

MODEL ANSWERS

Q.1 Ans: Enterprise resource planning is the evolution of manufacturing requirements planning (MRP) II

In 1960's - inventory control

In 1970's - witnessed a shift of focus towards MRP (material requirement planning)

In 1980's - concept of MRP-II (manufacturing resource planning)

MRP-II further extended to include areas like finance, human resource, project management etc., this gave birth to ERP.

Q.2. Steps involved in B.M exercise

Planning the B.M process

Implementing internal data collection & analysis

Implementing External data collection & analysis

Q.3. Re engineering is the fundamental rethinking & radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance such as cost, quality, service & speed.

(4)(iv). five phases of the process redesign methodology:

Plan - organizing for improvement

Analyze - understanding the process

Streamlining - the process

Implementation - measurements & controls  
continuous improvement.

scm classification:

(5)(v).

Financial

\* cost of raw material

\* Revenue from goods sold

\* inventory holding costs

\* Transportation costs.

Non financial.

\* cycle time

\* customer service level

\* Inventory levels

\* Resource utilization.

(6)(vi)

elements in scm:

Location.

Production

Inventory

Transportation.

(7)(vii)

EDI is computer-to-computer exchange of business information using a public standard. EDI is a central part of electronic commerce (EC), because it enables businesses to exchange business information electronically much faster, cheaper and more accurately than is possible using paper-based systems.



## Phases involved in ERP software selection:

- (8)
- Phase I Initial requirements.
  - Phase II Developing the short list of candidate solutions.
  - Phase III Final selection.
  - Phase IV Implementation planning.

- (9)
- Project planning
  - Identification of ERP vendor
  - Evaluation of ERP package.
  - Gap analysis
  - Reengineering
  - Customization

- (10)
- \* Verification of the quality of procured goods
  - \* Reduction of administrative tasks through company-wide quality planning
  - \* Using the ~~comprehensive~~ comprehensive functions for quality control.

## UNIT - I

1. factors that imply ERP solution:

flexibility: respond to changing needs of an enterprise

client server technology enables ERP to run across various database backends like (open database connectivity) ODBC;

Modularity: modular application architecture

Various functionalities are logically clubbed into different business processes & structured into a module which can be interfaced or detached whenever required without affecting the other modules.

Comprehensive: support variety of organizational functions & must be suitable for a wide range of business organisations.

Q.No: 2. "Benchmarking is the process of identifying, understanding, and adapting outstanding practices from organizations anywhere in the world to help your organization improve its performance".

(i) improve the performance of the process (Adaptation)

\* opportunities for improvement in process

\* cost benefit analysis to be conducted on such opportunity, which decide the changes that need to be implemented for the best value for the organization.

~~also~~ \* An implementation plan, explaining the actions needed to improve the performance of the changes needs to be drawn.



Q.No: 2

\* final report summarizing the B.M process, results and recommendations should be sent to the external B.M partners and also forwarded for the concerned internal approval.

(ii) Implement continuous performance improvement

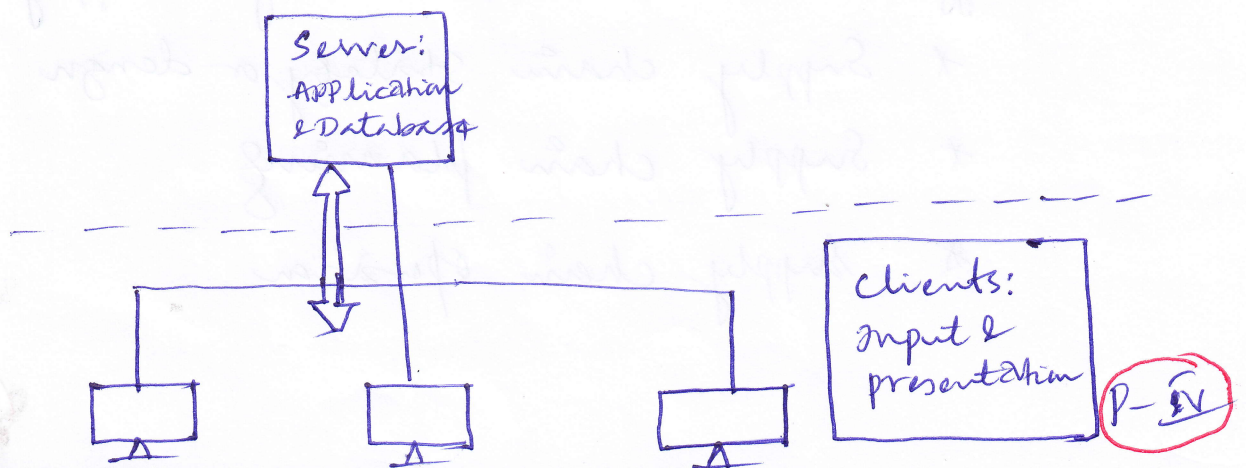
\* Since B.M is an iterative & ongoing process, regular monitoring & improvement of the selected processes are to be maintained.

