10. ENTERPRISE RESOURCE PLANNING (ERP)

1. **What is an Enterprise?**

An Enterprise is a group of people and other resources working together to achieve a common goal. An Enterprise consists of different departments with their own duties and responsibilities(Eg. Marketing, Sales, Finance etc.) and different types of resources(Eg. Money, Manpower, and Machinery etc).

2. **What is the use of Enterprise Resource Planning (ERP) ?**

In some enterprises the information produced in one department may not be available to other departments ie, there is no communication between department .For better efficiency each department must communicate to other depts.. **ERP combines all the requirements of a company and integrated to a central database so that various departments can share information**

3. **What are the Functional Units of ERP?**

Some of the commonly used modules in an organization are ,

Financial Module: This module collects financial data from various department and generate various reports like Balance sheet, Trial balance, General ledger etc.

Manufacturing Module: This module manages and provides information for the entire production process

Production Planning Module: This module is used for the utilization of resources in an optimized way so as to Maximize the production and minimize the loss. Optimization means to use resources effectively for the production.

HR Module: HR module maintain an updated and complete employee details database which consists of information like personal details, salary details, attendance and promotion.

Inventory Control module: This Module manages the stock requirement for an organization.

Purchasing Module: This module is responsible for the availability of raw material in the right time at the right price. This module generates purchase orders for the suppliers, billing etc.

Marketing Module: This module is used for monitoring customer orders, increasing customer satisfaction, eliminating credit risks etc...

Sales and Distribution Module: This module manages the sales and distribution activities. This module includes inquiries, order placement etc.. This module integrates with e-commerce web site.

Quality Management Module: This Module deals with Quality Planning, Quality Inspection and Quality Control.

4. What is Business Process Re-engineering (BPR)?

It is the analysis and redesign of workflow with in an enterprise. Re engineering may result in efficient time management, reduced cost, and effective utilization of resources.
Business Process consists of 3 elements:

Inputs-I/p data for Processing like Data, Materials etc.
Processing- A set of activities to produce an o/p
Outcome- The output of processing.

The different phases of BPR

a). Identification of business process,
b). Analysis of current business process
c). Designing a revised process
d).Implementing a revised process.

5. What is the Connection between ERP and BPR?

Before implementing ERP we need to conduct a BPR to determine the changes in the structure of business process. This helps to an enterprise to avoid unnecessary modules in ERP. But all BPR may not lead to the implementation of new ERP.

6. What are the steps in Implementation of ERP?

There are different steps for the implementation of ERP and they are
1. **Pre evaluation screening** – By selecting appropriate modules from those available in the market, we can limit the number of modules to be evaluated.

2. **Package Selection**- An ERP system needs huge investments, once a package is selected ,it is not easy to switch on to another package. So the package selection will decide the success and failure of the project.

3. **Project Planning**- In this stage the implementation of process is planned and designed. The time schedule, roles and responsibilities of various persons etc are identified and assigned..

4. **Gap Analysis**- There is not a single complete ERP package available for meeting all the requirements of an organization. Even the best ERP can meet 80% of needs of an organization. So the Gap should be analysed and considered for the following phases.

5. **Business Process Re-engineering(BPR)**- Re-engineering may result in efficient time management, reduced cost, and effective utilization of resources. It is the analysis and redesign of workflow with in an enterprise.

6. **Installation and Configuration**- This is the main functional phase of ERP. Before installing a new ERP package the whole process of the enterprise should be analyzed in detail. Instead of replacing the old system with new ERP system ,a prototype of the actual ERP is develop and testing of the prototype is done to find its weakness.

7. **Implementation and Team Training**- This is the phase where the company trains its employees to implement and works on the system. The company should select appropriate employees with right attitude, willingness to change and learn new things and who are not afraid of technology.

8. **SystemTesting**- The software is tested to ensure that it works properly

9. **Going live**- This is the phase where ERP is made available to the entire organization. After Configuring, Testing and Removing errors, the system become live to perform its operations.

