

Which of the following statements about EPC diagrams is not true?

Select one:

- a. They should start and end with events.
- b. They are used to model the SAP business processes.
- c. A function can be followed directly by another function.
- d. They use a standardized naming function.
- e. Data elements are used to provide additional information.

One of the benefits of an ERP system is that it provides information in real time. Does this mean that:

Select one:

- a. The data is correct.
- b. The data is up to date.
- c. The data is not redundant.
- d. The data is secure.
- e. All of the above.

Which ERP module would be involved in processing the payment made by a vendor for the purchase of raw materials?

Select one:

- a. Accounts Receivable
- b. General Ledger
- c. Asset Management
- d. Accounts Payable
- e. Purchasing

The aim of an inventory system is to:

Select one:

- a. Keep stock levels as low as possible.
- b. Ensure there is enough stock to meet customer orders.
- c. Determine when stock should be reordered.
- d. Determine the quantity of stock to be reordered.
- e. All of the above

A vanilla implementation in FRP may be defined as the implementation of standard software modules for core business processes. What are the advantages of a vanilla implementation of an ERP system?

Select one:

- a It can be easily customized.
- b It have more functionality.
- c It is easier to support.
- d it can be run on the cloud.
- e All on the above

The quantity per in the bill of Material specifies:

- a. The quantity of semi-finished products/raw materials required to make one of the parent materials.
- b. The quantity of the parent material in the sales order
- c. The quantity of raw material in the purchase order
- d. The minimum stock level of the material
- e. None of the above

An important aspect of Change Management is:

Select one;

- a. Adequate training of all stakeholders
- b. Good communication between stakeholders
- c. Extensive user involvement
- d. The use of new technology
- e. All of the above

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The process of determining when an order should be commenced based on the required delivery date is known as:

Select one:

- a. Master production scheduling
- b. Forward scheduling
- c. Backward scheduling
- d. Project scheduling
- e. Order scheduling

The SAP client concept allows an organization to split a system into logical sub-units. This could be used to:

Select one:

- a. Store data for different customers
- b. Store data in different physical locations
- c. Store data for different warehouses
- d. Store data for different operational environments
- e. None of the above

### Short answer questions

11. Two of the drivers identified for implementing ERP systems are reduction in personnel and reduction in IT costs. Explain how an ERP implementation could achieve these benefits.

#### ERP :

streamline and improve business processes 简化和改进业务流程,

integrate business processes eliminate unproductive processes 整合业务流程消除非生产性流程

better manage information systems expenditure 更好地管理信息系统支出

real time system

integrated system (MYOB, SQL)

data management

CSF 11week?

12. There are three types of data in the SAP system: master data, organisational data and transaction data.

1) In what order must this data be defined? Why?

**Master data :**

**Purchase order :**

**Different view :**

2) Why is the Material Master data separated into different views?

Conveniently check the information of different departments.

The separate view allows various people to quickly find the information according to different needs. Besides separate views can avoid input errors. Because the user can only jump to the next view after entering the view information.

13. Why is it important that an organization minimizes stock levels of materials held in inventory?

How does an ERP system help with this?

**minimizes stock levels :**

(SOTCK 和其他东西的联系, cost (管理, 储存) , sales, procurement)

**ERP 的 benefit :**

**real time,**

Improve inventory/ Asset management

Fewer physical resources/better logistics

14. When you post a goods receipt into the warehouse, the quantity and value of the stock is increased irrespective of the stock type. Explain the meaning of this statement.

**Goods receipt :**

(收货库存增加发货库存减少)

**stock type (unrestricted, inspection, on order stock, reserved)**

**Stock Overview :** Shows the current stock quantities at company, plant and location levels

15. How does MRP use the BOM to determine the materials required to meet customer order demand ?

**MRP:**

**BOM:**

关系 : **MRP** 是需要用 **BOM** 的数据进行计算

好处 : **MRP** 是核心, 因为由它来分配资源和任务。

BOM is at the heart of MRP which uses the MRP operation for product materials to produce the relevant material requirements plan. For example, you can see the different material types that need to be produced based on GTMB's BOM, each multi-level containing the material name and the required quantity. The standard usage of the item is determined in the company's costing BOM because the cost of the product is added up by the cost of the item on the BOM. The company can plan for the future with inventory status.

16. How would a user of the SAP system use the Document Flow transaction to assist them in their job?

Document Flow:

各部门员工:

管理层:

17. A production order will result in a Goods Issue and a Goods Receipt.

1. What materials are issued and when are they issued?
2. What materials are received and when are they received?

18. Discuss what is meant by a vanilla version of an ERP system?

The unfeatured version of a product is sometimes referred to as the vanilla version.

