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### EXPERIENTIAL LEARNING COURSES

#### **B.TECH – CIVIL ENGINEERING** NAME OF THE COURSE S.NO 1 IT Workshop 2 Engineering Physics Lab 3 Electrical & Electronics Engineering Workshop 4 Computer Programming Lab NSS/NCC/Scouts & Guides/Community Service 5 6 Communicative English Lab Engineering Chemistry / Chemistry / Fundamental Chemistry Lab 7 8 Engineering Workshop 9 Engineering Mechanics & Building Practices Lab/ Engineering Mechanics Lab/Network Analysis Lab/ Data structures Lab 10 Health and wellness, Yoga and Sports 11 Concrete Technology Lab 12 Highway Engineering Lab 13 Surveying Field Work – I (Lab) Skill oriented course\* 14 15 Environmental Engineering Lab 16 Strength of Material Lab Fluid Mechanics & Hydraulics Machinery Lab 17 18 Professional Core courses Lab Survey Camp (Field work) 19 Professional Core courses Lab (GEOTECHNICAL ENGINEERING LAB) Skill advanced course/ soft skill course\* Design of Special Structure, Chimney, 20 Hinge Tanks designs, spill ways etc., Professional Core courses Lab (ESTIMATION, COSTING AND CONTRACTS) 21 22 Professional Core courses Lab (REMOTE SENSING & GIS LAB) Professional Core courses Lab CIVIL ENGINEERING PRACTICE 23 24 Skill advanced course/ soft skill course\* **Computational Tools** Industrial/Research Internship (Mandatory) 2 Months 25 Skill advanced course/ soft skill course\* Project planning, town planning, 26 Industrial/Research Internship 2 Months (Mandatory) after third year (to be 27 evaluated during VII semester) 28 Major Project

#### M.TECH-STRUCTURAL ENGINEERING

| S.NO | NAME OF THE COURSE  |
|------|---|
| 1    | Advanced Concrete Technology Laboratory                       |
| 2    | Advanced Structural Engineering Laboratory                    |
| 3    | Computer Aided Design Laboratory                              |
| 4    | Structural Design laboratory                                  |
| 5    | Dissertation Phase-I / Project                                |
| 6    | Project / Dissertation Phase II (Continued from III Semester) |



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### B.TECH-ELECTRICAL AND ELECTRONICS ENGINEERING

| S.NO | NAME OF THE COURSE   |
|------|--|
| 1    | Communicative English Lab  |
| 2    | Engineering Chemistry/ Chemistry/Fundamental Chemistry Lab                                   |
| 3    | Engineering Workshop   |
| 4    | Computer Programming Lab   |
| 5    | Health and wellness, Yoga and Sports   |
| 6    | Engineering Physics Lab  |
| 7    | Electrical and Electronics Engineering Workshop  |
| 8    | Data Structures Lab / Electrical Circuit Analysis – I Lab                                    |
| 9    | NSS/NCC/Scouts & Guides/Community Service  |
| 10   | Electrical Circuits Lab  |
| 11   | DC Machines and Transformers Lab   |
| 12   | Electronic Devices and Circuits lab  |
| 13   | Skill oriented course - Design of Electrical Circuits using Engineering Software             |
|      | Tools  |
| 14   | Python Programming Lab   |
| 15   | Induction and Synchronous Machines Lab   |
| 16   | Digital Electronics Lab  |
| 17   | Skill oriented course-   |
| 10   | IoT Applications of Electrical Engineering Lab   |
| 18   | Control Systems Lab  |
| 19   | Power Electronics Lab  |
| 20   | Soft Skill Course: Employability Skills  |
| 21   | Summer Internship 2 Months (Mandatory) after second year (to be evaluated during V semester) |
| 22   | Electrical Measurements and Instrumentation Lab  |
| 23   | Microprocessors and Microcontrollers Lab   |
| 24   | Power Systems and Simulation Lab   |
| 25   | Skill Advanced Course: Machine Learning with Python  |
| 26   | Skill Advanced Course Machine Learning with Python Lab                                       |
| 27   | Industrial/Research Internship 2 Months (Mandatory) after third year                         |
| 20   | (to be evaluated during VII Semester)  |
| 28   | Project work, seminar and internship in industry (6 Months)                                  |