10. **End User Training**-This is the phase where the actual users of the ERP system need to be trained. The employees need to be trained based on their skills to use the new system.

11. **Post Implementation**- This the phase where we checked whether the objectives set for the ERP system has met.

7. What are ERP solution Providers/ERP Packages? Explain.

There are many ERP packages available in the market. Some of them are,

a). **Oracle-** Head quarters at Redwood shores, California, USA.. It also provide Customer Relationship Management(CRM) software and Supply Chain management software(SCM).

b). **SAP-** Stands for **Systems Applications and Products**. It is German Company. They develop ERP solutions for both small and large organizations**.** It also provide Customer Relationship Management(CRM) , Supply Chain management(SCM) and Product Life Cycle Management(PLM) software etc.

c). **Odoo- It is an open source ERP**. It can be customized based the requirements of organization. **It was formerly known as Open ERP.**

d).Microsoft Dynamics- US company with head quarters at Redmond, Washington. Provides ERP package to midsized organization. It can be installed and used easily with good user interface. They also provide CRM software.

e). Tally ERP- Indian Company with head Quarters at Banglore. Provide ERP solution for accounting, inventory and payroll.

8. What are the Benefits and Risks of ERP?

The following are the be benefits of ERP system

1. **Improved resource utilization:** Installing ERP can reduce the wastage of resources and resource utilization can be improved by planning and managing resources effectively. .

2. **Better Customer Satisfaction:** Customer satisfaction means meeting the maximum Customer's requirements for a product or a service. With the introduction of web based ERP, a customer can place orders and make payments from home.

3. **Provides Accurate Information:**-ERP software can provide accurate information to customers than that of manual systems.

4. **Decision Making Capability:-** Accurate and relevant information helps to make better decisions for a system.

5. **Increased Flexibility:-**ERP system can adapt new changes easily.

6. **Information Integrity:-** The entire information about enterprise is stored in central database which can be visible to all departments.

More over this ERP provides high security, business intelligence unified reporting system, high speed delivery of product or services etc. ..

9. What are Risks of ERP Implementation?

1. **High Cost**:-The cost of Implementation of ERP is high. The cost of various modules and license fees are high. In addition to this the IT infrastructure, upgrading of network etc are the indirect costs related to ERP. For a small system it may not be affordable.

2. **Time Consuming**:-ERP Implementation process is time consuming. it may take months to years for the complete installation of ERP.

3. **Requirement of additional trained staff**:- For the smooth functioning of ERP, trained and experienced persons is necessary.

4. **Operational and Maintenance issues**:- Implementation of ERP needs major changes in the current process of an enterprise. Sometimes it is difficult to for the employees to adjust with these changes. Maintenance of an ERP system is very difficult

10. Explain the following ERP and Related Technologies.

a). Product Life Cycle Management (PLM) b). Customer Relationship Management (CRM)

c). Management Information System (MIS) d). Supply Chain Management (SCM)

e). Decision Support System (DSS):

a). Product Life Cycle Management (PLM):- PLM is the process of managing the entire life cycle of a product. **A product has 4 stages, It's introduction, It's Growth in the market, It's Maturity and It's decline**. To create a new product the

company must understand its customer, market and competitors. PLM used for increasing quality of product, increasing marketing opportunities, and for use of latest technology.

b).Customer Relationship Management (CRM): Customers are the most important part of any enterprise. The success of an enterprise depends on good relationship with customers. CRM is a term that covers the policies used by the enterprise to manage their relationship with customers. It includes capture, storage and analysis of customer information.

c). Management Information System (MIS): Information system collects, stores and distributes information from an organization. It is also used for decision making, communication, coordination, control and analysis of an enterprise. Information system transforms raw data into a useful information. MIS collects relevant data from inside and outside of an enterprise and stored in a central database. All categories of employees like clerks, assistants, officers and managers uses MIS.

d). Supply Chain Management (SCM): It consists of all activities associated with moving goods from the supplier to the customer. It begin with collecting raw material and ends with delivering goods to customer. SCM aim to fast delivery of goods to customers thus increase the customer satisfaction.