\* An important and interest aspect of B.M is the selection of best practices is not specific to the industry to which the company belongs

\* ex: Xerox, mobil oil, Ritz Carlton Hotels, Granite rock a general engineering contractor cum major supplier of construction materials.

Q.No: 3.

Two-tier Architecture:-



- Server handles application & database duties
- clients present the data & pass user input back to the Server.
- multiple servers & the clients may be distributed across several types of local & wide area links.

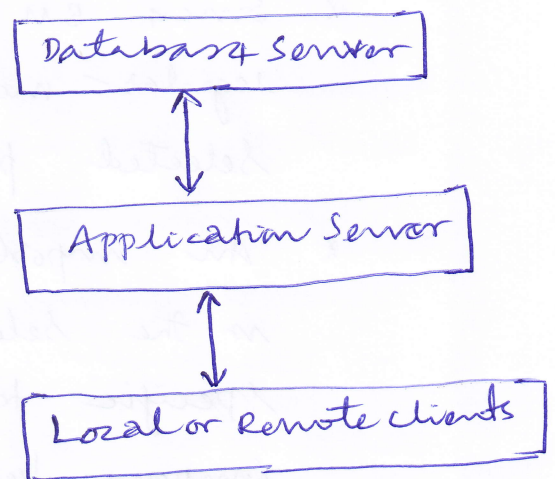
### Three-tier architecture:

\* In this architecture database & application functions are separated.

\* In this scenario, satisfying clients requests requires two or more network connections.

\* client establishes communications with the application server.

\* The application server then creates a second connection to the database server.



## UNIT-II

Q.NO: 1

Different decision phases of a supply chain

\* Supply chain strategy or design

\* Supply chain planning

\* Supply chain operation



## UNIT-II

Q.NO: 1.

### Supply chain strategy or Design:-

- \* Decisions about the Structure of the Supply chain and what processes each stage will perform
- \* Strategic supply chain decisions.
  - locations & capacities of facilities
  - products to be made or stored at various facilities
  - modes of transportation
  - Information systems.
- \* SC design decisions are long-term and expensive to ~~reverse~~ reverse - must take into account market uncertainty.

### Supply chain planning:-

- \* Definition of a set of policies that govern short term operations
- \* fixed by the supply configuration from previous phase.
- \* Starts with a forecast of demand in the coming year.
- \* planning decisions:
  - \* which ~~markets~~ markets will be supplied from which locations
  - planned build up of inventories.
  - subcontracting between locations.

- Inventory policies
  - Timing & size of market promotions.
- \* must consider in planning decisions demand uncertainty, exchange rates, competition over the time horizon.

Q.NO.7

### Drivers of SC:-

Facilities:- \* physical location in SCN

\* Product stored, assembled or fabricated

two major types of facilities are

\* production sites & storage sites.

\* decisions regarding the role, location, capacity and flexibility of facilities have a significant impact on Supply chain's performance.

### Inventory:-

\* encompasses all raw materials, WIP, finished goods within a supply chain.

