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| Name of faculty      | : Manjeet              |
| Discipline           | : Automobile Engg.     |
| Semester             | : 1st                  |
| Subject              | : Engineering Graphics |
| Lesson Plan Duration | : 16 Weeks             |

| Week | Theory      |   |
|------|-------------|---|
|      | Lecture Day | Topic   |
| 1st  | 1st         | <b>UNIT I : Introduction to Engineering Drawing and Graphics</b>  |
|      | 2nd         | Introduction to use and care of drawing instruments, drawing materials,   |
|      | 3rd         | layout and sizes of drawing sheets and drawing boards.  |
| 2nd  | 4th         | Symbols and conventions, Conventions of Engineering Materials   |
|      | 5th         | Sectional Breaks and Conventional lines.  |
|      | 6th         | Civil Engineering Sanitary fitting symbols  |
| 3rd  | 7th         | Electrical fitting symbols for domestic interior installations  |
|      | 8th         | Geometrical construction-geometrical figures such as triangles, rectangles, circles, ellipses and curves, hexagons,                                   |
|      | 9th         | pentagons bisecting a line and arc , division of line and circle with the help of drawing instruments.  |
| 4th  | 10th        | Technical Lettering of Alphabet and Numerals Definition and classification of lettering   |
|      | 11th        | Free hand (of height of 5,8,12 mm) and instrumental lettering (of height 20 to 35 mm) : upper case and lower case,                                    |
|      | 12th        | single and double stroke, vertical  |
| 5th  | 13th        | Free hand (of height of 5,8,12 mm) and instrumental lettering (of height 20 to 35 mm) : upper case and lower case, single and double stroke, vertical |
|      | 14th        | inclined (Gothic lettering) at 75 degree to horizontal and with suitable height to width ratio 7:4.   |

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|      | 15th | <b>Sessional test I</b>  |
| 6th  | 16th | <b>Dimensioning</b> Necessity of dimensioning, method and principles of dimensioning (mainly theoretical instructions).              |
|      | 17th | Dimensioning of overall sizes, circles, threaded holes, chamfered surfaces, angles, tapered surfaces, holes, equally spaced on P.C.D |
|      | 18th | countersunk holes, counter bored holes, cylindrical parts, narrow spaces and gaps, radii, curves and arches.                         |
| 7th  | 19th | <b>Scales</b> –Needs and importance (theoretical instructions), Type of scales   |
|      | 20th | Definition of Representative Fraction (R.F.) and Length of Scale.  |
|      | 21st | To draw/construct plain and diagonal scales.   |
| 8th  | 22nd | <b>UNIT II</b> Theory of orthographic projections (Elaborate theoretical instructions).  |
|      | 23rd | Three views of orthographic projections of different objects of given pictorial view of a block in 1st and 3rd angle.                |
|      | 24th | Projection of Points in different quadrant<br>Projection of Straight Line (1st angle)  |
| 9th  | 25th | <b>Sessional Test -2</b>   |
|      | 26th | Line perpendicular and inclined to any one of the references and parallel to another plane.  |
|      | 27th | circle and Hexagonal pentagon. Trace of planes (HT and VT).  |
| 10th | 28th | Projection of Plane – Different lamina like square rectangular, triangular   |
|      | 29th | Hexagonal pentagon. Trace of planes (HT and VT)  |
|      | 30th | Identification of surfaces.Importance and salient features   |
| 11th | 31st | <b>Sectioning:</b> Drawing of full section, half section, partial or broken out sections   |
|      | 32nd | Offset sections, revolved sections and removed sections (theoretical only)   |



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|      | 33rd | Orthographic sectional views of different objects.   |
| 12th | 34th | <b>UNIT III</b> Introduction of projection of right solids such as prism                     |
|      | 35th | pyramid (square, Pentagon, Hexagonal) cube, cone & cylinder                                  |
|      | 36th | Introduction of sections of right solids - Section planes, Sections of Hexagonal             |
|      | 37th | prism, pentagon pyramid,   |
| 13th | 38th | cylinder and cone  |
|      | 39th | Development of lateral surfaces of right solids like cone, cylinder,                         |
| 14th | 40th | pentagonal prism, pyramid and hexagonal pyramid  |
|      | 41st | <b>UNIT IV</b> Fundamentals of isometric projections and isometric scale.                    |
|      | 42nd | Isometric views of different laminae like circle, pentagon and hexagon                       |
| 15th | 43rd | Isometric views of different regular solids like cylinder, cone, cube, cuboid                |
|      | 44th | pyramid and prism.   |
|      | 45th | Isometric views from given different orthographic projections                                |
| 16th | 46th | <b>UNIT V</b> Basic introduction and operational instructions of various commands in AutoCAD |
|      | 47th | pictorial/isometric view of a block  |
|      | 48th | <b>Sessional test- III</b>   |