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 2015

ICT 2207 – MANAGEMENT INFORMATION SYSTEMS

Time allowed: 2 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. 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:
   a. transaction processing systems.
   b. management information systems.
   c. decision support systems.
   d. executive support systems.

2. Which of the following estimations may not need the help of a decision support system?
   a. if the employed sales force is reduced how much should the Internet based sales promotion increase
   b. to start a new retail outlet, how much should be spent on the infrastructure
   c. will the existing transportation facilities be sufficient if a new retail outlet is started
   d. the impact on the production schedule if the next month's sales are increased by 30%

3. Which of the following choices may lead to competitive advantage?

   (i)   new products, services, and business models
   (ii)   charging more for superior products
   (iii) responding to customers in real-time

   a. (i) only
   b. (i) and (ii)
   c. (ii) and (iii)
   d. (i), (ii) and (iii)

4. 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

5. Which of the following is not implied in the Transaction Cost Theory?
    a. If the size of the organisation is reduced, transaction costs can be reduced.
    b. When the size of the organisation increases, the cost of participating in the market decreases.
    c. IT lowers the cost of participating in the market.
    d. If IT is properly used, size of the organisation can be reduced.

6. 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

7. Which of the following is not true about an organisation?
    (i)   Organisations and environments have a reciprocal relationship.
    (ii)   Organisations are open to, and dependent on, the social and physical environment.
    (iii)   Organisations can influence their environments.
    (iv)   Majority of organisations generally change faster than environment.

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

8. 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

9. 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

10. 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.

11. The management of a bus company is concerned about how they will track the location of buses once they have left the depot. This is a business problem that falls into the:
    a. legal dimension.
    b. people dimension.
    c. organisational dimension.
    d. technical dimension.

12. The management of a hospital is concerned about how they will protect the confidentiality of patient information and store them for a considerable number of years. This is a business problem that falls into the:
    a. legal dimension.
    b. people dimension.
    c. organisational dimension.
    d. technical dimension.

13. 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.

14. 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.

15. 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.

16. In choosing a new system for a business organisation in place of an existing system, an important consideration with respect to its adoption is:
    a. change management difficulty.
    b. existing resources and skills.
    c. employee training options.
    d. all of the above.

17. 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.

18. A strategic example of a business using IS to initiate *new* products and services is:
    a. a university using a learning management system to make its courses available online.
    b. integrating the sales and marketing systems with social networks to receive customer feedback and analyse them.
    c. using a decision support system to change *different parameters and see how* the business outcome would change accordingly.
    d. an organisation hosting its information systems in a cloud make them scalable and highly accessible.

19. Multidimensional data analysis is a result of:
    a. extracting data from a relational database.
    b. extracting data from a relational object oriented database.
    c. online analytical processing.
    d. data mining.

20. In today's context, an example of a business using information systems for survival is:
    a. a stock exchange that has automated all trading activities.
    b. a supermarket using a loyalty scheme based rewarding mechanism facilitated through a customer relationship management system.
    c. a bus company using an automated revenue collection system.
    d. all of the above.

21. In today's context, an example of a business using information systems for competitive advantage is:
    a. a stock exchange that has automated all trading activities.
    b. a supermarket using a loyalty scheme based rewarding mechanism facilitated through a customer relationship management system.
    c. a bus company using an automated revenue collection system.
    d. all of the above.

22. Senior managers working directly with _____ when procuring and deploying information systems help achieve excellence in business processes.
    a. operations managers
    b. financial managers
    c. marketing managers
    d. accounting managers

23. Many book publishing companies are struggling to survive due to:
    a. not using social media for advertising their new releases.
    b. not transforming their business model to an Internet-based model.
    c. declining reading habits of the young generation.
    d. all of the above.

24. An information system that facilitates storing of code solutions designed by software developers, who are the employees of a software solutions company, would fall into the category of:
    a. employee relationship management systems.
    b. executive support systems.
    c. decision support systems.
    d. knowledge management systems.

25. 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

26. 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?
    a. Look for solutions, evaluate the solutions, identify the requirement more clearly, and then implement the solution.
    b. Think about what solutions can be implemented, look for solution designs, evaluate the designs, and then implement the solution.
    c. Design solutions, evaluate and identify the requirements, choose the best solution, and then implement the solution.
    d. Identify the requirement, design alternative solutions, choose the best solution, and then implement the solution.

27. Assume that you have been hired by a agriculture consulting agency to implement a system to handle proper distribution of seeds to most relevant farmers. This organisation needs to be able to quickly know the current climatic situations, water requirements, water availability, crops in demand, etc. What system(s) will best meet these needs?
    a. TPS
    b. TPS with DSS
    c. TPS with MIS
    d. TPS with ESS

28. In relation to NORA, which of the following is true:
    a. It can help an organisation to select the best candidate for a job.
    b. It can help an organisation to avoid the selection of a wrong candidate for a job.
    c. It is unethical to use NORA in the selection process of a candidate for a job.
    d. All of the above.

