



PAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Faculty of Management Sciences

Department of Management

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| QUALIFICATION: Bachelor of Business and Information Administration | |
| QUALIFICATION CODE: 07BBIA | LEVEL: 7 |
| COURSE: Business Information Systems 3 | COURSE CODE: BIS721S |
| DATE: January 2020 | SESSION: 1 |
| DURATION: 2 Hours | MARKS: 100 |

| SUPPLEMENTARY/SECOND OPPORTUNITY EXAMINATION MEMORANDUM | |
|--|----------------------------|
| EXAMINER(S) | Mr G Kaisara |
| MODERATOR: | Ms Zelda du Plessis |

| INSTRUCTIONS |
|---|
| <ol style="list-style-type: none">1. You have to answer all questions.2. Read all the questions carefully before answering.3. Please number your answers clearly.4. Make sure your student number appears on the answering script. |

THIS QUESTION PAPER CONSISTS OF 6 PAGES
(Including this front page)

Question 1

[5x2 Marks]

Choose the most appropriate answer

1.1 Which of the following networks is the largest

- a) PAN
- b) HAN
- c) CAN
- d) **WAN**
- e) MAN

1.2 Which of the following is an example of unguided media

- a) **Infrared**
- b) Twisted Pair Cable
- c) Fire optic
- d) Coaxial cable

1.3 Which of the following is characterized by an increased Artificial Intelligence?

- a) Web 1.0
- b) Web 2.0
- c) **Web 3.0**
- d) None of the above.

1.4 is the tight integration of the IT function with the organisation's strategy, mission and goals, where the IT function supports the business objectives for the organisation.

- a) Strategic planning
- b) Cost leadership strategy
- c) Decisions support systems
- d) **Business-Information technology alignment**

1.5 This is an Information System that is normally found in a department

- a) **Functional Area Information System**
- b) Enterprise Resource Planning System
- c) Management Information System
- d) Executive Support System

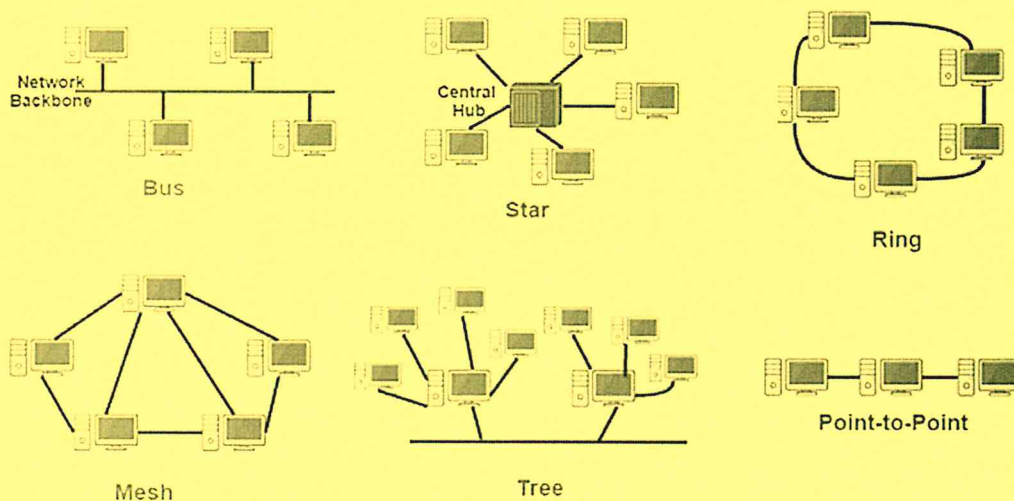
Question 2

[90 Marks]

- 2.1 Differentiate between data, information, and knowledge. [6]
Data refers to unprocessed texts, numbers, and related material. Information refers to data that has been processed to be meaningful and able to guide decision making. Knowledge is the experience that one acquires due to the repeated use of information. [2 Marks for each definition]

- 2.2 Discuss the four ways which influence how we categorise networks [8]
Topology: *The geometric arrangement of a computer system. Common topologies include a bus, star, and ring. See the Network topology diagrams in the Quick Reference section of Webopedia.*
Protocol: *The protocol defines a common set of rules and signals that computers on the network use to communicate.*
Architecture: *Networks can be broadly classified as using either a peer-to-peer or client/server architecture.*
Media: *Connects various types of nodes in a network*
[2 Marks for each]

- 2.3 Draw and label any four network topologies. [8]



[Accept any of these – 2 marks for each]

- 2.4 Business intelligence is a critical component of modern business operations. Explain the meaning of the concept, and using examples, its benefits, and any two resources that need to be in place for an organization to effectively utilize BI.[10]

Business Intelligence is the insight [2] that organizations acquire through the analysis of various forms of data [2]. This can come from the micro, market or macro environment [2]. Through data analytics, an organization is able to identify opportunities and potential threats [2]. For effective data mining, an organization needs to have capable staff [2], as well the requisite information systems to collect and analyse data [2].

