

JHARSUGUDA ENGINEERING SCHOOL, JHARSUGUDA  
DEPARTMENT OF CIVIL ENGINEERING

### LESSON PLAN

PROGRAMME: DIPLOMA IN CIVIL ENGINEERING  
DISCIPLINE- CIVIL & MECHANICAL

SUBJECT-ENGINEERING DRAWING (BEP105)  
SEMESTER-1<sup>ST</sup>

NAME OF TEACHING FACULTY

1. SRI. DHANURJAYA BEHERA
2. SRI. SOUMYA SAGAR TRIPATHY
3. SMT. DEEPANJALI SETHY
4. SRI. SOUBHAGYA MOHANTY
5. SRI. DHANRAJ ROHIDAS

| Chapter | Week No.        | Class Day       | Lecture No. | Topic to be Covered  |
|---------|-----------------|-----------------|-------------|--|
| 1       |                 |                 |             | INTRODUCTION AND DEMONSTRATION   |
|         | 1 <sup>st</sup> | 1 <sup>st</sup> | 1           | HOLIDAY  |
|         |                 | 2 <sup>nd</sup> | 2           | Identify various sizes of drawing boards, drawing sheets as per BIS.   |
| 1       |                 |                 |             | INTRODUCTION AND DEMONSTRATION   |
|         | 2 <sup>nd</sup> | 1 <sup>st</sup> | 3           | List the types of pencils, instruments, and scales.  |
|         |                 | 2 <sup>nd</sup> | 4           | Demonstrate laying of drawing sheets, margin, standard layout and title block as per BIS, folding principles of drawing. |

|   |     |                 |   |   |
|---|-----|-----------------|---|---|
| 2 | 3rd |                 |   | <b>TYPES OF LINES, LETTERING AND DIMENSIONING</b>                                   |
|   |     | 1 <sup>st</sup> | 5 | Demonstrate and explain the use of various types of lines.                          |
|   |     | 2 <sup>nd</sup> | 6 | Demonstrate the principle of single stroke, gothic lettering & numerals as per BIS. |
| 3 | 4th |                 |   | <b>SCALES</b>   |
|   |     | 1 <sup>st</sup> | 7 | Significance of scale in drawing; different scales.                                 |
|   |     | 2 <sup>nd</sup> | 8 | Define and draw plain scale and diagonal scale.                                     |

|   |     |                 |    |   |
|---|-----|-----------------|----|---|
| 4 |     |                 |    | <b>CURVES</b>   |
|   | 5th | 1 <sup>st</sup> | 9  | Explain Conic sections with illustration, Explain terms like focus, vertex, directrix and eccentricity. |
|   |     | 2 <sup>nd</sup> | 10 | Draw conics sections by eccentricity method – Ellipse, Parabola and Hyperbola.                          |
|   |     |                 |    | <b>CURVES</b>   |
| 4 | 6th | 1 <sup>st</sup> | 11 | Draw Ellipse by concentric circle method sand arc of cicle method.                                      |
|   |     | 2 <sup>nd</sup> | 12 | Draw parabola by Rectangle Method and Tangent Method.   |

| ORTHOGRAPHIC PROJECTIONS |     |                 |    |  |
|--------------------------|-----|-----------------|----|--|
| 5                        | 7th | 1 <sup>st</sup> | 13 | Demonstrate the principles of 1st angle and 3rd angle projections with the help of models and draw symbols.<br>Draw projection of points.  |
|                          |     | 2 <sup>nd</sup> | 14 | Draw projection of straight line (parallel to both planes, parallel to one and perpendicular to other, parallel to one and inclined to other and inclined to both reference planes).               |
|                          | 8th | 1 <sup>st</sup> | 15 | Draw plane figure such as squares, rectangles, triangles, circle, Pentagon and hexagon (perpendicular to one plane and inclined to other)  |
|                          |     | 2 <sup>nd</sup> | 16 | Draw projections of solids such as prism, cylinder, cone, tetrahedron and pyramid in simple position (with axis parallel to one reference plane and perpendicular to other reference plane).       |
| SECTION & DEVELOPMENTS   |     |                 |    |  |
| 6                        | 9th | 1 <sup>st</sup> | 17 | Draw the sectional projection & development of prism, cylinder, cone and pyramid in simple position by a cutting plane perpendicular to one reference plane and inclined to other reference plane. |
|                          |     | 2 <sup>nd</sup> | 18 | Draw true shape of the cutting sections.   |

| ISOMETRIC PROJECTIONS |      |                 |    |  |
|-----------------------|------|-----------------|----|--|
| 7                     | 10th | 1 <sup>st</sup> | 19 | Draw isometric view & Isometric projection of prism, pyramid, cone & cylinder with axis horizontal and vertical with construction of isometric scales. |
|                       |      | 2 <sup>nd</sup> | 20 | Draw isometric view & Isometric projection of prism, pyramid, cone & cylinder with axis horizontal and vertical with construction of isometric scales. |
| BUILDING DRAWING      |      |                 |    |  |
| 8                     | 11th | 1 <sup>st</sup> | 21 | Explain terms related to building drawing.   |
|                       |      | 2 <sup>nd</sup> | 22 | Draw plan, elevation of single room building with verandah (Flat roof according to given line plan and specification).                                 |

| PRACTICES ON AUTO CAD |      |                 |    |  |
|-----------------------|------|-----------------|----|--|
| 9                     | 12th | 1 <sup>st</sup> | 23 | Introduction-Settings, Limits etc  |
|                       |      | 2 <sup>nd</sup> | 24 | Auto CAD commands-Draw commands (Line, circle, arc, polygon, ellipse, rectangle). Edit command, Dimension commands and Modify Commands for two dimensional drafting only |

| PRACTICES ON AUTO CAD |      |                 |    |   |
|-----------------------|------|-----------------|----|---|
| 9                     | 13th |                 |    |   |
|                       |      | 1 <sup>st</sup> | 25 | Exercise for practice using Auto CAD.<br>Orthographic projections of lines, planes sand solids as per chapter 5.0 |
|                       |      | 2 <sup>nd</sup> | 26 | Isometric projection as per Chapter 7.0.  |

| PRACTICES ON AUTO CAD & EVALUATION OF SHEETS |      |                 |    |  |
|--|------|-----------------|----|--|
| 10   | 14th | 1 <sup>st</sup> | 27 | Isometric projection as per Chapter 7.0. |
|  |      | 2 <sup>nd</sup> | 28 | Revision                                 |

*[Signature]*  
(S. Prasad)

*[Signature]*  
(D. Behara)

*[Signature]*  
(PT GF)

*[Signature]*  
(PT GF)

*[Signature]*  
(PT GF)

*[Signature]*  
7/10/2022

|                             |                             |
|-----------------------------|-----------------------------|
| Signature of Faculty Member | Counter Signature of H.O.D. |
|-----------------------------|-----------------------------|