### M.TECH- POWER ELECTRONICS AND ELECTRICAL DRIVES

| S.NO | NAME OF THE COURSE   |
|------|--|
| 1    | Power Electronics Simulation Laboratory                            |
| 2    | Power Converters Laboratory  |
| 3    | Electric Drives Simulation Laboratory                              |
| 4    | Electric Drives Laboratory   |
| 5    | Mini Project with Seminar  |
| 6    | Dissertation Phase-I (to be continued and evaluated next semester) |
| 7    | Dissertation Phase-II  |
|      | (continued from III semester)                                      |



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### **B.TECH-MECHANICAL ENGINEERING**

| S.NO | NAME OF THE COURSE   |
|------|--|
| 1    | IT Workshop  |
| 2    | Engineering Physics Lab  |
| 3    | Electrical & Electronics Engineering Workshop                          |
| 4    | Computer Programming Lab   |
| 5    | NSS/NCC/Scouts &<br>Guides/Community Service                           |
| 6    | Communicative English Lab  |
| 7    | Engineering Chemistry / Chemistry / Fundamental Chemistry Lab          |
| 8    | Engineering Workshop   |
| 9    | Engineering Mechanics & Building Practices Lab                         |
|      | Engineering Mechanics Lab/Network Analysis Lab/<br>Data structures Lab |
| 10   | Health and wellness, Yoga and Sports                                   |
| 11   | Computer Aided Engineering Drawing Practice                            |
| 12   | Fluid Mechanics & Hydraulic Machines Lab                               |
| 13   | Production Technology Lab  |
| 14   | Drafting and Modeling Lab  |
| 15   | Mechanics of Solids and Metallurgy Lab                                 |
| 16   | Machine Drawing Practice   |
| 17   | Theory of Machines Lab   |
| 18   | Python Programming Lab   |
| 19   | Machine Tools Lab  |
| 20   | Thermal Engineering Lab  |
| 21   | Advanced Communication Skills Lab                                      |
| 22   | Heat Transfer Lab  |
| 23   | CAE&CAM Lab  |
| 24   | Measurements & Metrology Lab   |
| 25   | Artificial Intelligence and Machine Learning Lab                       |
| 26   | Mechatronics Lab   |
| 27   | Project work*  |

#### M.TECH-MACHINE DESIGN

| S.NO | NAME OF THE COURSE            |  |
|------|-------------------------------|--|
| 1    | Machine Dynamics Lab          |  |
| 2    | Design Practice Lab-I         |  |
| 3    | Computational Mathematics Lab |  |
| 4    | Design Practice Lab-II        |  |
| 5    | Mini Project with Seminar     |  |
| 6    | Dissertation Phase -I         |  |
| 7    | Dissertation Phase -II        |  |



