



RAJARATA UNIVERSITY OF SRI LANKA

FACULTY OF APPLIED SCIENCES

B.Sc. (General) Degree in Information and Communication Technology

Second Year Semester II Examination, April/May 2016

ICT 2207 – MANAGEMENT INFORMATION SYSTEMS

Time allowed: 2 ½ hours

INSTRUCTIONS TO CANDIDATES

- This paper consists of three (03) sections A, B and C on 10 pages including this page.
- **Section A** contains thirty (30) multiple choice questions. Answer **ALL** questions in Section A using the detachable answer sheet provided at the end of the paper.
- **Section B** contains three (03) structured questions. Answer **ALL** questions in Section B.
- **Section C** contains two (02) essay questions, and answer **only ONE (01)** question.
- **Detach** the answer sheet for Section A from the paper, write your index number, and attach it to the answer scripts of sections B and C. Sections B and C may be answered using the same booklet, however, sections should be clearly labelled, and the question numbers of Section B should be clearly indicated.
- This examination accounts for 60% of the course assessment. The total maximum mark attainable is 100. The marks assigned for each question and section thereof are indicated in square brackets.
- This is a **closed book** examination.
- Mobile phones or any other communication devices are not permitted.
- Clearly state the assumptions you make. If you have any doubts regarding the interpretation of the wording of a question, make your own decision, but clearly state it on the script.

SECTION A**Multiple Choice Questions**

This section contains thirty (30) questions.

Answer ALL questions using the answer sheet provided at the end of this paper.

All questions carry equal marks.

Detach the answer sheet from the question paper and attach it to Sections B and C.

Select only one answer for each question.

[30x1 marks]

1. An organisational management can claim that the business – IT alignment is a prime requirement in their decision making process if:
 - a. they decide the business strategy based on the IT strategy.
 - b. they decide the IT strategy based on the business strategy.
 - c. they decide to use information technology depending on their business strategy as well as the IT strategy.
 - d. all of the above are fulfilled.
2. The information system that will be the data feeder of other information systems is:
 - a. a CRM.
 - b. an MIS.
 - c. a TPS.
 - d. a KMS.
3. Which of the following has not *directly* contributed to the transformation of businesses to use Internet based business models?
 - a. CPU and system performance improvement technologies
 - b. Web 2.0 technologies
 - c. Mobile apps
 - d. Cloud computing models
4. A major criterion in deciding the most important functions of an information system to be developed is
 - a. business process efficiency.
 - b. competitive advantage.
 - c. implementation convenience.
 - d. business process re-engineering possibility.
5. Networking and telecommunication technologies, along with the people required to run and manage them, constitute _____ of the organisation.
 - a. information system
 - b. data management environment
 - c. networked environment
 - d. IT infrastructure

6. Which of the following estimations may not need the help of a decision support system?
- if the employed sales force is reduced how much should the Internet based sales promotion increase
 - to start a new retail outlet, how much should be spent on the infrastructure
 - will the existing transportation facilities be sufficient if a new retail outlet is started
 - the impact on the production schedule if the next month's sales are increased by 30%
7. The *field* that deals with behavioural issues as well as technical issues surrounding the development, use, and impact of information systems used by managers and employees in the firm is called:
- transaction processing systems.
 - management information systems.
 - decision support systems.
 - executive support systems.
8. Which of the following choices may lead to competitive advantage?
- new products, services, and business models
 - charging more for superior products
 - responding to customers in real-time
- (i) only
 - (i) and (ii)
 - (ii) and (iii)
 - (i) and (iii)
9. Which of the following is not true about an organisation?
- Organisations and environments have a reciprocal relationship.
 - Organisations are open to, and dependent on, the social and physical environment.
 - Organisations can influence their environments.
 - Majority of organisations generally change faster than environment.
- all of the above are not true
 - only (ii) is not true, and others are true
 - only (iv) is not true, and others are true
 - both (i) and (iii) are not true
10. Which of the following is not implied in the Transaction Cost Theory?
- If the size of the organisation is reduced, transaction costs can be reduced.
 - When the size of the organisation increases, the cost of participating in the market decreases.
 - IT lowers the cost of participating in the market.
 - If IT is properly used, size of the organisation can be reduced.

