

MBAS 570: WAREHOUSING, ICD AND PACKAGING

Workload	04 hours per week
Examination	3 Hours; 30 marks continuous evaluation and 70 marks final examination
Objectives	<ol style="list-style-type: none">1. Understand the significance of warehousing, ICD and packaging2. Understand the structure of warehousing, ICD and packaging3. To provide with the strategies of warehousing, ICD and packaging4. Understand the significance of IT in warehousing, ICD5. To describe the significance of material handling in warehousing, ICD and packaging.6. To study Packaging for transportation and marking.7. To study Warehouse- Environment, Health and safety Issues.
Course outcome	After completion of the course the students will be able to: <ol style="list-style-type: none">1. Understand the significance of warehousing management techniques and warehouse activity profiling2. Examine the role and functions of Inland Container Depot3. Evaluate the various warehouse performance techniques.4. Suggest packing design based on its cost and requirements for transportation and marking.5. Able to manage the issues relates to Warehouse- and Environment,6. Capable to manage the Health and safety Issues in warehousing, ICD and packaging.7. Able to manage warehousing information system.
Pedagogy	Lectures, assignments, practical exercises, discussions, seminars

Module 1: Introduction – Evolution of the concept of warehousing – importance and benefits of warehousing – legal aspects– warehouse operating principles – developing the warehouse resource – warehousing strategy. Inland Container Depot (ICDs): roles and functions – export clearance at ICDs – clearance procedure for imports – CONCOR – establishment and operation of ICDS under CONCOR – International scenario

Module 2: Warehouse activity profiling: Profiling motivation – customer order profiling – item activity profiling – inventory profile – calendar and clock profile – activity relationship profile – investment profile. Warehouse layout: space requirements – material flow planning – adjacency planning – process location – expansion / contraction planning. Warehouse management systems: paperless and wireless warehouse systems – WMS justification, selection and implementation.

Module 3: Storage and Warehousing Information system. Storage Equipment: storage option - shuttle technology - very high bay warehouse - warehouse handling equipment - vertical and horizontal movement – Automated Storage/ Retrieval System (AS/RS)-specialized equipment- Technical advancements- Resourcing warehouse- warehouse costs- Types of cost - Return on Investment (ROI) - Charging for shared-user warehouse service - Logistics charging methods Warehousing Information System (WIS)- Performance management- outsourcing decisions

Module 4: Material handling: Introduction - managing warehouse resources – material handling – handling equipment– automated material handling – order selection systems – ASRS systems – information directed systems – special handling considerations. Measuring and

benchmarking: Benchmarking warehouse operations – warehouse performance measures – warehouse performance gap analysis – warehouse performance index

Module 5: Packaging and packing: Introduction – labelling function – forms of labels – labels and preferences for colours, numbers and shapes – functions of packaging – packaging design – packaging materials and kinds of packaging – preparing for packaging

Module 6: Packaging for transportation and marking: Introduction – types of packing boxes – containers for transportation of export cargo – procedure for packing goods – cost of packing – marking on the export boxes – types of marking – features of marking

Module 7: Warehouse- Environment, Health and safety Issues: Legislation and other pressures, warehouse energy usage, energy production, the environment and waste, packaging, pallets, stretch wrap, cartons, labelling, product waste, waste disposal, Hazardous waste, forklift trucks. Warehouse health and safety-risk assessment, fire safety, slips and trips, manual handling, working at height, vehicles, ware house equipment legislation, First AID.

Reference Books:

1. Gwynne Richards ,Warehouse Management: A Complete Guide to Improving Efficiency and Minimizing Costs in the Modern Warehouse
2. Bill Stewart ,Packaging as an Effective Marketing Tool , Pira International
3. David Mulcahy, Warehouse Distribution and Operations Handbook, McGraw Hill
4. Edward Frazelle, World-Class Warehousing and Material Handling, Mc. Graw Hill
5. James A. Tompkins, Warehouse Management Handbook,Tompkins Press.
6. Donald J Bowersox, David J Closs, Logistical Management-The Integrated Supply chain process,TATAMc.Grraw Hill Edition
7. S.L.Ganapathi,S.K Nandi, Logistics Management,Oxford University Press.

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