THE INSTITUTE OF
CHARTERED ACCOUNTANTS OF SRI LANKA

SCHOOL OF ACCOUNTING AND BUSINESS
BSc. (APPLIED ACCOUNTING) GENERAL / SPECIAL DEGREE
PROGRAMME

YEAR II SEMESTER II – INTAKE IV/V (GROUP A)
END SEMESTER EXAMINATION – JANUARY 2017

ICT 20230 Business Information Systems

Date   :   16th January 2017
Time   :   9.00 a.m. - 12.00 p.m
Duration   :   Three (03) hours

Instructions to Candidates:

- This paper consists of three part (A and B).

- Part A – Answer **ALL** the questions in the sheet provided.

  Part B – Answer **FOUR** questions out of the five questions given.

- The total marks for the paper is 100.

- The marks for each question are shown in brackets.

- Answers should be written neatly and legibly.

Part A

Answer **ALL** questions

Question No. 01

Underline the most appropriate choice for each of the question in this part.

1. The three activities in an information system that produce the information organizations use to control operations are:
    I. input, processing, and output.
    II. information retrieval, research, and analysis.
    III. data analysis, processing, and feedback.
    IV. data, information, and analysis.
    V. input, output, and feedback.

2. Bar code printed on a box of a product sold in a supermarket is an examples of _____.
    I. information systems.
    II. sales information.
    III. raw output.
    IV. customer and product data.
    V. raw input.

3. Which of the followings is not an example for a complementary asset?
    I. Strong senior management.
    II. A collaborative work environment.
    III. Using the appropriate business model.
    IV. Training employees to use the new information system
    V. The Internet

4. Which of the following would not be used as an input for an information system?

    I. Barcode scanner

    II. RFID reading

    III. Digital dashboard

    IV. Handheld computer

    V. Cell phone

5. You have been hired by a non-profit agency to implement a system to handle their donations. The system must be able to handle and record telephone, SMS, and Internet donations, provide up-to-the-minute reports, and create highly customizable mailing lists. In addition, event fundraisers need to be able to quickly access a donor's information and history. Which of the following systems will best meet these needs?

    I. TPS

    II. TPS with ESS capabilities

    III. TPS with DSS capabilities

    IV. DSS with MIS capabilities

    V. TPS with MIS capabilities

6. Which of the following process can be automated easily?

    I. forecasting new industry trends

    II. calculating the best delivery routes for product delivery

    III. generating a receipt for items purchased at a super market

    IV. creating a new product

    V. estimating the effect of changing costs of supply materials

7. Which type of system integrates supplier, manufacturer, distributor, and customer logistics processes?

    I. Reverse logistics system

    II. Transaction processing system

    III. Supply-chain management system

    IV. Collaborative distribution system

    V. Enterprise planning system

8. You manage the IT department at a small startup Internet advertiser. You need to set up an inexpensive system that allows customers to see real-time statistics such as views and click-through about their current banner ads. Which type of system will most efficiently provide a solution?

    I. Intranet

    II. Enterprise system

    III. MIS

    IV. Extranet

    V. CRM

9. Which of the following is not one of the current key technology trends that raises ethical issues?

    I. Increase in multimedia quality

    II. Data analysis advancements

    III. Advances in networking technology

    IV. Data storage improvements

    V. Increase in use of mobile devices

10. A company sharing its customer information without consent from customers is relating to _____.

    I. information rights and obligations

    II. quality of life

    III. accountability and control

    IV. property rights and obligations

    V. system quality

11. A recent addition to the mobile digital platform is _____.

    I. grid computing.

    II. consumerization of IT.

    III. quantum computing.

    IV. cloud computing.

    V. wearable computing devices.

12. _____ allows a single computing resource, such as a server, to appear to the user as multiple logical resources.
    I. Virtualization
    II. Cloud computing
    III. Quantum computing
    IV. Nanotechnology
    V. Utility computing

13. Which model can be used to analyze the direct and indirect costs to help firms determine the actual cost of specific technology implementations?
    I. Supply and demand
    II. Breakeven point
    III. Return on investment
    IV. Cost-benefit analysis
    V. Total cost of ownership

14. The four kinds of structural organizational change enabled by IT, in order from least to most risky, are:
    I. rationalization, automation, reengineering, and paradigm shift.
    II. automation, rationalization, redesigning, and paradigm shift.
    III. paradigm shift, reengineering, rationalization, and automation.
    IV. rationalization, automation, reengineering, and redesigning.
    V. automation, redesigning, restructuring, and paradigm shift.