SAP vanilla implementation means no modification and no customization to SAP software and database during implementation.

Vanilla ERP may be defined as the implementation of standard software modules for core business processes, usually combined with customization for competitive differentiation. The aim is to provide breadth of integration and depth of functionality across multi-functional and often multi-national organizations.

The benefits are:

- Avoid large amount of customization and development that organization will go through.
- Taking advantage of the best practices with SAP.
- Gaining the benefit of SAP research, as well as research and functionality that they've developed over time working with other larger companies.

19. How would you define SAPS/4 HANA

SAPS/4 HANA

20. What makes ERP systems unique from other systems?

Links all business processes automatically

Transactions occur one time at the source

Maintains an audit trail of all transactions

Utilises a common database for

– Master data

– Transactional data

– Enabling BI

Utilise a common architecture (Netweaver 集成平台)

Performs internal conversions automatically (tax, foreign currency, legal rules for payroll)

Real time data extraction

Utilises best practice business processes

Most system functionality has a common interface and terminology

### Case study

The following is a brief case study of a company who manufactures and distributes racing bikes, Hoque & Paull Bike World. They are implementing an enterprise system for the first time. This case company provides the backdrop for the exam questions. Each set of questions reflects a different aspect of enterprise systems. Read the case study carefully and then answer the questions that follow:

You work for a well-known manufacturer who sells 6 different types of racing bikes. Currently they are importing some of their raw materials and sub-assemblies from China but are also purchasing consumable items and raw materials from local suppliers.

Currently the company has a research and development arm and a manufacturing assembly plant in

Melbourne and purchases consumable items and some materials from local Australian suppliers. However the Executive team is considering sourcing and purchasing additional materials and sub-assemblies from India, Vietnam as well as China and off-shoring some of their manufacturing to these countries

The company started business in 1989. Their business processes have not changed much over this time; however the market has changed considerably. They have a variety of legacy systems that were built specifically for the company. But they now realise the company lacks the agility it needs to be competitive and their top executives and middle managers are unable to make informed decisions as they do not have the relevant nor correct data that can be provided in a timely fashion.

The Board of Directors and CIO have been deliberating for quite some time about implementing an enterprise system. Now this imperative has become very real since they will be manufacturing products and sub-assemblies off-shore and shipping them to their home base in Melbourne. They have had many vendor presentations and have specifically concentrated on ERP systems and generic software products that they feel would support their business requirements and drivers.

Main business drivers behind the implementation:

- o Enable Online Customer orders and customer order transparency

- o Enable On line Vendor managed inventory stocks
- o Expand operations into Vietnam, India and China
- o Provide their Business Areas Sales Managers, who work out of the office, with mobile applications that

can talk to their ERP system real time – the Executive Team consider this will require a cloud based functionality

One dilemma the company has is whether to adopt their enterprise systems wholly in the cloud or have part of the system on premise and another part in the cloud. The Board is hoping you can help with this problem.

The company will have 2000 staff; which includes 15 top level managers, 20 middle managers, 50 sales staff, and 15 operational managers; as well as 1,500 end users of the system and 400 contract workers from a variety of departments; such as, warehouse, production and manufacturing, research and development, call centre personnel, sales and distribution, service and HR staff to name a few. End users can be broken down into four main groups with various levels of computer literacy: experienced SAP users, inexperienced core users, inexperienced casual users, and users requiring simple system awareness. These end users will be impacted by the implementation in various ways.

You are employed as a Business Systems Requirements Analyst on a contractual basis. You have had some experience with implementing the SAP Logistics module into manufacturing organisations; you are a certified SAP consultant and an expert in manufacturing business processes. Your expertise has been sought to provide input into the choice of software the company should implement. They have also asked if you would take on the role of project manager for the implementation.

The company requires your advise to help them decide on the new system.

**1.1 The Board asks you to recommend a suitable vendor and associated ERP system that you think Hoque & Paull Bike World should implement to enable them to meet their business requirements and business drivers.**

**Having considered the above request from the Board, write a recommendation naming a vendor and their ERP system that would be suitable for use by the company. In your recommendation justify why you recommend this system, include a full definition of an enterprise resource planning system (ERP), making sure you include how the system will enable Hoque & Paull to meet their business requirements and business drivers. (8 marks)**

**ANS: THIS IS A BIG QUESTION – Unpack it:**

- Write a recommendation naming a suitable ERP vendor and their system:  
obviously SAP vendor: S/4 HANA Business suite (2 marks)
- Justification why student recommends this system (2 marks) students may link this answer to d below: but must include agility as outlined in the case study

- Definition of ERP system (1 mark)  
ERP is an integrated modularised back end system that is based on best business process practices: data is held in a (database? Or RAM) and updated realtime.
- Explaining how the system will enable the company to meet their business requirements and business drivers (3 marks)  
students MUST incorporate the following into their answer – easy marks for copying and pasting and linking to c. above.

