**Lesson Plan**

Name of the Faculty : Mr. Sandeep Chhillar (Theory & Practical)

Discipline : Mechanical Engineering

Semester : 2nd

Subject : Engineering Graphics & Design (ESC-ME- 101G)

Lesson Plan Duration : 15 Weeks (from Jan, 2019 to April, 2019)

\*\* Work Load (Lecture/Practical) per week (in hours): Lectures-01, Practicals-04(hours)

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| **Week** | **Theory** | | **Practical** | |
| **Lecture Day** | **Topic**  **(including assignment/test)** | **Practical day** | **Topic** |
| 1st | 1st | **Module 1: Introduction to Engineering Drawing**  Principles of Engineering Graphics and their significance | 1st | Sheet of Alphabet & lines tablets using  (2H(Light), HB(Write), 2B(Bold) |
| 2nd | usage of Drawing instruments,  lettering |
| 3rd | Conic sections including the Rectangular Hyperbola (General method only) |
| 4th | Cycloid, Epicycloid, Hypocycloid and Involute |
| 2nd | 5th | Scales – Plain, Diagonal and Vernier Scales. | 2nd | Sheet of projections of point |
| 6th | **Module 2: Orthographic Projections**  Principles of Orthographic Projections-Conventions |
| 7th | Projections of Points and lines inclined  to both planes |
| 8th | Projections of planes inclined Planes - Auxiliary Planes; |
| 3rd | 9th | **Module 3: Projections of Regular Solids**  Those inclined to both the Planes- Auxiliary Views | 3rd | Sheet of Projections of line. |
| 10th | Draw simple annotation, dimensioning  and scale |
| 11th | Floor plans that include: windows, doors, and fixtures such as WC, bath, sink,  shower, etc. |
| 12th | **Module 4: Sections and Sectional Views of Right Angular Solids**  Prism, Cylinder, Pyramid, Cone – Auxiliary Views |
| 4th | 13th | Development of surfaces of Right  Regular Solids - Prism, Pyramid, Cylinder and Cone | 4th | Sheet of Projections of plane. |
| 14th | Draw the sectional orthographic views  of geometrical solids |
| 15th | objects from industry and dwellings (foundation to slab only) |
| 16th | **Module 5: Isometric Projections**  Principles of Isometric projection – Isometric Scale, Isometric Views, Conventions |
| 5th | 17th | Isometric Views of lines, Planes, Simple and compound Solids | 5th | Sheet of Projections of projection of solid. |
| 18th | Conversion of Isometric  Views to Orthographic Views and Vice-versa, Conventions; |
| 19th | **Module 6: Overview of Computer Graphics**  Listing the computer technologies that impact on graphical communication |
| 20th | Demonstrating  knowledge of the theory of CAD software [such as: The Menu System, Toolbars (Standard, Object  Properties, Draw, Modify and Dimension) |
| 6th | 21st | Drawing Area (Background, Crosshairs, Coordinate  System), Dialog boxes and windows | 6th | Sheet of Projections of sectioning of solid. |
| 22nd | Shortcut menus (Button Bars), The Command Line (where  applicable) |
| 23rd | The Status Bar, Different methods of zoom as used in CAD |
| 24th | Select and erase objects.;  Isometric Views of lines, Planes, Simple and compound Solids] |
| 7th | 25th | **Module 7: Annotations, l ayering & other functions**  Applying dimensions to objects, applying annotations to drawings; layers to create drawings | 7th | Sheet of Projections of development of solid. |
| 26th | orthographic projection techniques; Drawing sectional views of composite right regular geometric solids and project the true shape of the sectioned surface |
| 27th | Drawing annotation, Computer-aided design (CAD) Software modeling of parts and assemblies. |
| 28th | Drawing of Engineering objects like coupling, crankshaft and pulley. |
| 8th | 29th | **Module 8: Demonstration of a simple team design project that illustrates** Geometry and topology of engineered components | 8th | Sheet of Projections of sketch book  Isometric projections. |
| 30th | Applying colr coding according to building drawing practice |
| 31st | Drawing sectional elevation showing foundation to ceiling |
| 32nd | Introduction to Building  Information Modeling (BIM). |
| 9th | 33rd | Revision of syllabus | 9th | Basics of AUTO CAD commands |
| 34th | Revision of syllabus |
| 35th | Revision of syllabus |
| 36th | Revision of syllabus |
| 10th |  |  | 10th | Drawing of Coupling, Crankshaft and buildings. |