[Consider other credible student contributions]

- 2.5 When a manager has to make a decision, it is a process, and not an event. Discuss the typical four stages that make up the process. [8]
Intelligence: The first step in the decision making process is to clearly understand the motivation behind the problem detected or alternatively the opportunity detected.
Design: This involves identifying and exploring various solutions to the problem / opportunity.
Choice: At this stage the solution alternatives are compared to find the most suitable solution.
Implementation (Monitor): Implement the solution selected and continuously monitor if and how well the solution is working.
[2 Marks each]
- 2.6 Your organization has decided to acquire a system. Discuss the three approaches that you may take in acquiring your system. [9]
Bespoke development – This type of development refers to an information system that is built from scratch, in other words this is a brand new system.
Off-the-shelf software – This type of development refers to the buying of an information system or rather software that has been developed already.
End-user development is software development by the business user. This is normally an application developed for individual or departmental use like a spreadsheet or a small PC database.
[1 mark for the name, two marks for explanation]
- 2.7 Information Systems are not to be adopted without thought. What are the two factors that influence an organisation's decision to adopt a system? [4]
 - It could in response to an identified business opportunity,*
 - or a business problem/threat that needs to be addressed.**[2 marks each]*
- 2.8 Name and describe at least three (3) different methodologies in the SDLC [9]
These may include the following;

- *Waterfall methodology: This is a step by step approach or a sequenced approach that follows all the phases in the SDLC. All the steps in one phase should be completed before the next phase can start.*
- *V Shaped Methodology: The V-shaped model is also called the Verification and Validation model (Art of Testing, 2019). It's called this way because there's a testing phase running parallel to every development phase.*
- *Prototyping Methodology: in this approach a prototype or a replica or a miniature duplicate copy of the main item to be developed, will be created as you go through the different phases of this methodology.*
- *Spiral methodology: The Spiral model is important as it deals appropriately with the risk aspect of the development. This model is a combination of the traditional Waterfall and the Prototyping model*

[1 Mark for naming, two marks for credible definition]

2.9 Explain the concept of data-mining, and why is it important to organisations [3]

Data mining is the act of analyzing various forms of data to identify trends. It is important as it helps organisations to identify potential threats and Opportunities.

[1 mark for explanation, 2 marks for benefits given]

2.10 Briefly describe sensitivity analysis, and explain how it work (use an example) [5]

Sensitivity Analysis refers to the analysis of how various changes of different variables in the business environment will affect the final outcome. For example, a supermarket chain may use models (for sensitivity analysis) to predict how their profits would be affected by the market entry of a new budget supermarket chain.

[2 marks for definition, 3 marks for full definition]

2.11 Air Namibia has been undergoing losses, and government has consulted your firm to assist in improving its performance. Using various capabilities of information systems, explain what you would do to improve it. [10]

There are a number of points that a student could raise here. These include the use of Information Systems to analyse customer data, so as to improve the quality of services [2]. Information Systems could also be used to analyse the likelihood of improving profitability on some routes [2], sensitivity analysis could be done to predict various outcomes of the soon to be introduced Africa Open Skies Treaty [2], interorganisational systems could be used to create new alliances and share strategic information, [2]. The airline could explore the possibility of introducing Robotic Systems so as to cut on some forms of labour costs [2], etc.

Consider student contributions]

2.12 The “Fourth Industrial Revolution”. Discuss the meaning of the term, and its potential impact on the work of Office Administrator. Advise on what we should do as Namibians to prepare for the Fourth Industrial Revolution. [10]

There a number of things that could be done to prepare for 4IR. These include the revamping of curriculum to ensure that graduates are ready for the new era [2]. Legislation is a common factor influencing the uptake of Systems, there it would be necessary to ensure that legislation is accommodative of the new era [2]. Ethical concerns need to be also addressed [2]. The technological infrastructure needs to be updated as well [2]. Perhaps more importantly, a cultural shift of the mindset is a must, as technology cannot work well where it's not fully embraced [2]



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Question 2

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