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**Semester One 2018
Examination Period****Faculty of Information Technology****EXAM CODES:** **FIT5101 – ANSWER SHEET****TITLE OF PAPER:** **ENTERPRISE SYSTEMS - PAPER 1****EXAM DURATION:** 2 hours writing time**READING TIME:** 10 minutes***THIS PAPER IS FOR STUDENTS STUDYING AT: (tick where applicable)***

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AUTHORISED MATERIALS

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| OPEN BOOK | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |
| CALCULATORS | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |
| SPECIFICALLY PERMITTED ITEMS if yes, items permitted are: | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |

Candidates must complete this section if required to write answers within this paper

STUDENT ID: _____

DESK NUMBER: _____

INSTRUCTIONS:

The exam paper comprises three sections totalling 60 marks. Each section reflects different aspects of enterprise systems as discussed in the lectures and in your tutorials.

Read the questions carefully. Complete ALL sections and their questions. Answer the questions in the exam booklet provided.

ASSESSMENT MARKS/PERCENTAGE:

This exam makes up **40%** of your assessment in FIT5101, and comprises 60 marks in total.

EXAM PAPER ORGANISATION:

The paper is divided into three sections:

| | | | |
|------------------|--|--------------------|-----------------|
| Section 1 | Enterprise systems and implementation issues | 1 question | 21 marks |
| Section 2 | S/4 HANA Business Suite | 3 questions | 28 marks |
| Section 3 | Current and Future Trends in Enterprise Systems | 2 questions | 11 marks |
| | | Total | 60 marks |



The following is a brief case study of a company who manufactures and distributes racing bikes, Hoque & Paul 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:

- Enable Online Customer orders and customer order transparency
 - Enable On line Vendor managed inventory stocks
 - Expand operations into Vietnam, India and China
 - 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
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- 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.

MARKER: SACHI LOKUGE

- 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:

- a. Write a recommendation naming a suitable ERP vendor and their system: obviously SAP vendor: S/4 HANA Business suite (2 marks)
- b. 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
- c. 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.
- d. 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 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

MARKER FOR QUESTIONS 1.2, 1.3 AND 1.4 - SHAHID

- 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.

5 marks

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)

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. (1 mark)

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)

4 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.

- 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:

MARKER: STEPHEN PAUL

- a. Fully describe the significance of 'master data' in an ERP system. 4 marks

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.

MARKER; STEPHEN PAULL

- 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) 6 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)

MARKER: STEPHEN PAULL

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

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)

ADDITIONAL INFO: Costs are apportioned to each individual component of a material ie mongoose bike is made up of 10 Different raw materials and sub-assemblies, many of these items are purchased from vendors, the purchase price the customer pays is the cost price that is recorded as part of the master data for the mongoose bike so that the bike can be sold for the correct price.

C.

MARKER: RUSSEL

- 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. 4 marks

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. 2 marks

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. 4 marks

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. 4 marks

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)

MARKER: SACHI

SECTION 3: CURRENT AND FUTURE TRENDS IN ENTERPRISE SYSTEMS

11 marks

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.

a. Identify the three top ranked CIO technology priorities.

3 marks

ANS: (1 mark each) – it is either right or wrong

1. Analytics and business intelligence
2. Digitalisation/digital marketing OR cloud computing
3. Cloud computing OR mobile computing

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

4 marks

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

c. Describe how 'Uber' has digitally transformed the taxi industry.

4 marks

ANS:

- a. Uber developed a mobile application that allows customers to use their iphone to call an uber to their located position,(1 mark)
- b. 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)
- c. and how much customer will be required to pay, once the customer agrees the uber taxi is paid for using the app (1 mark)
- d. and then the customer can then rate the uber driver via their app for every other customer to see. (1 mark)