15. A bank has reworked its mortgage application process so that several steps are handled by computer software, and some steps are combined to reduce bottlenecks in processing. The goal is to gradually improve its efficiency over time. This is an example of _____.
    I. rationalization of procedures.
    II. automation.
    III. paradigm shift.
    IV. organizational change.
    V. business process redesign

16. What is the greatest barrier to successful business process change?
    I. Usability of implemented solution
    II. selecting the correct process to change
    III. Ineffective project management
    IV. Organizational change
    V. Poor choice of technology

17. Which conversion process introduces the system first to a limited portion of the organization?
    I. The limited cutover strategy
    II. The pilot study strategy
    III. The parallel approach strategy
    IV. The phased approach strategy
    V. The parallel strategy

18. Activities such as changes in hardware, software, documentation, or production to a production system to correct errors, meet new requirements, or improve processing efficiencies take place _____ stage of the systems development life cycle.
    I. acceptance
    II. maintenance
    III. compliance
    IV. implementation
    V. Production

19. A systems analysis includes a(n) _____ that is used to determine whether the solution is achievable, from a financial, technical, and organizational standpoint.
    I. feasibility study
    II. systems design document
    III. data flow diagram
    IV. request for proposal
    V. logical design

20. In which type of systems building are the development stages organized so that tasks in one stage are completed before the tasks in the next stage begin?

    I. Traditional

   II. Object oriented development

  III. Prototyping

  IV. RAD

   V. JAD

(Total 20 marks)

Part B

Answer **only FOUR (04)** questions

Question No. 02

Information systems have revolutionized the way business operates, improving traditional methods and introducing new opportunities and ventures that simply were not possible before.

a. Using examples explain how information systems help organizations to improve their performance. You are expected to provide at least 2 points in your answer.

(8 marks)

b. Compare Transaction Processing Systems (TPS), Management Information Systems (MIS), Decision Support Systems (DSS), and Executive Support Systems (ESS) in terms of purpose of the system, input, and output. Also provide 2 examples each for TPS, MIS, DSS, and ESS.

(12 marks)

(Total 20 marks)

Question No. 03

Many organizations have decided to implement enterprise applications in order to address issues of managing large number of information systems in different management levels and functional areas.

a. What are the challenges an organization encounter when managing large number of information systems in different functional areas and management levels?

(8 marks)

b. Discuss benefits of enterprise applications with respect to managing internal operations, customer relations and suppliers. Also explain challenges that organizations encounter in implementing and managing enterprise applications.

(12 marks)

(Total 20 marks)

Question No. 04

As businesses become increasingly depend on information technology for operations, maintaining expected levels of reliability of information systems has become a one of the most important challenges faced by them.

a. Discuss with examples THREE reasons why reliability of information systems is critical for organizations such as banks, airlines, etc.

(8 marks)

b. List different FOUR risks faced by an organization that affect the reliability of IT systems and explain how these risks could be addressed. (you are expected provide at least ONE risk each relating to logical security, physical security, and non-security related risks)

(12 marks)

(Total 20 marks)

Question No. 05

Use of information and communication technologies changed only the businesses which use them but also changed the relationships with customers and suppliers, nature of substitutes, completion in the industry, etc.

a. Explain the impact of information technology on businesses.

(8 marks)

b. Considering either a bank or an airline discuss how bargaining power of customers and suppliers, threat of substitutes and new entrants, and the existing completion in the industry are affected by information technology.

(12 marks)

(Total 20 marks)

Question No. 06

Advances in information technology provided more choices for organizations in managing IT infrastructure. Many organizations increasingly consider outsourcing IT related systems using cloud based services.

a. With examples, explain FOUR components the information technology infrastructure of organizations in providing reliable information technology based services.

(8 marks)

b. Explain using examples what is meant by Software as a Service (SaaS).

(4 marks)

c. Discuss TWO reasons why organizations deciding to use SaaS model and TWO challenges that organizations may face when using SaaS model.

(8 marks)

(Total 20 marks)