**SRI VENKATESWARA COLLEGE OF ENGINEERING & TECHNOLOGY**

**(AUTONOMOUS)**

**RVS NAGAR, CHITTOOR-517127**

**DEPARTMENT OF MECHANICAL ENGINEERING**

Year & Semester: II B. Tech (R14), I Semester Branch: Mechanical Engineering

Subject: Machine Drawing (14AME07) Academic year:2016-17

**LESSON PLAN**

**Objectives:**

1. Understand the importance of Machine drawing.
2. Understand representation of conventional materials and common machine elements.
3. Add a standard title box to the drawing.
4. Understand the principles of assembling a machine part.

**Outcomes:**

After completion of the course, the student will be able to:

1. Represent common machine elements conventionally.
2. Dimension following the general rules.
3. Prepare sectional and additional views for the machine elements in general.
4. Assemble typical machine parts.

**Text Books:**

1. K.L.Narayana, P.Kannaiah& K. Venkata Reddy, Machine Drawing, NewAge Publishers 4thEdition,2012.
2. R.K. Dhawan, Machine Drawing, 2ndEdition, S.Chand Publications, 1996.
3. P.S.Gill, Machine Drawing, Madhurai, 12thEdition, SkKataria& Sons,2009.

**References:**

1. Luzzader, Machine Drawing, Anand, 4thEdition, Charotor Publishing House,2003.
2. Rajput, Machine Drawing, Hyderabad,4thEdition, S.Chand Publications, 2002.
3. K.C.John, Textbook of Machine Drawing, 5thEdition, Printice Hall International Publisherslearning, 2009.

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| **Sl. No.** | **Unit No.** | **Topic** | **No. hrs required** | **Cumulative Hrs.** |
| 1. | **Part - A** | * 1. Methods of dimensioning, general rules for sizes and placement of dimensions for holes, centers, curved and tapered features. | 3 | 3 |
| * 1. Common abbreviations & their meaning |
| 1. **MACHINE DRAWING CONVENTIONS:**   Need for drawing conventions – introduction to IS conventions   * 1. Conventional representation of materials, common machine elements and parts such as screws, nuts, bolts, keys, gears, webs, ribs. | 3 | 6 |
| * 1. Types of sections – selection of section planes and drawing of sections and auxiliary sectional views. Parts not usually sectioned. | 3 | 9 |
| 2. | 1. **DRAWING OF MACHINE ELEMENTS AND SIMPLE PARTS :**   Selection of Views, additional views for the following machine elements and parts with proportions.   * 1. Popular forms of Screw threads, bolts, nuts, stud bolts, tap bolts, set screws. | 12 | 21 |
| * 1. Keys, cotter joints and knuckle joint. | 6 | 27 |
| * 1. Riveted joints for plates | 6 | 33 |
| * 1. Flanged coupling and claw coupling & cast iron pipe joints. | 3 | 36 |
| * 1. Bushed journal, foot step bearing. | 3 | 39 |
| 3. | **Part - B** | **ASSEMBLY DRAWINGS:**  Drawings of assembled views for the part drawings of the following using conventions and drawing proportions.  a) Engine Parts – Stuffing Box, Cross Head, Eccentrics, Petrol Engine Connecting Rod and Piston Assembly. | 18 | 57 |
| b) Other Machine Parts – Screw Jack, Machine Vices, Plummer Block, Lathe Tailstock, Milling Machine Tailstock and Square Tool Post. | 21 | 78 |
| c) VALVES: Non Return Valve- Feed Check Valve and Air Cock. | 10 | 88 |
| **Total No. hrs required** | | | 88 | 88 |

**Faculty Head of the Department**