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As per the new Syllabus

Subject – Cost & Works Accounting – II

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***Topic 4 – Direct Cost and Introduction to JIT, CAM
and ERP***

❖ **DIRECT EXPENSES/COST –**

Direct expenses are those expenses which are directly chargeable to a job account. Direct expenses may be defined as those expenses which are easily identifiable and attributable to the individual units or jobs. All expenses other than the direct material or direct labour which are incurred for a particular product or process are termed as direct expenses. Expenses which can be identified with a territory, a customer or product can be considered as direct expenses. Expenses in relation to a department may be direct but are indirect in relation to the product.

*Direct expenses are defined as “costs, other than materials or wages, which are incurred for a specific product or salable service.”

• **Nature of Direct Expenses –**

Direct expenses is directly attributed to cost unit/cost center. It includes all direct cost except the direct material and direct labour.

Types of Direct Expenses are as under:

- (i) Royalties if it is charged as a rate per unit.
- (ii) Hire charges of plant if used for a specific job.
- (iii) Sub-contract or outside work, if jobs are sent out for special processing.
- (iv) Salesman’s commission if it is based on the value of units sold.
- (v) Freight, if the goods are handled by an outside carrier whose charges can be related to individual units.
- (vi) Travelling, hotel and other incidental expenses incurred on a particular contract.
- (vii) Cost of making a design, pattern for a specific job.
- (viii) Cost of any special process not forming part of the normal manufacture like water proofing for canvas cloth.

• **Accounting Treatment of Direct Expenses –**

Direct expenses are chargeable expenses and are debited to Direct Expenses Account in financial books. Accounts are prepared in columnar form so that the analysis can be made and the expenses can be related to the specific job/contract.

In cost accounting records, the direct expenses account is credited and the concerned account is debited. The cost department should verify from the accounts department that the expenses are properly booked. These expenses should not be mixed up with overheads.

- **Control of Direct Expenses –**

Items under this head are few. They form a small part of the total cost. Such costs are controlled by fixing standards. The actual should be compared with the standard. The causes of variations, if any, should be ascertained and necessary corrective action should be taken.

- ❖ **Just In Time (JIT) - Background and History –**

JIT is a Japanese management philosophy which has been applied in practice since the early 1970s in many Japanese manufacturing organisations. It was first developed and perfected within the Toyota manufacturing plants by Taiichi Ohno as a means of meeting consumer demands with minimum delays using an approach focused on people, plants and systems. Taiichi Ohno is frequently referred to as the father of JIT.

Just-in-time (JIT) inventory management, also known as lean manufacturing and sometimes referred to as the Toyota production system (TPS), is an inventory strategy that manufacturers use to increase efficiency. The process involves ordering and receiving inventory for production and customer sales only as it is needed to produce goods, and not before.

The Just-In-Time (JIT) concept is a manufacturing workflow methodology aimed at reducing flow times and costs within production systems and the distribution of materials.

The prime goal of JIT is for zero inventories across the organization and its supply chain. This completely utilizes the organizational capabilities and maximizes ROI.

- **The Purpose of JIT –**

Ordering inventory on an as-needed basis means that the company does not hold any safety stock, and it operates with continuously low inventory levels. This strategy helps companies lower their inventory carrying costs, increase efficiency, and decrease waste. JIT requires manufacturers to be very accurate in forecasts for the demand for their products.

Just-in-time inventory management is a positive cost-cutting inventory management strategy, although it can also lead to stockouts. The goal of JIT is to improve a company's return on investment by reducing non-essential costs.

- **Benefits of the System –**

JIT offers advantages such as allowing manufacturers to keep production runs short and move on to new products quickly and easily if needed. Companies using JIT no longer need to maintain a huge expanse of warehouse space to store inventory. A firm also no longer needs to spend large amounts of money on raw materials for production, because it only orders exactly what it needs, which frees up cash flow for other uses.

1. Reduction in the order to payment timeline
2. Reduction in Inventory costs
3. Reduction in space required
4. Reduction in handling equipment and other costs
5. Lead time reductions
6. Reduced planning complexity
7. Improved Quality
8. Productivity increases
9. Eliminating waste – there are seven types wastes
 - waste from overproduction.
 - waste of waiting time.
 - transportation waste.
 - processing waste.
 - inventory waste.
 - waste of motion.
 - waste from product defects.

- **Advantages of Just In Time (JIT) –**

- JIT can be applied to a wider variety of business processes including HR, accounting, supply chain, operations management and relationship management.
- JIT can achieve better product quality through elimination of waste in production.
- The JIT approach can reduce the cost of inventories and inventory requirements.

- **Disadvantages of Just In Time (JIT)? –**

- The JIT system does not cope well with sudden changes to demand and supply.
- Implementing the system can be challenging and time-consuming.
- Relies heavily on factors such as a strong, fast and efficient network of suppliers.

- ❖ **Computer Aided Manufacturing –**

Computer Aided Manufacturing (CAM) is the use of software and computer-controlled machinery to automate a manufacturing process. Based on that definition, you need three components for a CAM system to function:

- Software that tells a machine how to make a product by generating toolpaths.
- Machinery that can turn raw material into a finished product.
- Post Processing converts toolpaths into a language machines can understand.

These three components are glued together with tons of human labour and skill.

CAM reduces waste and energy for enhanced manufacturing and production efficiency via increased production speeds, raw material consistency and more precise tooling accuracy.

- **Advantages of Computer-Aided Manufacturing –**

1. Fast and Accurate
2. Reduce wastages
3. Reduced Labour costs
4. Increased control over manufacturing

- **Disadvantages of Computer-Aided Manufacturing –**

1. Costly
2. Skilled labour
3. Technology failure
4. Waste

❖ **Enterprise Resource Planning (ERP) –**

ERP stands for "Enterprise Resource Planning" and refers to software and systems used to plan and manage all the core supply chain, manufacturing, services, financial and other processes of an organization. Enterprise Resource Planning software can be used to automate and simplify individual activities across a business or organization, such as accounting and procurement, project management, customer relationship management, risk management, compliance and supply chain operations.

ERPs connect every aspect of an enterprise. An ERP software system allows for better performance and project management that helps plan, budget, predict and accurately report on an organization's financial health and processes.

➤ **Benefits of ERP to Business –**

- **Improved business insight** from real-time information generated by reports
- **Lower operational costs** through streamlined business processes and best practices
- **Enhanced collaboration** from users sharing data in contracts, requisitions, and purchase orders
- **Improved efficiency** through a common user experience across many business functions and well-defined business processes
- **Consistent infrastructure** from the back office to the front office, with all business activities having the same look and feel
- **Higher user-adoption rates** from a common user experience and design
- **Reduced risk** through improved data integrity and financial controls
- **Lower management and operational costs** through uniform and integrated systems