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| Name of the Faculty : |  **Lesson Plan** |  |
| Sh. Parveen Kumar and  | Vipin Kumar |  |
| Discipline | : |  | Mechanical Engg |  |  |
| Semester | : |  | 3rd |  |  |
| Subject |  | : |  | Mechanical Engg. Drawing |  |
|  Lesson plan duration : | 15 weeks (from Sept, 2023 to Jan, 2024) |  |
|  |  |  |  |  |  |
| Week |  |  |  | Practical |  |
| Practical |  |  | Topic (including assignments /tests) |  |
|  | Lect. |  |  |  |  |  |
|  | 1st |  | Limit, fits and tolerance***-***Need of limit, fits and |  |
|  |  |  | tolerance, Maximum limit of size, minimum limit of |  |
|  | 2nd |  |  |
|  |  |  | size, tolerance, allowance, deviation, upper deviation, |  |
|  | 3rd |  |  |
|  |  | lower deviation, fundamental deviation, clearance, |  |
| 1st |  |  | maximum clearance, minimum clearance |  |
|  | 4th |  | Fits – clearance fit, interference fit and transition fit. |  |
|  |  |  | Hole basis system, shaft basis system, tolerance |  |
|  | 5th |  |  |
|  |  |  | grades |  |  |
|  | 6th |  |  |  |
|  | 1st |  | calculating values of clearance, interference, hole |  |
|  |  |  | tolerance, shaft tolerance with given basic size for |  |
|  | 2nd |  |  |
|  |  |  | common assemblies like H7/g6, H7 /m6, H8/p6 |  |
|  | 3rd |  |  |
| 4th |  | Basic terminology and symbols of geometrical |  |
| 2nd |  |  | dimensioning and tolerances |  |
| 5th |  |  |
|  | 6th |  |  |  |  |  |
|  | 1st |  | Drawing of the following with complete |  |
|  |  |  | dimensions, tolerances, bill of material and |  |
|  | 2nd |  |  |
|  |  |  | surface finish representation |  |
|  | 3rd |  |  |
|  |  |  | A) Universal coupling and Oldham coupling |  |
| 3rd |  |  |  | (Assembly) | 1 sheet |  |
|  | 4th |  |  | Bushed Bearing (Assembly Drawing) |  |
|  | 5th |  |  |  |
|  | 6th |  |  |  |  |  |
|  | 1st |  |  | Ball Bearing and Roller Bearing (Assembled Drawing |  |
|  | 2nd |  |  |  |
|  | 3rd |  |  |  |  |  |
| 4th |  |  |  |  |  |
| 4th |  |  | Plummer Block (Detail and Assembly Drawing) |  |
| 5th |  |  |
|  | 6th |  |  |  |  |  |
|  | 1st |  | Foot step Bearing (Assembled Drawing) |  |
|  | 2nd |  |  |
|  | 3rd |  |  |  |  |  |
| 4th |  | **Pulleys-** Pulleys, Function of pulley, Types and |  |
| 5th |  |  | materials of Pulley. |  |  |
| 5th |  |  |  |
|  |  |  | Free hand Sketch of Various types of pulleys. |  |
|  | 6th |  |  |
|  |  |  |  |  |  |  |
|  | 1st |  | Fast and loose pulley (Assembly Drawing) |  |
|   | 2nd |  |  |
|  6th | 3rd |  |  |  |  |  |

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|  | 4th | **Pipe Joints -** Types of pipe Joints, Symbol and line |  |
|  |  | layout of pipe lines |  |  |
|   | 5th |  |  |
| 6th |  |  |  |
|  | 1st | Expansion pipe joint (Assembly drawing |  |
|  |  |
|  | 2nd |  |
| 3rd |  |  |  |
| 7th |  |  |  |  |
| 4th | Flanged pipe and right angled bend joint (Assembly |  |
|  | 5th |  |
|  |  | Drawing) |  |  |
|  | 6th |  |  |
|  |  |  |  |  |
|  | 1st | Lathe Tool Holder (Assembly Drawing) |  |
|  | 2nd |  |
|  |  | (01 sheets) |  |  |
|  | 3rd |  |  |
| 4th |  |  |  |
| 8th |  | Reading and interpretation of mechanical components |  |
| 5th |  |
|  |  | and assembly drawings |  |  |
|  | 6th |  |  |
|  | 1st | Sketching practice of bearings and | bracket. |  |
|  | 2nd |  |
|  |  | (01 sheet) |  |  |
| 9 th | 3rd |  |  |
|  |  |  |  |
| 4th | Drilling Jig (Assembly Drawing) |  |  |
|  | 5th |  |  |
|  |  | (01 sheets) |  |  |
|  | 6th |  |  |
|  | 1st | Machine vices (Assembly Drawing) |  |  |
|  | 2nd |  |  |
|  |  | (02sheets) |  |  |
|  | 3rd |  |  |
| 4th | I.C. Engine Parts | (03 |  |
| 10th |  | sheets) |  |  |
| 5th |  |  |
|  |  | Piston |  |  |
|  | 6th |  |  |
|  |  |  |  |  |
|  | 1st | Connecting rod (Assembly Drawing) |  |  |
|  | 2nd |  |  |
|  | 3rd |  |  |  |
| 4th |  |  |  |
| 11th |  | Crankshaft and flywheel (Assembly Drawing) |  |
| 5th |  |
|  | 6th |  |  |  |
|  | 1st | Boiler Parts | (02 |  |
|  |  | sheets) |  |  |
|  | 2nd |  |  |
|  |  | Steam Stop Valve (Assembly Drawing |  |
|  | 3rd |  |
| 4th |  |  |  |
| 12th |  | Blow off cock. (Assembly Drawing) |  |  |
| 5th |  |  |
|  | 6th |  |  |  |
|  | 1st | Mechanical Screw Jack (Assembled Drawing) |  |
|  | 2nd |  |
|  |  | (01 sheet) |  |  |
| 3rd |  |  |
| 13th |  |  |  |  |
|  | 4th | **Gears -** |  |  |



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|  | 5th | (2 Sheet) |  |
|  |  | Gear, Types of gears, Nomenclature of gears and |  |  |
|  | 6th |  |
|  |  | conventional representation |  |  |
|  | 1st | Draw the actual profile of involute teeth of spur gear by |  |
|  |  | different |  |  |
|  | 2nd |  |
|  |  |  methods. |  |  |
|  | 3rd |  |
|  |  |  |  |
| 14th |  |  |  |  |
| 4th | Revision |  |  |
|  | 5th |  |  |
|  | 6th |  |  |  |
|  | 1st | Revision |  |  |
|  | 2nd |  |  |
|  | 3rd |  |  |  |
| 4th |  |  |  |
| 15th |  | Revision |  |  |
| 5th |  |
|  | 6th |  |  |  |
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