29. In an organisational context of ethics, "no free lunch" rule implies that:
    a. all employees should be given all facilities at a cost.
    b. no employee should be denied of a right due to the cost of facilities given free to the others.
    c. that all objects in an organisation are owned by someone.
    d. that no object in an organisation should be assigned to an employee without the consent of the management.

30. Utilitarian principle implies that the organisations should:
    a. take the action that achieves the higher or greater value.
    b. take the action that produces the least harm or least potential cost.
    c. consider that if an action is not right for everyone to take, it is not right for anyone.
    d. non of the above.
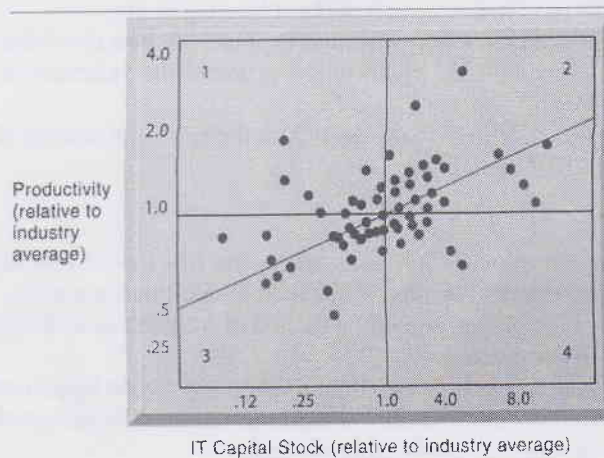
SECTION B

Structured Questions

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

B-1 (a) Outline the six (06) strategic business objectives due to which organisations invest heavily on information systems. Briefly describe three (03) of them.

[3 + 3x2 marks]

(b)

IT Capital Stock (relative to industry average)

Consider the above graph. If you are heading a company, in which quadrant would you like to place your company? What factors will make this expectation realistic? Briefly explain.

[6 marks]

B-2 (a) Consider the following systems:
   i.   customer relationship management systems
   ii. supply chain management systems
   iii. knowledge management systems
   iv. enterprise resource planning systems
   v.   core banking systems

If you are the Head of IT of a bank, what will be your priority order if you are responsible for procuring new systems for the bank? Justify your answer.

[10 marks]

(b) Compare and contrast Porter's Competitive Forces Model and Ecosystem Strategic Model.

[5 marks]

B-3 (a) Discuss how the traditional economics based law of Diminishing Returns conflicts with the new Network Economics concept. Give examples to elaborate your answer.

[6 marks]

(b) What are the advantages of ensuring business-IT alignment within an organisation?

[5 marks]

(c) What is IT infrastructure ecosystem?

[4 marks]

SECTION C

Essay Questions

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

C-1 Consider an E-R diagram of a business application of your choice. Assume that this application needs to be developed by an external vendor. Illustrate why it is important to explain the E-R diagram to the top management of the organisation. You need to draw at least a partial E-R diagram.

[25 marks]

C-2 Consider that you are heading a company which has products catering for the market demand. However, from time to time, your organisation also introduces innovative products. What kind of a strategy would you follow in implementing a supply chain management system for your organisation? Use necessary examples, illustrations, diagrams, etc.

[25 marks]

Index number : ....

SECTION A

Answer Sheet – Multiple Choice Questions

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Second Year Semester I Examination, April/May 2015

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Use this page to provide answers to questions in Section A.
Please cross (X) the cage corresponding to the correct answer.
Detach this page and attach it to Sections B and C.

Question no.	Correct answer				Question no.	Correct answer			
1	(a)	(b)	(c)	(d)	16	(a)	(b)	(c)	(d)
2	(a)	(b)	(c)	(d)	17	(a)	(b)	(c)	(d)
3	(a)	(b)	(c)	(d)	18	(a)	(b)	(c)	(d)
4	(a)	(b)	(c)	(d)	19	(a)	(b)	(c)	(d)
5	(a)	(b)	(c)	(d)	20	(a)	(b)	(c)	(d)
6	(a)	(b)	(c)	(d)	21	(a)	(b)	(c)	(d)
7	(a)	(b)	(c)	(d)	22	(a)	(b)	(c)	(d)
8	(a)	(b)	(c)	(d)	23	(a)	(b)	(c)	(d)
9	(a)	(b)	(c)	(d)	24	(a)	(b)	(c)	(d)
10	(a)	(b)	(c)	(d)	25	(a)	(b)	(c)	(d)
11	(a)	(b)	(c)	(d)	26	(a)	(b)	(c)	(d)
12	(a)	(b)	(c)	(d)	27	(a)	(b)	(c)	(d)
13	(a)	(b)	(c)	(d)	28	(a)	(b)	(c)	(d)
14	(a)	(b)	(c)	(d)	29	(a)	(b)	(c)	(d)
15	(a)	(b)	(c)	(d)	30	(a)	(b)	(c)	(d)