\* changing inventory policies can dramatically alter the supply chain's efficiency & responsiveness.

ex:- clothing retailer can make itself more responsive by stocking large amounts of inventory and satisfying customer demand from stock.

\* A large inventory, however increases the retailer's cost thereby making it less efficient. Reducing inventory makes the retailer more efficient but hurts its responsiveness.



## UNIT-II

Q.NO: 1.

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  - subcontracting, backup locations.

## UNIT-II

Q NO: 3 Logistics:-

Planning, implementing & controlling the physical flows of materials and finished goods from point of origin to point of use to meet the customer's need at a profit

Information flow:-

- \* order registration.
- \* order checking & editing
- \* order processing
- \* coordination.

Warehousing:-

- \* material storage
- \* material handling
- \* site selection & network planning
- \* order picking & filling
- \* Dispatch documentation.

## UNIT-III

1. outline of two methodologies of BPR.



Q NO: 3 common features of BPR & ERP; compare BPR & ERP

- \* Process orientation
- \* cross functional approach
- \* Radical changes.
- \* Top down approach.
- \* IT is a powerful enabler team culture.

Comparison BPR & ERP:-

- Both BPR & ERP are process oriented & crossfunctional they bring radical changes in the traditional function based culture of an organisation & job descriptions of managers & other employees.
- Both BPR & ERP are top down approaches/concepts without the approval, guidance & visible support of the top management, it is not possible to undertake either of the projects.
- Role of IT is crucial for the successful implementation of both ERP & BPR. However, role of IT as an enabler is much bigger in the latter.
- Cost involved in ERP is normally much higher than that of stand alone BPR project. Advisable to carry out BPR exercise before the introduction of ERP. so that it is tuned to the requirements of the reengineered process.

### UNIT III

**Q. No: 1**

Brief outline of two methodologies of BPR:

Table 1. A few BPR methodologies ~~from contemporary literature :-~~

Activity#	Methodology #1 [11]	Methodology #2 [5]
1	Develop vision & strategy	Determine Customer Requirements & Goals for the Process
2	Create desired culture	Map and Measure the Existing Process
3	Integrate & Improve enterprise	Analyze and Modify Existing Process
4	Develop technology solutions	Design a Reengineered Process:
5		Implement the Reengineered Process

Activity#	Methodology#3 [2]	Methodology #4 [9]	Methodology #5 [7]
1	Set Direction	Motivating Reengineering	Preparation
2	Baseline and Benchmark	Justifying Reengineering	Identification
3	Create the Vision	Planning Reengineering	Vision
4	Launch Problem Solving Projects	Setting up for Reengineering	Technical & Social design
5	Design Improvements	As Is Description & Analysis:	Transformation
6	Implement Change	To-Be Design and Validation	
7	Embed Continuous Improvement	Implementation	

**Q.No: 2**

#### **Phase IV - Implementation, Measurements and Controls**

This phase consists of five activities. They are:

1. Finalized implementation plan.
2. New process implementation.
3. In-process measurement systems.
4. Feedback data systems.
5. Poor-quality cost.

#### **Activity 1 - Finalized Implementation Plan**

An implementation team is formed to prepare a detailed implementation plan and coordinate the changes. It may or may not include all the members of the original PIT. Often, Department Improvement Teams (DITs) become part of the implementation plan so that the teams within the functions that will be impacted by the change are part of the group that plan and implement the change. Sometimes the implementation team is divided into sub-teams (example: information system teams). The implementation plan usually is divided into three parts:



1. Short-term changes - Changes that can be done in 30 days.
2. Mid-term changes - Changes that can be done in 90 days.
3. Long-term changes - Changes that require more than 90 days to implement. An implementation plan will be prepared for each change.

### **Activity 2 - New Process Implementation**

The implementation plan and the change management plan are now united to bring about an effective overall implementation of the new process. The implementation team will maintain close control over each change to be sure that it is implemented correctly. Often, complex changes will go through a series of modeling and/or prototyping cycles to prove out the concept and to ensure smooth implementation. After each change is installed, its impact is measured to ensure it accomplishes its intent and has a positive impact upon the total process. As the change is implemented, the simulation model is updated so that it always reflects the present process.

