**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**

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| Week | Theory |  |
|  | **Lecture Day** | **Topic (Including assignment/test)**  | **Topic** |
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| 1st | 1st |

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|  Necessity and advantages of testing, repair and maintenance  |

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| 2nd |

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|  Common instruments required for testing, significance of B-T curve in life span of machine tool  |

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| 3rd |

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|  Acceptance test for machine tools, Economic aspects  |

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| 2nd | 4th |

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|  manpower planning and materials management  |

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| 5th |

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|  Fits and tolerances – common fits and tolerances used for various machine parts  |

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| 6th |

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|  Location, layout of machines in Plant Layout, Principles of Plant layout, types of plant layout  |

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| 3rd  | 7th | Fuel injectorsand nozzles. |  |
| 8th |

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|  Foundation – types of foundation various, considerations for machine foundations,  |

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| 9th |

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| Foundation plan, types of foundation bolts, erection and leveling, grouting  |

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| 4th  | 10th |

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|  Vibration, damping, vibration isolation – methods of isolation, anti vibration mounts.  |

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| 11th |

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|  Testing equipment - dial gauge, mandrel  |

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|  | 12th |

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|  Spirit level, straight edge  |

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| 5th | 13th |

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|  auto collimator  |

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| 14th |

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|  Recalibration of measuring instruments like vernier calliper  |

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| 15th |

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|  Testing methods – geometrical/alignment test  |

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| 6th | 16th |

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|  Performance test, testing under load  |

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| 17th |

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|  Run test, vibrations, noise  |

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| 18th |

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|  Definition, advantages, limitations, functions and types of maintenance organization  |

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| 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  |  |