**LESSON PLAN**

**NAME OF THE FACULTY: - MR. KULDEEP SINGH**

**DISIPLANE: - ME**

**SAMESTER:- 6th**

**SUBJECT—PMMH**

**Lesson Plan Duration:- 15 weeks**

**Work Load (Lecture/Practical) per week (In hours): Lecture 03, Practical -02**

|  |  |  |  |
| --- | --- | --- | --- |
| Week | Theory | |  |
|  | **Lecture Day** | **Topic (Including assignment/test)** | **Topic** |
|  |  |  |
| 1st | 1st | |  | | --- | | Necessity and advantages of testing, repair and maintenance | |  |
| 2nd | |  | | --- | | Common instruments required for testing, significance of B-T curve in life span of machine tool | |
| 3rd | |  | | --- | | Acceptance test for machine tools, Economic aspects | |
| 2nd | 4th | |  | | --- | | manpower planning and materials management | |  |
| 5th | |  | | --- | | Fits and tolerances – common fits and tolerances used for various machine parts | |
| 6th | |  | | --- | | Location, layout of machines in Plant Layout, Principles of Plant layout, types of plant layout | |
| 3rd | 7th | Fuel injectors  and nozzles. |  |
| 8th | |  | | --- | | Foundation – types of foundation various, considerations for machine foundations, | |
| 9th | |  | | --- | | Foundation plan, types of foundation bolts, erection and leveling, grouting | |
| 4th | 10th | |  | | --- | | Vibration, damping, vibration isolation – methods of isolation, anti vibration mounts. | |  |
| 11th | |  | | --- | | Testing equipment - dial gauge, mandrel | |
|  | 12th | |  | | --- | | Spirit level, straight edge | |
| 5th | 13th | |  | | --- | | auto collimator | |  |
| 14th | |  | | --- | | Recalibration of measuring instruments like vernier calliper | |
| 15th | |  | | --- | | Testing methods – geometrical/alignment test | |
| 6th | 16th | |  | | --- | | Performance test, testing under load | |  |
| 17th | |  | | --- | | Run test, vibrations, noise | |
| 18th | |  | | --- | | Definition, advantages, limitations, functions and types of maintenance organization | |
| 7th | 19th | Types of maintenance viz emergency, preventive |  |
| 20th | Breakdown/corrective, |
| 21 | Predictive Introduction to computerized maintenance record like facility register, |
| 8th | 22 | Maintenance request |  |
| 23 | ISO standards for maintenance documentation |
| 24 | Introduction to machine history card – purpose and advantages  Preparation of scheduled yearly plan for preventive maintenance, |
| 9th | 25 | Difference of work content of servicing, repairs and overhauling. MTBF and MTTR. Maintainability |  |
| 26 | Spare parts- Need of frequently needed spare parts inventory, Make provision of spares for parts not available in market |
| 27 | Common parts which are prone to failure |
| 10th | 28 | Reasons of failure |  |
| 29 | Repair schedule Parts that commonly need repair such as belts |
| 30 | Couplings, nuts, and bolts repairing the engines |
| 11th | 31 | Compressors and boilers |  |
| 32 | Lubrication methods and periodical lubrication chart for various machines (daily, weekly, monthly) |
| 33 | Handling and storage of lubricants |
| 12th | 34 | Lubricants conditioning and disposal |  |
| 35 | Lubricant and their grades needed for specific components such as gears, bearings, and chains |  |
| 36 | Purpose and procedure of changing oil periodically (like gear box oil) |  |
| 13th | 37 | Basic principles of material handling, |  |
| 38 | Basic types of material handling equipments |  |
| 39 | Material handling equipments and its characteristic |  |
| 14th | 40 | Uses and limitations, forklift trucks |  |
| 41 | Selection of material handling equipment |  |
| 42 | Unit load: pallet sizing and loading |  |
| 15th | 43 | Conveyor models, AGV Systems |  |
| 44 | Automated Storage & Retrieval System (ASRS) |  |
| 45 | Carousels |  |