### **Activity 3 - In-Process Measurements**

Before you can design a measurement system, you need to define requirements. Each activity on the final flowchart should be analyzed to define the customer requirements and how compliance to these requirements can be effectively evaluated. You will note that up to this point, the measurement system focused on the total process. Now the task is to develop measurements and controls for each major activity within the process. A good measurement and feedback system is one in which the measurements are made as close to the activity as possible. Self-measurement is best because there is no delay in corrective action. Often, though, self-measurements are not practical and/or possible.

## UNIT IV

### **Q.NO: 1 How to Use EDI**

Should you intend to become fully EDI capable, you will generally need a personal computer, a modem, ANSI X12-compliant EDI translation software or access to an EDI translation service, government implementation conventions, and a subscription to a VAN or a Value-Added Service (VAS). However, should you opt not to become fully EDI capable, it is possible for you to exchange EDI transactions with the Government through the use of VASs provided by some VANs. Such services (EDI-to-FAX, for example) enable you to participate in the EDI-based Government acquisition efforts without investing in EDI-related computer hardware and software.

### ***Comparing EDI and the Internet***

- ❖ In the field of Electronic Commerce (EC) technologies, there is much confusion about the roles of EDI, the Internet, computer bulletin board systems, and other online services. This section is included to clarify the distinctions. EDI is just now being conducted over the Internet as advances are made in security of online transactions. While this may be less expensive, one loses some of the benefits brought by the VANs such as:
  - ❖ Archival of transactions
  - ❖ Verification that transactions have been sent/received
  - ❖ Standard EDI software
- ❖ A lot of information on EC/EDI (ANSI X12 standards, implementation conventions, products and services, etc.) is currently distributed through the Internet. Therefore, it is in your interest to become Internet capable so you may have access to Internet tools and facilities such as electronic mail, the World



## UNIT - V.

1. SAP R/3: Materials management:-

Purchasing

Inventory management

Warehouse management

Invoice verification

Purchasing :- Proposals for purchase requisitions based on reorder levels or on forecast data  
Logistics applications: sales & distribution  
Plant maintenance, production planning or project system

Inventory mgmt:- Stock of materials managed on a value & quantity basis in inventory management.

application component supports all the most common types of receipts, issues & stock transfers.

Sales & distribution:- R/3 system's Sales & distribution application offers access to real time, online information from sales support to billing process.

Sales Support - manage information on sales leads, sales calls, inquiries, quotations, mktg campaigns, competitors & their products.

order entry, pricing,

run in connection with MM module, PP module

supports shipping management, transportation module  
comprehensive support for foreign trade processing.



## UNIT-V

Q.NO:2.

project planning phase in ERP Implementation:-

- \* first phase - prepared by top management.
- \* details on commencement of project, project duration, project cost, budget, ERP team to be deployed.
- \* choice of organization, technical & functional consultants.
- \* ERP vendors selection, packages available, training requirements, change management etc.
- \* project schedule is to be maintained to meet deadlines
- \* Top management should involve in all stages of ERP implementation.
- \* Road map in mind in terms of how and when ERP would address such part of the organisation.
- \* Better understanding the problem.

Q.NO:3

SAP's Business Structure

Founded in 1972 in Walldorf, Germany, SAP AG (Systems, Applications & products in Data Processing)

Product range - enterprise application Suites R/2 & R/3.

R/2 - mainframe environment

R/3 - for open client / server applications.

- 1000 Business processes & applications built into the software.

- Company's Business information is shared real time with employees, suppliers & distributors

- more common SAP R/3 modules are:

FI (financial Accounting)

CO (control)

PP (product planning)

MM (materials management)

SD (sales & distribution)

HR (Human Resources management).

SAP offers Industry Solutions:

offer in-depth functionality for 21 Business groups

Manufacturing:

Aerospace & defence

Automotive

chemicals

consumer products

Engineering & construction

oil & gas

pharmaceuticals.

Service:

Banking

financial service providers

Health care

Insurance

media

public sector.