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11. Which of the following are taken into consideration by the Agency Cost Theory?

- (i) cost of supervising
- (ii) use of IT for administration
- (iii) dealing with different agencies

- a. (i) and (ii)
- b. (ii) and (iii)
- c. (iii) only
- d. all of the above

12. A virtual company:

- (i) uses the capabilities of other companies without being physically tied to those companies.
- (ii) uses Internet technology to maintain a virtual storefront.
- (iii) uses Internet technology to maintain a networked community of users.
- (iv) provides Internet-driven services, or virtual products.

- a. only (i) is not true, and others are true
- b. all of the above are true
- c. only (ii) and (iii) are true
- d. only (iii) and (iv) are true

13. Which of the following is not a major concern in the behavioural view of information systems?

- a. rules and procedures
- b. human computer interaction
- c. rights and obligations
- d. values and norms

14. Data management technology consists of:

- a. the software governing the organisation of data on physical storage media.
- b. the hardware and software used to transfer data.
- c. the physical hardware and media used by an organisation for storing data.
- d. the detailed, preprogramed instructions that control and coordinate the computer hardware components in an information system.

15. An organisation should not use:

- a. open source software if it is covered only under the GNU public license.
- b. software for which the source code is not available to be downloaded for evaluation.
- c. proprietary software if the license contains a statement that the vendor will not take responsibility for the damages caused by the software.
- d. software for which the technical support is not guaranteed.

16. A strategic example of a business using IS to initiate *new* products and services is:
- a university using a learning management system to make its courses available online.
 - integrating the sales and marketing systems with social networks to receive customer feedback and analyse them.
 - using a decision support system to change different parameters and see how the business outcome would change accordingly.
 - an organisation hosting its information systems in a cloud make them scalable and highly accessible.
17. The management of an insurance company is concerned about how they will track them and exchange documents with the assessors who work in the field using mobile phones. This is a business problem that falls into the:
- legal dimension.
 - people dimension.
 - organisational dimension.
 - technical dimension.
18. The management of an insurance company is concerned about how they will protect the confidentiality of client information and store them for a considerable number of years. This is a business problem that falls into the:
- legal dimension.
 - people dimension.
 - organisational dimension.
 - technical dimension.
19. In choosing a new system for a business organisation in place of an existing system, an important consideration with respect to its adoption is:
- change management difficulty.
 - existing resources and skills.
 - employee training options.
 - all of the above.
20. Multidimensional data analysis is a result of:
- extracting data from a relational database.
 - extracting data from a relational object oriented database.
 - online analytical processing.
 - data mining.
21. In today's context, an example of a business using information systems for survival is:
- a stock exchange that has automated all trading activities.
 - a supermarket using a loyalty scheme based rewarding mechanism facilitated through a customer relationship management system.
 - a bus company using an automated revenue collection system.
 - all of the above.

22. In today's context, an example of a business using information systems for competitive advantage is:
- a stock exchange that has automated all trading activities.
 - a supermarket using a loyalty scheme based rewarding mechanism facilitated through a customer relationship management system.
 - a bus company using an automated revenue collection system.
 - all of the above.
23. Many book publishing companies are struggling to survive due to:
- not using social media for advertising their new releases.
 - not transforming their business model to an Internet-based model.
 - declining reading habits of the young generation.
 - all of the above.
24. Assume that you have been hired by a vehicle insurance company to propose a solution that makes the accident reporting process and the work of the on-spot damage assessor efficient. What is the correct way to proceed?
- Look for solutions, evaluate the solutions, identify the requirement more clearly, and then implement the solution.
 - Think about what solutions can be implemented, look for solution designs, evaluate the designs, and then implement the solution.
 - Design solutions, evaluate and identify the requirements, choose the best solution, and then implement the solution.
 - Identify the requirement, design alternative solutions, choose the best solution, and then implement the solution.
25. In relation to NORA, which of the following is true:
- It can help an organisation to select the best candidate for a job.
 - It can help an organisation to avoid the selection of a wrong candidate for a job.
 - It is unethical to use NORA in the selection process of a candidate for a job.
 - All of the above.
26. In an organisational context of ethics, "no free lunch" rule implies that:
- all employees should be given all facilities at a cost.
 - no employee should be denied of a right due to the cost of facilities given free to the others.
 - that all objects in an organisation are owned by someone.
 - that no object in an organisation should be assigned to an employee without the consent of the management.
27. Utilitarian principle implies that the organisations should:
- take the action that achieves the higher or greater value.
 - take the action that produces the least harm or least potential cost.
 - consider that if an action is not right for everyone to take, it is not right for anyone.
 - non of the above.

