**19ME12P2-COMPUTER AIDED ENGINEERING DRAWING LABORATORY-1I**

**(Common to ME and Civil)**

I B.Tech II Semester

(With effect from 2019-20)

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| Course Category | Engineering Science | Credits | 1.5 |
| Course type | Practical | Lecture- Tutorial-Practical | 0-0-3 |
| Prerequisite | Geometrical Construction | **Sessional Evaluation:****External Exam Evaluation:****Total Marks:****External Exam Duration:** | 40601003 hrs.  |

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| **Course** | **Marks** | **Examination and Evaluation** | **Scheme of examination** |
| **Computer Aided Engineering Drawing** | 60 | Semester end Examination for 3 hours duration in the CAD Laboratory | 60 marks are allotted for the drawing examination during semester end. |
| 40 | 20 | Day-to-Day evaluation during the practice.  | Marks are evaluated based on average performance of student in day-to-day exercises and finalized for 20 marks |
| 20 | Drawing examination  | Two drawing examinations are conducted for 20 marks. 80% of better one and 20% of the other are added and finalized for 20 marks. Drawing examination-I: Shall be conducted just before I mid-term examinations. Drawing examination-II: Shall be conducted just before II mid-term examinations. |
| **Course Objectives** | Students are made to understand / learn * To enable the students with various concepts like dimensioning, construction of conic sections, polygons, cycloids and involutes.
* To impart and inculcate proper understanding of AutoCAD fundamentals.
* To apply the knowledge of AutoCAD for the projections of points, lines and solids.
* To know about sections and developments of solids.
* To improve the visualization skills with isometric projections.
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| **Course Outcomes** | At the end of the course, the student will be able to |
| CO1 | Sketch the solutions to the problems on projection of solids and sections of solids |
| CO2 | Understand the development of surfaces |
| CO3  | Demonstrate orthographic and Isometric principles  |
| CO4 | Understand and apply the knowledge of engineering drawing in modern CAD tools. |
| **Course Content** | **PROJECTIONS OF SOLIDS:****Projections of Solids:** Solids such as Prisms, Pyramids, Cylinders and Cones inclined to both the principal plane.**SECTIONS OF SOLIDS:** **Sections of Solids:** Solids such as Prisms, Pyramids, Cylinders and Cones resting on their bases on HP.**DEVELOPMENT OF SURFACES.****Development of Surfaces:** Lateral surfaces of solids such as Prisms, Pyramids, Cylinders and Cones (cut by a plane inclined to HP).ISOMETRIC VIEWS AND PROJECTIONS:Isometric views of planes and solids.Isometric scale, Isometric Projections of simple objects.**ORTHOGRAPHIC PROJECTIONS:**Conversion of Pictorial views into Orthographic Views. |
| **TEXT BOOKS** | 1. Engineering Drawing, N.D. Bhat / Charotar Publishing House,. Gujarat, 53rd edition, 2014.
2. AutoCAD 2 0 13 For Engineers and Designers, Sham Tickoo, Dream tech Press, 2013.
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| **REFERENCE BOOKS** | 1. Engineering Drawing And Graphics + Autocad, Venugopal K, New Age International Pvt. Ltd. New Delhi, 2007.
2. Engineering Graphics with Auto CAD, D.M. Kulkarni, A.P. Rastogi and A.K. Sarkar, PHI Learning Private Limited, Revised Edition, August 2010.
3. Engineering Drawing and Graphics Using Autocad, T Jeyapoovan, Vikas Publishing House, 3rd Edition, 2010.
4. A Textbook on Engineering Drawing, [P. Kannaiah](https://www.google.co.in/search?tbo=p&tbm=bks&q=inauthor:%22P.+Kannaiah%22), [K. L. Narayana](https://www.google.co.in/search?tbo=p&tbm=bks&q=inauthor:%22K.+L.+Narayana%22), [K. Venkata Reddy](https://www.google.co.in/search?tbo=p&tbm=bks&q=inauthor:%22K.+Venkata+Reddy%22), Radiant Publishing House, 2012.
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