

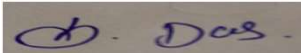


UTKAL INSTITUTE OF ENGINEERING & TECHNOLOGY

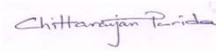
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| 'DISCIPLINE: | SEMESTER: | NAME OF THE TEACHING FACULTY: ER.SUJIT KUMAR | | |
| Mechanical Engineering | 5th Sem | | | |
| SUBJECT: | No of Days/Per week class allotted: 4 | Semester From Date:15/09/2022 | | |
| | Class P/W(60) | To Date:22/12/2022 | | |
| MECHATRONICS | | | | |
| | | | | |
| WEEK | CLASS DAY | THEORY | REMARKS | |
| 1 st | 1 st | Definition of Mechatronics | Date | Dean/Principal |
| | 2 nd | Advantages & disadvantages of Mechatronics , Application of Mechatronics | | |
| | 3 rd | Scope of Mechatronics in Industrial Sector | | |
| | 4 th | Components of a Mechatronics System | | |
| 2 nd | 1 st | Importance of mechatronics in automation | | |
| | 2 nd | Defination of Transducers,Classification of Transducers | | |
| | 3 rd | Electromechanical Transducers | | |
| | 4 th | Transducers Actuating Mechanisms | | |
| 3 rd | 1 st | Displacement & Positions Sensors | | |
| | 2 nd | Velocity, motion, force and pressure sensors. | | |
| | 3 rd | Temperature and light sensors. | | |
| | 4 th | Doubt clear class revision of previous class. | | |
| 4 th | 1 st | Mechanical Actuators | | |
| | 2 nd | Machine, Kinematic Link, Kinematic Pair | | |

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| | 3 rd | Assignment | | |
| | 4 th | Assignment question discussion | | |
| 5 th | 1 st | Mechanism, Slider crank Mechanism | | |
| | 2 nd | Gear Drive, Spur gear, Bevel gear, Helical gear, worm gear | | |
| | 3 rd | Belt & Belt drive | | |
| | 4 th | Bearings | | |
| 6 th | 1 st | Electrical Actuator | | |
| | 2 nd | Switches and relay | | |
| | 3 rd | Solenoid , D.C Motors , A.C Motors | | |
| | 4 th | Stepper Motors , Specification and control of stepper motors | | |
| 7 th | 1 st | Doubt clear class revision of previous class. | | |
| | 2 nd | Servo Motors D.C & A.C | | |
| | 3 rd | PROGRAMMABLE LOGIC CONTROLLERS(PLC):Introduction | | |
| | 4 th | Advantages of PLC , Selection and uses of PLC | | |
| 8 th | 1 st | Architecture basic internal structures | | |
| | 2 nd | Input/output Processing and Programming | | |
| | 3 rd | Mnemonics | | |
| | 4 th | Master and Jump Controllers | | |
| 9 th | 1 st | Introduction to Numerical Control of machines and CAD/CAM | | |
| | 2 nd | NC machines , CNC machines | | |
| | 3 rd | Notebook check and class test | | |
| | 4 th | .CAD/CAM | | |
| 10 th | 1 st | Software and hardware for CAD/CAM | | |
| | 2 nd | Functioning of CAD/CAM system , Features and characteristics of CAD/CAM system | | |
| | 3 rd | Application areas for CAD/CAM:Introduction | | |
| | 4 th | Machine Structure | | |
| 11 th | 1 st | Guideways/Slide ways | | |
| | 2 nd | Introduction and Types of Guideways | | |
| | 3 rd | Factors of design of guideways | | |
| | 4 th | Spindle drives | | |

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| 12 th | 1 st | Feed drive | | |
| | 2 nd | Spindle and Spindle Bearings | | |
| | 3 rd | Definition, Function and laws of robotics | | |
| | 4 th | Assignment | | |
| 13 th | 1 st | Assignment question discussion | | |
| | 2 nd | Class Test | | |
| | 3 rd | Doubt clear class revision of previous class. | | |
| | 4 th | Types of industrial robots | | |
| 14 th | 1 st | Robotic systems | | |
| | 2 nd | Previous year question discussion | | |
| | 3 rd | Advantages and Disadvantages of robots | | |
| | 4 th | Doubt clear class revision of previous class. | | |
| 15 th | 1 st | Class Test | | |
| | 2 nd | Assignment | | |
| | 3 rd | Revision Last Class | | |
| | 4 th | Sample paper question Discussion | | |



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