



**UNIVERSITY OF COLOMBO, SRI LANKA**

UNIVERSITY OF COLOMBO SCHOOL OF COMPUTING

**DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY (EXTERNAL)**

*Academic Year 2008/2009 – 1<sup>st</sup> Year Examination – Semester 1*

***IT1103 – Information Systems & Technology***  
***Multiple Choice Question Paper***

7<sup>th</sup> March, 2009  
(TWO HOURS)

**Important Instructions:**

- The duration of the paper is 2 (Two) hours.
- The medium of instruction and questions is English.
- The paper has 45 questions and 8 pages.
- All questions are of the MCQ (Multiple Choice Questions) type.
- All questions should be answered.
- Each question will have 5 (five) choices with one or more correct answers.
- All questions will carry equal marks.
- There will be a penalty for incorrect responses to discourage guessing.
- The mark given for a question will vary from 0 to +1 (*All the correct choices are marked & no incorrect choices are marked*).
- Answers should be marked on the special answer sheet provided.
- Note that questions appear on both sides of the paper.  
If a page is not printed, please inform the supervisor immediately.
- Mark the correct choices on the question paper first and then transfer them to the given answer sheet which will be machine marked. Please completely read and follow the instructions given on the other side of the answer sheet before you shade your correct choices.

1) Which of the following is a feature of valuable information?

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|---------------------------------|-------------------|
| (a) Reliability                 | (b) Accuracy      |
| (c) Always expensive to produce | (d) Accessibility |
| (e) Difficult to understand     |                   |

2) Which of the following statements is/are **CORRECT** about input and output devices?

- |   |
|---|
| (a) Bar-code scanners are used to enter codes into a computer system.                               |
| (b) Automated Teller Machines (ATMs) consist of a small keyboard which enables users to input data. |
| (c) The mouse is a device which is useful to enter characters into a computer system.               |
| (d) Using a scanner, we can save an image of a document on the computer.                            |
| (e) The printer is used to produce various reports.   |

3) Which of the following can be considered as a component/resource of a computer based information system?

- |               |              |               |
|---------------|--------------|---------------|
| (a) Hardware  | (b) People   | (c) Documents |
| (d) Databases | (e) Software |               |

4) Which of the following statements is/are **CORRECT** about a system?

- |   |
|---|
| (a) A system consists of a group of interrelated components which work together to achieve a common goal. |
| (b) A system accepts outputs and produces inputs.   |
| (c) The feedback mechanism allows users to identify whether the system is producing the correct output.   |
| (d) Prison is an example of a closed system.  |
| (e) Human body is an example of a system which is non-adaptive.   |

5) The following statements are based on the components of a computer based information system.

- (i) Secondary storage devices such as magnetic tapes and disks can be used to store data and information in an organized manner for later use.
- (ii) A Local Area Network (LAN) is a network which is spread over a small geographical area.
- (iii) Microsoft Windows is an example of application software.

Identify the **CORRECT** statement(s).

- |                       |                |
|-----------------------|----------------|
| (a) Only (i)          | (b) Only (iii) |
| (c) All               | (d) Only (ii)  |
| (e) Only (i) and (ii) |                |

6) The following statements are about software.

- (i) Application software helps to maximize available memory and storage.
- (ii) An operating system acts as an interface between application software and hardware.
- (iii) Systems software enables users to process data.

Identify the **INCORRECT** statement(s).

- |                       |                        |               |
|-----------------------|------------------------|---------------|
| (a) Only (i) and (ii) | (b) Only (i) and (iii) | (c) Only (ii) |
| (d) Only (iii)        | (e) All                |               |

7) Which of the following statements is/are **CORRECT** about data, information and databases?

- (a) Information can be defined as known primary facts or objects which have not been processed.
- (b) Information generated through a system is not useful when it is based on inaccurate data.
- (c) Criteria for selecting a database can include costs as well as features such as user friendliness.
- (d) The primary key uniquely identifies records in a database.
- (e) A sales person may include in his database, the address of the customer.

8) The following statements are based on the activities performed by a computer based information system. Identify the **CORRECT** statement(s).