28. Enterprise systems need to be secure due to:

- a. the sensitiveness of information in the Internet.
- b. the need to secure business information of an organisation.
- c. the large number of users in the Internet.
- d. all of the above.

29. Wireless security is important as:

- a. management of many business organisations promote BYOD strategy.
- b. wireless networks provide flexibility in business processes.
- c. many attacks can come through wireless networks.
- d. all of the above are applicable.

30. Which of the following is not a security measure for a business organisation?

- a. use of a firewall
- b. use of anti virus software
- c. training the organisational staff on proper use of databases
- d. training the organisational staff on an AUP

SECTION B

Structured Questions

This section contains three (03) questions. Answer ALL questions. Each question carries a total of 15 marks.

- B-1 (a)** Explain using examples the statement “Digital firms offer greater flexibility in managing organizations”. [4 marks]
- (b)** What is meant as a Business Process? Write two examples for Business Processes. [2 marks]
- (c)** Organisational dimensions of information systems, specifically in relation to hierarchy of authority and responsibility, can be considered at six levels. Give examples for applying MIS for three of these dimensions of an organization whose main product is service package delivery. [6 marks]
- (d)** Briefly explain how an organisation can achieve “Improved Decision Making” as a Strategic Business Objective. Use an example. [3 marks]
- B-2 (a)** Compare and contrast Transaction Processing Systems with Decision Support Systems. [3 marks]
- (b)** Following are four types of Enterprise Applications which improve organizational performance. Using examples explain **two (02)** of the following:
- i. Enterprise Systems
 - ii. Supply Chain Management Systems
 - iii. Customer Relationship Management Systems
 - iv. Knowledge Management Systems [4 marks]
- (c)** Why is collaboration and team work important for an Organization? Further, list **four (04)** tools and technologies that enhance the collaborative environment of an organization. [4 marks]
- (d)** Explain the term “Disruptive Technologies” and list **three (03)** features of this technology. [4 marks]
- B-3 (a)** To explain how information systems impact the economy of an organization we can use Transaction Cost Theory and Agency Cost Theory. Explain these two theories. [4 marks]
- (b)** What **five** competitive forces are considered by Porter’s Model? Explain **two (02)** of them using examples. [5 marks]
- (c)** Explain “Low Cost Leadership”, which is a strategy to achieve competitive advantage. Mention suitable examples. [3 marks]
- (d)** Compare and contrast “Virtual Company Model” with “Business Echo System”. [3 marks]

SECTION C

Essay Questions

Answer only ONE (01) question out of the two (02) questions given below.

C-1 a) Using examples discuss how the development of IT infrastructure has influenced the Information Systems. [5 marks]

b) Explain the following terms

- i. Grid Computing
- ii. Virtualization
- iii. Cloud Computing
- iv. Green Computing

[8 marks]

c) Associations, sequences, classification, clustering and forecasts are most important features of Data Mining. Using proper examples explain how these techniques can be used to improve the decision making using Business Intelligence. [12 marks]

[Total 25 marks]

C-2 a) Explain **three (03)** emerging network technologies that influenced the current Information Systems. [6 marks]

b) Explain how Google search engine works. [4 marks]

c) Price transparency, cost transparency and price discrimination are *much important features in today's e-commerce. Explain these terms using suitable examples. [9 marks]

d) Explain the revenue models of Transaction Brokers, Content Providers and E-tailers. [6 marks]

[Total 25 marks]