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#### B.TECH-ELECTRONICS AND COMMUNICATION ENGINEERING

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|--------|--|--|--|
| S.NO   | NAME OF THE COURSE   |  |  |
| 1      | IT Workshop  |  |  |
| 2      | Engineering Physics Lab  |  |  |
| 3      | Electrical & Electronics Engineering Workshop  |  |  |
| 4      | Computer Programming Lab   |  |  |
| 5      | NSS/NCC/Scouts &<br>Guides/Community Service   |  |  |
| 6      | Communicative English Lab  |  |  |
| 7      | Engineering Chemistry / Chemistry / Fundamental Chemistry Lab  |  |  |
| 8      | Engineering Workshop   |  |  |
| 9      | Engineering Workshop<br>Engineering Mechanics & Building Practices Lab/ Engineering Mechanics Lab/Network Analysis Lab/<br>Data structures Lab               |  |  |
| 10     | Health and wellness, Yoga and Sports   |  |  |
| 11     | OOPS through Java Lab  |  |  |
| 12     | Electronic Devices and Circuits -Lab   |  |  |
| 13     | Switching Theory and Logic Design–Lab  |  |  |
| 14     | Python Programming   |  |  |
| 15     | Electronic Circuit Analysis Lab  |  |  |
| 16     | Analog Communications Lab  |  |  |
| 17     | Digital IC Design Lab  |  |  |
| 18     | Soft Skills  |  |  |
| 19     | Analog ICs and Applications LAB  |  |  |
| 20     | Digital Communications Lab   |  |  |
| 21     | Data Structures using Java Lab   |  |  |
| 22     | Microprocessor and Microcontrollers - Lab  |  |  |
| 23     | VLSI Design Lab  |  |  |
| 24     | Digital Signal Processing Lab  |  |  |
| 25     | ARM based/ Aurdino based Programming   |  |  |
| 26     | Designer tools (HFSS, Microwave Studio CST. Cadence Virtuoso. Synopsys,  |  |  |
|        | Mentor Graphics, Xilinx.)  |  |  |
| 27     | Industrial/Research Internship 2 Months (Mandatory) after third year (to be evaluated during VII semester  |  |  |
| 28     | Project work, seminar and internship inindustry  |  |  |
| M.TECH | -EMBEDDED SYSTEM   |  |  |
| S.NO   | NAME OF THE COURSE   |  |  |
| 1      | Embedded System Design Lab(using Embedded-C)   |  |  |
| 2      | Microcontrollers and Programmable  |  |  |
| 2      | Digital Signal Processors Lab  |  |  |
| 3      | Real Time Operating Systems Lab  |  |  |
| 4      | Digital System Design Lab  |  |  |
| 5      | Mini Project - Dissertation Phase -I /Industrial Project to be continued and evaluated next<br>Project / Dissertation Phase II (continued from III semaster) |  |  |
| 6      | Project/ Dissertation Phase-II (continued from III semester)   |  |  |



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### B.TECH-COMPUTER SCIENCE ENGINEERING

| -        |   |  |  |
|----------|---|--|--|
| S.NO     | NAME OF THE COURSE  |  |  |
| 1        | Communicative English Lab   |  |  |
| 2        | Engineering Chemistry/ Chemistry/Fundamental Chemistry Lab                    |  |  |
| 3        | Engineering Workshop  |  |  |
| 4        | Computer Programming Lab  |  |  |
| 5        | Health and wellness, Yoga and Sports  |  |  |
| 6        | Engineering Physics Lab   |  |  |
| 7        | Electrical and Electronics Engineering Workshop                               |  |  |
| 8        | Data Structures Lab / Electrical Circuit Analysis – I Lab                     |  |  |
| 9        | NSS/NCC/Scouts & Guides/Community Service                                     |  |  |
| 10       | Object Oriented Programming through C++ Lab                                   |  |  |
| 11       | Operating Systems Lab   |  |  |
| 12       | Software Engineering Lab  |  |  |
| 13       | Skill oriented Course - I   |  |  |
|          | 1) Applications of Python - Num Py  |  |  |
|          | 2) Web Application Development Using FullStack - Frontend Development –       |  |  |
|          | Module -I   |  |  |
| 14       | Database Management Systems Lab   |  |  |
| 15       | R Programming Lab   |  |  |
| 16       | Java Programming Lab  |  |  |
| 17       | Skill Oriented Course - II  |  |  |
|          | 1) Applications of Python-Pandas OR   |  |  |
|          | 2) Web Application Development Using  |  |  |
|          | Full Stack -Frontend Development –Module-II                                   |  |  |
| 18       | Data Warehousing and Data Mining Lab  |  |  |
| 19       | Computer Networks Lab   |  |  |
| 20       | Skill Oriented Course - III   |  |  |
|          | 1. Animation course: Animation Design 2.Continuous Integration and Continuous |  |  |
| - 21     | Delivery using Dev Ops  |  |  |
| 21       | Summer Internship 2 Months (Mandatory) after second year (to be               |  |  |
| 22       | evaluated during V semester   |  |  |
|          | Machine Learning using Python Lab<br>Compiler Design Lab                      |  |  |
| 23<br>24 | Compiler Design Lab<br>Cryptography and Network Security Lab                  |  |  |
| 24       | Skill Oriented Course - IV  |  |  |
| 23       | 1. Big Data:Spark   |  |  |
|          | 2. MEAN Stack Technologies- Module I- MongoDB, Express.js, Angular JS         |  |  |
|          | Node.js and AJAX  |  |  |
| 26       | 1. PYTHON: Deep Learning /APSSDC offered Courses                              |  |  |
| 20       | 2. MEAN Stack Technologies-Module II- MongoDB, Express.js, Angular JS         |  |  |
|          | Node.js, and AJAX   |  |  |
| 27       | Industrial/Research Internship 2 months (Mandatory) after third year (to be   |  |  |
| 21       | evaluated during VII semester   |  |  |
| 28       | Major Project Work, Seminar Internship  |  |  |
| 20       | major roject work, benning merisinp   |  |  |