- (a) Printing a report is an example of an output activity.
- (b) By using bar code scanners at a point-of-sale terminal, the efficiency of the output activity can be improved.
- (c) A report displayed on the screen is an example of the output activity.
- (d) Data and information are organised in storage, for later use.
- (e) Calculating employee pay, taxes and payroll deductions are examples of an output activity.

9) Following statements refer to the storage devices of a computer. Identify the **INCORRECT** statement(s).

- (a) Magnetic tapes are generally considered as suitable to backup data and information.
- (b) Retrieving data from magnetic disks takes more time than retrieving data from magnetic tapes.
- (c) Optical disks use the sequential access method for data access.
- (d) Magnetic tapes are usually cheaper than magnetic disks.
- (e) Floppy disks are suitable when the storage medium needs to be portable.

10) Which of the following statements is/are **CORRECT** in relation to data warehousing?

- (a) A data warehouse does not contain historical data.
- (b) Before data is added to the 'warehouse', it is cleaned.
- (c) Using a 'data warehouse', data mining can be done.
- (d) A data warehouse is a smaller version of a database.
- (e) A data warehouse does not contain future data.

11) The following statements are about databases or data management. Identify the **INCORRECT** statement(s).

- (a) In the traditional approach, separate data files are created and stored for each application program.
- (b) The most widely used database model is the relational model.
- (c) In the database approach, separate data files are created and stored for each application program.
- (d) Data redundancy problems can be reduced by using the database approach.
- (e) There are no disadvantages associated with the use of databases.

12) The following statements are related to computer networks. Identify the **CORRECT** statement(s).

- (a) Networks enable organizations to share resources.
- (b) 'BUS' and 'NET' are examples of network topologies.
- (c) An extranet is useful to improve communication among employees of an organization.
- (d) The Internet is an example of a Wide Area Network (WAN).
- (e) Intranets are useful to improve communication among the employees of an organisation.

- 13) The following statements are based on the components of a computer based information system.
- (i) Procedures are important for Computer Based Information Systems.
  - (ii) A database is a group of related records.
  - (iii) Networks enable geographically dispersed organizations to communicate with each other.

Identify the **CORRECT** statement(s).

- |               |                       |         |
|---------------|-----------------------|---------|
| (a) Only (i)  | (b) Only (iii)        | (c) All |
| (d) Only (ii) | (e) Only (i) and (ii) |         |

- 14) Which of the following can be carried out in an organisation to protect its data and information?

- |                            |                                   |
|----------------------------|-----------------------------------|
| (a) implement a firewall   | (b) install virus scanners        |
| (c) implement mail servers | (d) implement password protection |
| (e) implement web servers  |                                   |

- 15) The value chain concept, developed by Michael Porter, allows a firm to classify its activities into primary and support activities. The support activities in a firm's "value chain" typically include

- |                                |                             |
|--------------------------------|-----------------------------|
| (a) inbound logistics.         | (b) marketing and sales.    |
| (c) human resource management. | (d) technology development. |
| (e) computer-aided design.     |                             |

- 16) The following statements relate to health, privacy and security issues in computer based information systems.

- (i) Poor knowledge in computing can be a cause of computer-related health problems.
- (ii) Privacy deals with the right to be left alone.
- (iii) Stealing another person's identity to commit crime is known as hacking.

Identify the **INCORRECT** statement(s).

- |                |                         |              |
|----------------|-------------------------|--------------|
| (a) Only (iii) | (b) Only (ii)           | (c) Only (i) |
| (d) All        | (e) Only (ii) and (iii) |              |

- 17) The following statements are based on the traditional software development life cycle. Identify the **INCORRECT** statement(s).

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|---|
| (a) Systems analysis results in the design of databases and controls.   |
| (b) Systems maintenance includes some improvements to an operational system.                                  |
| (c) Systems design consists of defining the problem, identifying its causes and specifying the solution.      |
| (d) Systems analysis includes identifying the strengths, weaknesses, and opportunities for improvement.       |
| (e) Systems testing is the process of determining whether a program or system operates in the desired manner. |

- 18) An organisation may decide to develop an information system for many reasons. Which of the following can be such a reason?