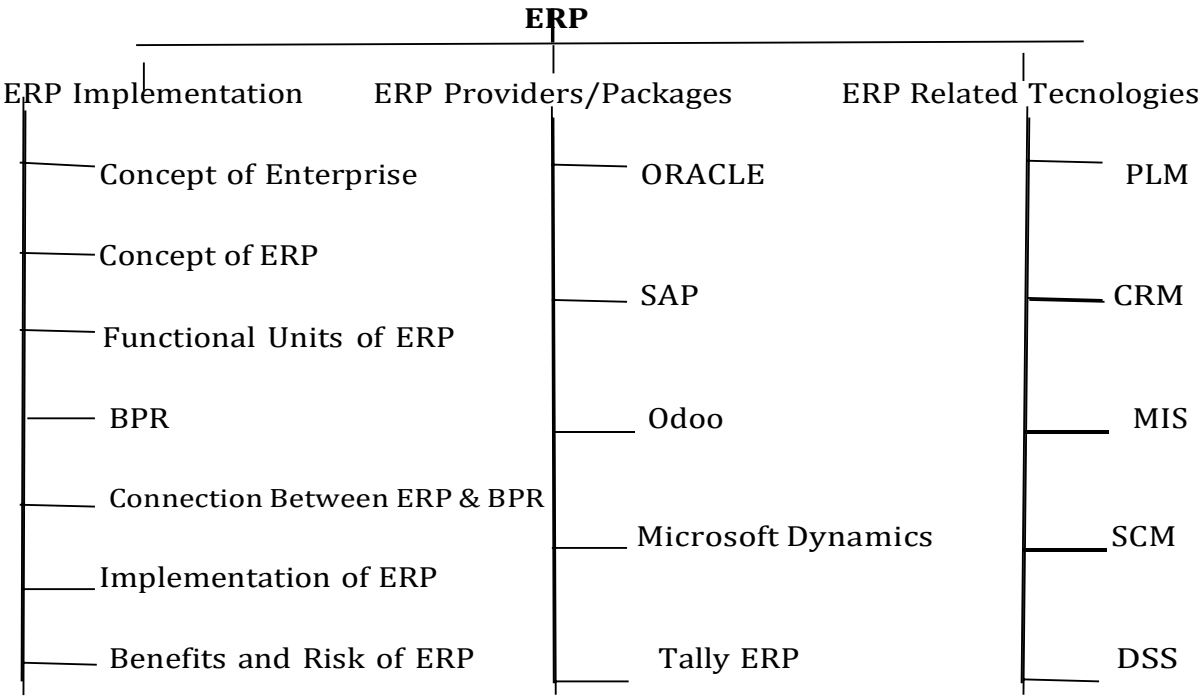
e). Decision Support System (DSS): It is a computer program that analysis business data and present it so that users can make business decisions more easily. It provides information in the form of various reports with the help of DBMS.

11. DSS Stands for . .....
Decision Support System

12. SAP Stands for .....
Systems Applications and Products

Remark:

This Chapter can be divided into 3 parts



Previous Years Questions

1. **Briefly explain any two ERP related technology.**

2..... is an open source ERP software .

(a) SAP (b) Tally ERP (c) Oracle (d) Odoo

3. DSS stands for .....

(a) Digital Signal System (b) Design Support System (c) Decision Support System

(d) Database Support System

4. **Explain the beneficts of ERP system.**
5. **Explain the importance of BPR in ERP implimentation**

6. **Selection of ERP package is very crucial in the imlimentation of ERP system. Give a short note on any four popular ERP packages.**
7. **Explain the beneficts of ERP system implimentaion in an enterprise.**
8. **SAP stands for ……**