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#### M.TECH-COMPUTER SCIENCE ENGINEERING

| S.NO | NAME OF THE COURSE                        |
|------|---|
| 1    | Advanced Data Structures & Algorithms Lab |
| 2    | Advanced Computing Lab                    |
| 3    | Machine Learning with python lab          |
| 4    | MEAN Stack Technologies Lab               |
| 5    | Dissertation-I/ Industrial Project        |
| 6    | Dissertation-II                           |

### **B.TECH-AGRICULTURAL ENGINEERING**

| S.NO | NAME OF THE COURSE   |  |
|------|--|--|
| 1    | Communicative English Lab  |  |
| 2    | Engineering Chemistry / Chemistry / Fundamental Chemistry Lab  |  |
| 3    | Engineering Workshop   |  |
| 4    | Engineering Mechanics & Building Practices Lab   |  |
|      | Engineering Mechanics Lab/Network Analysis Lab/  |  |
| ~    | Data structures Lab  |  |
| 5    | Health and wellness, Yoga and Sports   |  |
| 6    | Surveying and Leveling Lab   |  |
| 7    | Fluid Mechanics and Open Channel Hydraulics Lab  |  |
| 8    | Field Operation and Maintenance of Tractors Lab  |  |
| 9    | Agricultural Machinery Design using CAD/CAM Skill Oriented Course (Lab)                                    |  |
| 10   | Heat and Mass Transfer Lab   |  |
| 11   | Theory of Structures Lab   |  |
| 12   | Soil Mechanics Lab   |  |
| 13   | Analysis/Simulation using MATLABSkill Oriented Course (Lab)  |  |
| 14   | Industrial/Research Internship (Mandatory) 2 Monthsto be evaluated in III year                             |  |
|      | I semester   |  |
| 15   | Theory of Machines Lab   |  |
| 16   | Electrical Circuits Lab  |  |
| 17   | Advanced Communication Skills Lab  |  |
| 18   | Summer Internship 2 Months (Mandatory) after second year (to be evaluated during V semester)               |  |
| 19   | Soil and Water Conservation Engineering Lab  |  |
| 20   | Farm Machinery and Equipment Lab   |  |
| 21   | Agricultural Process Engineering Lab   |  |
| 22   | Computational Fluid Dynamics with FLUENT   |  |
| 23   | Industrial/Research Internship 2 Months (Mandatory) after third year (to be evaluated during VII semester) |  |
| 24   | Major Project  |  |





### MBA-MASTER OF BUSINESS ADMINISTRATION

| S.NO | NAME OF THE COURSE                 |   |
|------|------------------------------------|---|
| 1    | IT – LAB                           |   |
| 2    | Mini Project                       | - |
| 3    | - Project                          |   |
| 4    | Major Project & Comprehensive Viva |   |

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