

**Maulana Abul Kalam Azad University of Technology, West Bengal**  
**(Formerly West Bengal University of Technology)**  
**Syllabus for B. Tech in CSE (Artificial Intelligence and Machine Learning)**  
**(Applicable from the academic session 2020-2021)**

**Introduction to Industrial Management (Humanities III)**

**Code: HSMC-501**

**Contacts: 3L**

| Name of the Course:    |  | <b>Introduction to Industrial Management (Humanities III)</b> |            |
|------------------------|--|---|------------|
| Course Code: HSMC-501  |  | Semester: V   |            |
| Duration:6 months      |  | Maximum Marks:100   |            |
| <b>Teaching Scheme</b> |  | <b>Examination Scheme</b>                                     |            |
| Theory:2 hrs./week     |  | Mid Semester exam: 15   |            |
| Tutorial: NIL          |  | Assignment and Quiz : 10 marks                                |            |
|                        |  | Attendance: 5 marks   |            |
| Practical: NIL         |  | End Semester Exam:70 Marks                                    |            |
| Credit Points:         |  | 2   |            |
| Unit                   | Content  | Hrs/Unit  | Marks/Unit |
| 1                      | <p><b>Introduction</b></p> <p>System- concept, definition, types, parameters, variables and behavior.</p> <p>Management – definition and functions.</p> <p>Organization structure:</p> <ol style="list-style-type: none"> <li>i. Definition.</li> <li>ii. Goals.</li> <li>iii. Factors considered in formulating structure.</li> <li>iv. Types.</li> <li>v. Advantages and disadvantages.</li> <li>vi. Applications.</li> </ol> <p>Concept, meaning and importance of division of labor, scalar &amp; functional processes, span of control, delegation of authority, centralization and decentralization in industrial management.</p> <p>Organizational culture and climate – meaning, differences and factors affecting them.</p> <p>Moral-factors affecting moral.</p> <p>Relationship between moral and productivity.</p> <p>Job satisfaction- factors influencing job satisfaction.</p> <p>Important provisions of factory act and labor laws.</p> | 6   |            |

**Maulana Abul Kalam Azad University of Technology, West Bengal**  
**(Formerly West Bengal University of Technology)**  
**Syllabus for B. Tech in CSE (Artificial Intelligence and Machine Learning)**  
**(Applicable from the academic session 2020-2021)**

|   |  |   |  |
|---|--|---|--|
| 2 | <p><b>Critical Path Method (CPM) and Programme Evaluation Review Technique (PERT):</b></p> <p>2.1 CPM &amp; PERT-meaning, features, difference, applications. 2.2 Understand different terms used in network diagram. Draw network diagram for a real life project containing 10-15 activities, computation of LPO and EPO.(Take minimum three examples).<br/> Determination of critical path on network.<br/> Floats, its types and determination of floats.<br/> Crashing of network, updating and its applications.</p>   | 8 |  |
| 3 | <p><b>Materials Management:</b></p> <p>Material management-definition, functions, importance, relationship with other departments.<br/> Purchase - objectives, purchasing systems, purchase procedure, terms and forms used in purchase department.<br/> Storekeeping- functions, classification of stores as centralized and decentralized with their advantages, disadvantages and application in actual practice.<br/> Functions of store, types of records maintained by store, various types and applications of storage equipment, need and general methods for codification of stores.<br/> Inventory control:<br/> i. Definition.<br/> ii. Objectives.<br/> iii. Derivation for expression for Economic Order Quantity (EOQ) and numeric examples. iv. ABC analysis and other modern methods of analysis.<br/> v. Various types of inventory models such as Wilson's inventory model, replenishment model and two bin model. (Only sketch and understanding, no derivation.).<br/> 3.6 Material Requirement Planning (MRP)- concept, applications and brief details about software packages available in market.</p> | 6 |  |

**Maulana Abul Kalam Azad University of Technology, West Bengal**  
**(Formerly West Bengal University of Technology)**  
**Syllabus for B. Tech in CSE (Artificial Intelligence and Machine Learning)**  
**(Applicable from the academic session 2020-2021)**

|   |   |   |  |
|---|---|---|--|
| 4 | <p><b>Production planning and Control (PPC):</b><br/> Types and examples of production.<br/> PPC : i. Need and importance. ii. Functions. iii. Forms used and their importance. iv. General approach for each type of production.<br/> Scheduling- meaning and need for productivity and utilisation.<br/> Gantt chart- Format and method to prepare.<br/> Critical ratio scheduling-method and numeric examples.<br/> Scheduling using Gantt Chart (for at least 5-7 components having 5-6</p> | 8 |  |
|   | <p>machining operations, with processes, setting and operation time for each component and process, resources available, quantity and other necessary data), At least two examples.<br/> 4.7 Bottlenecking- meaning, effect and ways to reduce.</p>   |   |  |
| 5 | <p><b>Value Analysis (VA) and Cost Control:</b><br/> 5.1 VA-definition, terms used, process and importance. 5.2 VA flow diagram. DARSIRI method of VA.<br/> Case study of VA-at least two.<br/> Waste-types, sources and ways to reduce them. Cost control-methods and important guide lines.</p>   | 4 |  |
| 6 | <p><b>Recent Trends in IM:</b><br/> ERP (Enterprise resource planning) - concept, features and applications.<br/> Important features of MS Project.<br/> Logistics- concept, need and benefits.<br/> Just in Time (JIT)-concept and benefits.<br/> Supply chain management-concept and benefits.</p>  | 4 |  |

**Text book and Reference books:**

1. L.S. Srinath– “CPM & PERT principles and Applications”.
2. Buffa – “Modern Production Management”.
3. N. Nair – “Materials Management”.
4. O. P. Khanna – “Industrial Engineering & Management”.
5. Mikes – “Value Analysis”.
6. S.C. Sharma, “Engineering Management – Industrial Engineering & Management”, Khanna Book Publishing Company, New Delhi