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|---|
| (a) The organization needs to face competition effectively.                   |
| (b) The existing system is not catering to all the needs of the organisation. |
| (c) The existing manual system is not effective.                              |
| (d) All other organizations are investing in information systems.             |
| (e) All the employees like to use information systems.                        |

- 19) Which of the following organizational structures employs individuals, groups or complete business units in geographically dispersed areas who may never meet face to face in the same room?
- |                  |             |            |
|------------------|-------------|------------|
| (a) Hierarchical | (b) Network | (c) Matrix |
| (d) Virtual      | (e) Project |            |
- 20) Which of these unit(s) is/are **NOT** used to input data into a system?
- |                           |                  |         |
|---------------------------|------------------|---------|
| (a) arithmetic/logic unit | (b) joy stick    | (c) RAM |
| (d) keyboard              | (e) control unit |         |
- 21) Which of the following organizational structures consists of several layers of management from top to bottom?
- |            |             |                  |
|------------|-------------|------------------|
| (a) Matrix | (b) Virtual | (c) Hierarchical |
| (d) Team   | (e) Project |                  |
- 22) Mr. Nalaka bought one copy of MS Office and installed it on twelve of his friends' computers for half of the price he purchased it. Nalaka can be considered as a
- |                        |
|------------------------|
| (a) software hacker.   |
| (b) software reseller. |
| (c) software pirate.   |
| (d) identity thief.    |
| (e) Internet pirate.   |
- 23) Which of the following can be carried out by the top management of an organisation to demonstrate their commitment to information security?
- |   |
|---|
| (a) Assign the responsibility of information security to a top level manager. |
| (b) Avoid preparing an information security policy.                           |
| (c) Allocate sufficient resources to implement security.                      |
| (d) Implementing access controls.   |
| (e) Maintain printed versions of all documents.                               |
- 24) The following statements are related to systems development. Identify the **CORRECT** statement(s).
- |  |
|--|
| (a) Development of a system begins with requirement analysis.            |
| (b) Achieving the business goals is an objective of systems development. |
| (c) Development of systems by end users is also possible.                |
| (d) RAD emphasizes participative development among users.                |
| (e) DFD is a tool that shows the flow of data through a system.          |
- 25) Which of the following statements is/are **CORRECT** about Transaction Processing Systems (TPS)?
- |  |
|--|
| (a) Data captured through a MIS can be an input to a TPS.  |
| (b) Dialogue Manager is a component of a TPS.  |
| (c) TPS provide support for unstructured questions as well as structured questions.  |
| (d) Routine repetitive tasks such as calculation of employee payments and generation of receipts are carried out by a TPS. |
| (e) Typically TPS are used only by the top level managers.   |
- 26) A record in a database consists of a collection of
- |                |                |
|----------------|----------------|
| (a) files.     | (b) data sets. |
| (c) databases. | (d) fields.    |
| (e) rows.      |                |

27) Which of the following statements is/are correct about a Management Information System (MIS)?

- (a) MIS are typically used only by the lower level managers.
- (b) The reports produced by an MIS is used for managerial decision making.
- (c) In order to diagnose an illness, an MIS can be used.
- (d) Outputs generated by an MIS can be an Input to a Decision Support System (DSS).
- (e) Inputs to a MIS can include data and information produced by a Transaction Processing System (TPS).

28) Consider the following activities of the system development life cycle.

- (i) Gathering information related to the existing system
- (ii) Determining the requirements for the new system
- (iii) Preparing the documents of the new system

Which of the above activities is/are carried out during the systems analysis phase?

- (a) Only (i)
- (b) Only (i) and (ii)
- (c) Only (i) and (iii)
- (d) Only (ii) and (iii)
- (e) Only (ii)

29) The document(s) sent by the customer to the supplier stating the items or products and their quantities is/are known as a/an

- (a) Invoice.
- (b) Purchase order.
- (c) General ledger.
- (d) Budget
- (e) Receipt.

30) Which of the following is a/are disadvantage(s) of fibre optic cable when compared with coaxial cable?

- (a) slow data transmission rate
- (b) wiring consumes lot of space
- (c) high data security
- (d) high cost
- (e) high reliability

31) Identify the order of words to complete the following statements correctly.

A ..... attaches itself to another program while a ..... is independent.