*Main requirements:*

They have a variety of legacy systems that were built specifically for the company. their top executives and middle managers are unable to make informed decisions as they d have the relevant nor correct data that can be provided in a timely fashion.

*Main business drivers behind the implementation:*

- o Enable Online Customer orders and customer order transparency
- o Enable On line Vendor managed inventory stocks
- o Expand operations into Vietnam, India and China
- o Provide their Business Areas Sales Managers, who work out of the office, with mobile applications that can talk to their ERP system real time – the Executive Team consider will require a cloud based functionality

**1.2 One of the Board members has heard that most enterprise systems will be cloud based in the very near future. She queries whether Hoque & Paull should ensure their new system is cloud based, or should they keep everything on premise, or should they take a hybrid approach.**

**Discuss the critical issues and challenges surrounding this dilemma and provide a suitable recommendation for Hoque & Paull.**

ANS: students should be critically analysing the issues and challenges and clearly identifying which solution is most suitable.

Cloud based: (2 mark) use your discretion when marking

SAS – pay as you use – no maintenance costs

Upgrades and enhancement packs are included in the monthly fees So no major IT overheads

Can configure the system if needed

Data saved in the cloud



On premise: (1 mark)

Costly

Need experienced and dedicated IT team to manage the hardware and software system

Hybrid: (1 mark)

A combination of cloud and on premise (see recommendation) (5 marks)

Recommendation: Critical analyse the issues and challenges: (2 marks) Obvious choice is to have a cloud based system and try and ensure all the legacy systems are included in the new ERP cloud based systems. If not possible then all possible systems go cloud and any legacy systems left over are on premise so end up with a Hybrid.

**1.3 You recommend that Hoque & Paull Company invite ImplementationsRUs, a well-known consulting company, to help with the implementation of their new system. Upon discussions the consulting company explains that they should establish the ‘Fit’ before the implementation can take place, although this is more expensive it is a vital step.**

**Explain what is meant by the term ‘Fit’, and comment why it is an important first step before the implementation can take place. To gain full marks include in your explanation the importance of configuration and customisation.**

ANS:

FIT: Fit refers to analysing the current business processes and seeing how the old processes fit within the new system. (4 marks)

This is important to firstly identify what **configuration** is necessary to adapt the new system to organisational requirements (ie turning off screens that are not required). (2 marks)

Secondly, To identify how **much training is required for users**. An example is accounting most accounting systems are very similar and use terminology and processes that accountants adopt already – so there is very minimal training except in how the system operates. (1mark)

Customisation: enterprise systems that are customised means that parts of the coding is changed in the system to accommodate business requirements that are not accommodated through the new system business processes. (1 mark)

**1.4 It is often stated that a business process is the ‘heartblood’ of an ERP system. Discuss what is meant by this statement and include in your answer a definition of a business process.**

ANS:

Business processes are the heart blood of an organisation and ensure the organisation runs efficiently and effectively. (.5 marks)



A business process describes a sequence of activities or tasks for the creation of goods and services, affecting the success of the company and is driven by a transaction *carrying the data around the organisation* via transactional documents. (1.5 marks)

When BP are not functioning correctly ie too many manual processes, slow process structures where the process runs slow and holds up other steps then costs start to escalate, impacts on the organisation which is not efficient and this degrades competitive advantage (2 marks); therefore processes need to be continuously updated and improved to ensure efficiency.

## SECTION 2 SAP S/4 HANA BUSINESS SUITE

**2.1 From your manufacturing experience and working knowledge of logistics in the SAP S/4 HANA system, help the Board understand the functionality of the logistics module by answering the following questions :**

**a. Fully describe the significance of ‘master data’ in an ERP system.**

**ANS:** Master Data (4 marks = main points for master data explanation) Synchronised copies of detailed information about core business entities or objects (1 MARK) (such as customers, vendors; materials) (1 MARK)

all application users link to a single core repository of the master data ensuring one version of the truth (2 MARKS); the data is specifically structured so that the data does not change over time but is kept in the repository and copied as it is needed into company documents (.5 of a mark here- this isn't why it is significant – make sure you watch out for this when you are marking.

