPR        |
| 3   | Introduction to Internet of Things   | OCMR03 | MOOC | B.Tech Regulation 2015 | IITKGP        |
| 4   | Introduction to Industry 4.0 and Industrial Internet of Things                   | OCMR04 | MOOC | B.Tech Regulation 2015 | IITKGP        |
| 5   | Machine Learning for Engineering and Science Applications                        | OCMR05 | MOOC | B.Tech Regulation 2015 | IITM          |
| 6   | Social Networks  | OCMR06 | MOOC | B.Tech Regulation 2015 | IITRPR        |
| 7   | Embedded Systems Design  | OCMR07 | MOOC | B.Tech Regulation 2015 | IITKGP        |
| 8   | Introduction to Machine Learning   | OCMR08 | MOOC | B.Tech Regulation 2015 | IITM          |
| 9   | Industrial Automation And Control  | OCMR09 | MOOC | B.Tech Regulation 2015 | IITKGP        |
| 10  | Advanced Concepts in Fluid mechanics   | OCMR10 | MOOC | B.Tech Regulation 2015 | IITKGP        |
| 11  | Non-Conventional Energy Resources  | OCMR11 | MOOC | B.Tech Regulation 2015 | IITM          |
| 12  | Patent Law For Engineers And Scientists  | OCMR12 | MOOC | B.Tech Regulation 2015 | IITM          |
| 13  | Virtual Reality Engineering  | OCMR13 | MOOC | B.Tech Regulation 2015 | IITM          |
| 14  | Developing Android Apps with App Inventor  | OCMR14 | MOOC | B.Tech Regulation 2015 | HKUST         |
| 15  | IC Engines and Gas Turbains  | OCMR15 | MOOC | B.Tech Regulation 2015 | IITG          |
| <b>PRODUCTION ENGINEERING</b>             |  |        |      |                        |               |
| 1   | Fundamentals of Artificial Intelligence  | OCPE01 | MOOC | B.Tech Regulation 2015 | IITG          |
| 2   | Operations And Supply Chain Management   | OCPE02 | MOOC | B.Tech Regulation 2015 | IITM          |
| 3   | Management Of Inventory Systems  | OCPE03 | MOOC | B.Tech Regulation 2015 | IITKGP        |
| 4   | Advanced Green Manufacturing Systems   | OCPE04 | MOOC | B.Tech Regulation 2015 | IITK          |

|    |   |        |      |                        |        |
|----|---|--------|------|------------------------|--------|
| 5  | Six Sigma   | OCPE05 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 6  | Product Design And Manufacturing  | OCPE06 | MOOC | B.Tech Regulation 2015 | IITK   |
| 7  | Introduction to Internet of Things                                      | OCPE07 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 8  | Introduction to Industry 4.0 and Industrial Internet of Things          | OCPE08 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 9  | Introduction to Machine Learning  | OCPE09 | MOOC | B.Tech Regulation 2015 | IITM   |
| 10 | Machine Learning for Engineering and Science Applications               | OCPE10 | MOOC | B.Tech Regulation 2015 | IITM   |
| 11 | Data Analytics with Python  | OCPE11 | MOOC | B.Tech Regulation 2015 | IITR   |
| 12 | Business Analytics and Data Mining Modelling using R                    | OCPE12 | MOOC | B.Tech Regulation 2015 | IITR   |
| 13 | Rapid Manufacturing   | OCPE13 | MOOC | B.Tech Regulation 2015 | IITK   |
| 14 | Introduction to Composites  | OCPE14 | MOOC | B.Tech Regulation 2015 | IITK   |
| 15 | Human Resource Development  | OCPE15 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 16 | Work System and Design  | OCPE16 | MOOC | B.Tech Regulation 2015 | IITR   |
| 17 | Thermal Operations in Food Process Engineering: Theory and Applications | OCPE17 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 18 | Industrial Safety Engineering   | OCPE18 | MOOC | B.Tech Regulation 2015 | IITKGP |

### NAVAL ARCHITECTURE AND SHIP BUIDING

|    |   |        |      |                        |        |
|----|---|--------|------|------------------------|--------|
| 1  | Offshore Structures under Special Environmental Loads including Fire Resistance | OCSB01 | MOOC | B.Tech Regulation 2015 | IITM   |
| 2  | Dynamics of Offshore Structures   | OCSB02 | MOOC | B.Tech Regulation 2015 | IITM   |
| 3  | Computer Methods of Structural Analysis of Offshore Structures                  | OCSB03 | MOOC | B.Tech Regulation 2015 | IITM   |
| 4  | Finite Element Method: Variational methods to Computer Programming              | OCSB04 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 5  | Advanced Fluid Mechanics  | OCSB05 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 6  | Design of Steel Structures  | OCSB06 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 7  | Aqueous Corrosion and its Control   | OCSB07 | MOOC | B.Tech Regulation 2015 | IITB   |
| 8  | Numerical Methods for Engineers   | OCSB08 | MOOC | B.Tech Regulation 2015 | IITM   |
| 9  | Introduction to CFD   | OCSB09 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 10 | Computer methods of structural analysis of offshore structures                  | OCSB10 | MOOC | B.Tech Regulation 2015 | IITM   |
| 11 | Water economics and governance  | OCSB11 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 12 | Reliability of offshore structures  | OCSB12 | MOOC | B.Tech Regulation 2015 | IITM   |
| 13 | Advanced Fluid Mechanics  | OCSB13 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 14 | Introduction to Internet of Things  | OCSB14 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 15 | Introduction to Machine learning  | OCSB15 | MOOC | B.Tech Regulation 2015 | IITM   |
| 16 | Industrial automation and control   | OCSB16 | MOOC | B.Tech Regulation 2015 | IITKGP |
| 17 | Introduction to composites  | OCSB17 | MOOC | B.Tech Regulation 2015 | IITK   |