- (a) worm, virus
- (b) worm, macro virus
- (c) virus, worm
- (d) macro virus, worm
- (e) virus, macro virus

32) Many types of systems controls may be developed to maintain the security and reliability of data. Which of the followings may NOT be (a) function(s) of such system controls?

- (a) reduce errors on input data
- (b) provide a user friendly interface
- (c) control access to certain parts of the database
- (d) provide accurate and reliable data transfer over a network
- (e) protect the system from unauthorized access

33) Which of the following systems may be used to provide medical diagnosis of different symptoms?

- (a) Decision Support System
- (b) Management Information System
- (c) Expert System
- (d) Transaction Processing System
- (e) Executive Information System

34) A network allows to

(a) share a printer with several employees.
(b) communicate between computers.
(c) share data bases.
(d) share application programs.
(e) backup data from one computer to another.

35) Which of the followings is an/are example(s) of utility software?

(a) McAfee	(b) Winzip
(c) AutoCAD	(d) Microsoft Office
(e) Microsoft Access	

36) A Group Decision Support System

(a) cannot facilitate decision making when the decision makers are spread all over the world.
(b) may consist of tools which facilitate video conferencing, project management and document sharing.
(c) helps to process large amounts of data based on routine organisational activities.
(d) is a computer system that can simulate the functioning of a human brain.
(e) may allow collaborative editing of a document through a network.

37) One of the phases/stages of the System Development Life Cycle is System Design. Which of the following statements concerning System Design is/are **CORRECT**?

(a) System design creates a technical solution based on the functional requirements.
(b) Problems of the existing system are investigated during the system design phase.
(c) Organisations need to carry out a system design annually.
(d) The newly built system is thoroughly tested during system design phase.
(e) Based on the feedback collected during system design, modifications to the existing system is carried out.

38) The following statements are based on implementation and maintenance stages of the traditional software development life cycle.

- (i) A system review that is caused by a problem with an existing system is called an event driven review.
- (ii) Unit testing is done by executing the system with large amounts of data.
- (iii) System review is the process of building the background to deploy a new system in an organisation.

Which of the above statements is/are **CORRECT**?

(a) Only (i)	(b) Only (i) & (ii)	(c) Only (i) & (iii)
(d) Only (ii) & (iii)	(e) All	

39) Data mining is

(a) generation of reports by a Management Information System.
(b) a technique carried out to find patterns and relationships in data.
(c) the process of developing a data warehouse.
(d) the process of cleaning a data warehouse.
(e) the process of breaking down the data warehouse into data marts.

40) Which of the following is a tool(s) show(s) the flow of data through a system and the processing performed on it?

- |         |         |
|---------|---------|
| (a) ERD | (b) DFD |
| (c) RAD | (d) JAD |
| (e) CAD |         |

41) A Transaction Processing System (TPS) helps to

- |                                      |                                      |
|--------------------------------------|--------------------------------------|
| (a) achieve competitive advantage.   | (b) increase labour efficiency.      |
| (c) improve customer service.        | (d) capture, process and store data. |
| (e) carry out group decision making. |                                      |

42) The form of transaction processing which processes accumulated business transactions collected over a certain period of time is known as

- |                                    |                               |
|------------------------------------|-------------------------------|
| (a) On-line processing.            | (b) Parallel processing.      |
| (c) Batch processing.              | (d) On-line batch processing. |
| (e) On-line analytical processing. |                               |

43) The functionalities of a system are described by the ..... of the system.

Select the suitable phrase(s) suitable to complete the above statement.

- |                  |                 |
|------------------|-----------------|
| (a) clients      | (b) intangibles |
| (c) requirements | (d) sponsors    |
| (e) tangibles    |                 |

44) Hacking refers to

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|---|
| (a) sending junk mail.                              |
| (b) stealing an Internet users identity.            |
| (c) developing viruses.                             |
| (d) illegal access and abuse of computer resources. |
| (e) bugs in computer software.                      |

45) Which of the following acts as an interface between the hardware and application software?

- |                      |                       |
|----------------------|-----------------------|
| (a) Linux            | (b) Microsoft Windows |
| (c) Microsoft Access | (d) Java              |
| (e) Visual Basic     |                       |

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