**b. Using SAP S/4 HANA system for production planning and execution, explain the role of the Material Requirements Planning (MRP) system when creating a planned/production order. You must include in your explanation the MRP's link with the material master data and its associated objects such as Bill of Materials, Work Centres and Routings.**

**ANS:** The MRP uses the BOM of the material master to assess: raw materials and sub assembly requirements for the production plan, (2 marks)

it then looks to work centres to see which machine or worker will be used routings will show how long each machine or worker will take to complete the job. (2 marks)

This is useful for JIT ordering of sub-assemblies and raw materials. The MRP looks to inventory to see if the stocks are available. when materials are not located in the inventory the MRP sends out purchase requisitions to the purchasing department for them to create purchase orders to send out to vendors so that the stock will be in inventory when it is needed to make the product (2 mark)

**c. Explain the importance of 'product costings' as related to material management in the SAP S/4 HANA system manufacturing system.**

**ANS:** Each material is costed based on the costs of the raw materials, work centres and routings either when purchased from the vendor or developed by the company. (2 marks) These costs are accumulated and apportioned to provide the final cost to make the final material - this information is located in the Material master data. (1 mark) When material costs increase from vendors or offshore these costs have to be updated in the materials master data of the material and go to increase the final cost of the product to the customer via controlling (1 mark for saying controlling)

**d. Explain the importance and use of transactional documents in the S/4 HANA system. Name one transactional document that you have used in the SAP system.**

**ANS: Definition: Transactions are application programs which execute business processes in the ECC6 System.** The majority of processing that is conducted in the SAP system are the role of transactions which progress the process tasks onto the next process task. (3 mark)

They usually result in creating a range of documents such as a customer order, posting an incoming payment, or approving a leave request. (1 marks)

**2.2 The Board is interested in the accounting module in SAP S/4 HANA. One Board member is an Accountant and is keen to have more information about the two main components within this module.**

**A. Name the two components in the accounting module in SAP S/4 HANA.**

**ANS:** Financials STUDENTS WHO SAY external accounting GET no mark

Management controlling / controlling/ NOT internal accounting

**b. Describe the fundamental differences between the two accounting components.**

**ANS: *financials*** is for external reporting of ALL financial transactions for legal reporting purposes to the external tax department of the country – financial reports include P&L and Balance sheet/cashflow (2 marks)

***Management controlling:*** is used for managing expenses and profits for materials and departments within the organisation and these expenses and profits directly flow from financial transaction occurring (2 marks)

**2.3 Fully explain the importance of the linkage between the Chart of Accounts and the General Ledger (G/L) in accounting. In your explanation ensure you describe the chart of accounts and general ledger using examples from the SAP system you have been working in.**

**ANS:** General ledger manages all financial transactions in the organisation using a debit and credit approach (2 Marks)

Each financial transaction that is passed into the general ledger is given an account number the account number is allocated through the chart of accounts (1 marks) the chart of account numbers create the link with the Balance Sheet, P&L and cashflow statement (1 MARK)

### SECTION 3: CURRENT AND FUTURE TRENDS IN ENTERPRISE SYSTEMS

**3.1 Gartner surveys approximately 3,000 CIOs every year to gain insights into changes in their world. The 2017 CIO Agenda Survey is no exception. The survey data shows that digitalisation is intensifying. In the next five years, CIOs expect digital revenues to grow from 16% to 37%. In the 2017 Survey, digital transformation is ranked fourth of CIOs top technology priorities. (11 marks)**

**Identify the three top ranked CIO technology priorities.**

ANS: (1 mark each) – it is either right or wrong Analytics and business intelligence

Digitalisation/digital marketing OR cloud computing

Cloud computing OR mobile computing

**Several top companies use digital capabilities to establish competitive advantage. Identify and explain the top four digital capabilities.**

ANS: 1 MARK FOR each named capability including a small descriptor is fine)

1. Use of big data, data analytics and customer analytics

2. customer centricity

3. Industry specific IT capability

4. cloud business

**Describe how ‘Uber’ has digitally transformed the taxi industry.**

ANS:

Uber developed a mobile application that allows customers to use their iphone to call an uber to their located position,(1 mark)

shows customer how long the uber will be before pick up and which car will pick them up and where it is relative to customers’ position (1 mark)

and how much customer will be required to pay, once the customer agrees the uber taxi is paid for using the app (1 mark)

and then the customer can then rate the uber driver via their app for every other customer to see. (1 mark)