



UNIVERSITY OF COLOMBO, SRI LANKA

UNIVERSITY OF COLOMBO SCHOOL OF COMPUTING

DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY (*EXTERNAL*)

Academic Year 2009/2010 – 1st Year Examination – Semester 1

IT1104 – Information Systems & Technologies
Multiple Choice Question Paper

6th March, 2010
(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 **9 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 organisational structures will not exist without Information Technology?
- | | |
|------------------|------------|
| (a) Hierarchical | (b) Team |
| (c) Virtual | (d) Matrix |
| (e) Project | |
- 2) Which of the following pairs of devices are useful to input characters and draw objects respectively?
- | |
|-----------------------------|
| (a) Mouse, Keyboard |
| (b) Keyboard, Joystick |
| (c) Keyboard, Mouse |
| (d) Touch Screen, Light Pen |
| (e) Scanner, Mouse |
- 3) Which of the following components of the Computer Based Information System (CBIS) enable users to communicate with the hardware of the computer system and at the same time enable to increase user productivity and efficiency?
- | | | |
|---------------|--------------|------------|
| (a) Input | (b) People | (c) Output |
| (d) Databases | (e) Software | |
- 4) Which of the following components of the Decision Support System (DSS) allow decision makers to interact with the DSS?
- | | |
|--|-----------------------|
| (a) the user interface or dialogue manager | (b) the model base |
| (c) the knowledge base | (d) the expert system |
| (e) model management software | |
- 5) Which of the following reports could be outputs of a Marketing MIS and a Human Resource MIS respectively?
- | | |
|---|--|
| (a) Sales by salesperson, job applicant profiles | (b) Production schedule, Quality control reports |
| (c) training requirements, job applicant profiles | (d) Sales by area, Training requirements |
| (e) Sales by salesperson, Quality control reports | |
- 6) Terms related to artificial intelligence are given on the left hand side (A, B, C) and a brief description of these terms is given on the right (P, Q, R).
- | | |
|--------------------|---|
| A - Neural Network | P - mechanical or computer devices which performs tasks which are difficult to perform by humans |
| B - Robotics | Q - A computer system that can simulate the functioning of the human brain. Useful to analyse detailed trends |
| C - Expert System | R - Can be used to decide whether to grant a loan to a particular customer |
- Match the terms with the CORRECT descriptions.
- | | | |
|-------------------|-------------------|-------------------|
| (a) A-R, B-P, C-Q | (b) A-R, B-Q, C-P | (c) A-Q, B-R, C-P |
| (d) A-Q, B-P, C-R | (e) A-P, B-Q, C-R | |

- 7) Some terms related to the stages of the Traditional Systems Development Life Cycle are listed on the left hand side (A, B, C). A brief description of these stages is given on the right hand side (P, Q, R).

A - Systems Analysis	P - documentation includes a technical document which details system inputs, outputs, user interfaces and the components of the new/modified computer based information systems
B - Systems Maintenance & Review	Q - ensures that the system operates as intended and makes modifications to the system to meet changing business needs
C - System Design	R - involves the study of existing systems and work processes to identify strengths, weaknesses and opportunities for improvement

Match the terms with the CORRECT description.

(a) A-R, B-Q, C-P	(b) A-P, B-Q, C-R	(c) A-Q, B-R, C-P
(d) A-R, B-P, C-Q	(e) A-Q, B-P, C-R	

- 8) Which of the following storage medium uses sequential data access method?

(a) Hard disk	(b) Floppy disk	(c) Tape
(d) USB flash drive	(e) Optical disk	

- 9) The following statements are based on the appropriate use of different input/output devices. Identify the CORRECT statement(s).

(a) Plotter is useful to get outputs of architectural drawings.
(b) Mouse is useful to enter characters into a Computer Based Information System.
(c) Biometric information such as the fingerprint can be an input to a system via light pen.
(d) Printers are useful to produce hard copies of reports.
(e) Scanners are useful to print images stored on the computer.

- 10) Which of the following commercially available software can be considered as 'utility software'?

(a) MS Access	(b) Winzip	(c) McAfee
(d) Lotus Notes	(e) MS Windows	

- 11) A list of terms related to hierarchy of data and a brief description of these terms are listed below.

- (i) Attribute – Attributes of 'Payroll Database' are Payroll file, Personnel file and Department file
- (ii) Record – All the values of 'employee number' listed in the Personnel file such as 'emp01, emp02' etc. is a record.
- (iii) File – A collection of related records

Identify the CORRECT statement(s).

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

- 12) By using a relational database management system, as opposed to traditional approach to data management, it is possible to
- (a) improve data integrity.
 - (b) increase data redundancy.
 - (c) improve data security.
 - (d) query the database quickly.
 - (e) manipulate data easily.
- 13) Which of the following is a/are secondary value chain activity/ies in a manufacturing organisation?
- (a) Inbound Logistics
 - (b) Sales and Marketing
 - (c) Production
 - (d) Human Resource Management
 - (e) Technology Support
- 14) Read the following incomplete statements.
- (i) Organisational (A)..... refers to how organisational sub units relate to the overall organization.
- (ii) Organisational (B)..... consists of major understandings, values and beliefs of an organisation.
- Identify the appropriate words to fill in above blanks (A) and (B) in the CORRECT order.
- (a) (A) - Structure (B) - Culture
 - (b) (A) - Culture (B) - Structure
 - (c) (A) - Systems (B) - Culture
 - (d) (A) - Culture (B) - Systems
 - (e) (A) - Structure (B) - Shared belief
- 15) Which of the following is a/are technique/s used to evaluate systems design alternatives?
- (a) Return On Investment (ROI)
 - (b) Cost/Benefit Analysis
 - (c) Benchmark Test
 - (d) Profitability Ratio
 - (e) Request for Proposal
- 16) The following statements are based on Transaction Processing Systems (TPSs) and Decision Support Systems (DSSs)? Identify the **INCORRECT** statement/s.
- (a) DSSs support unstructured questions.
 - (b) TPSs support structured questions.
 - (c) TPS is used to carry out routine and repetitive data processing.
 - (d) Dialogue generator is one of the components of a DSS.
 - (e) Outputs of a DSS become inputs of a TPS.

- 17) The following statements are about data and information..
- (i) Raw facts of an object can be considered as data.
 - (ii) Non processed data is more useful for decision making than processed data.
 - (iii) Non processed data is known as information.

Identify the CORRECT statement/s.

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

- 18) The following statements are based on the Central Processing Unit (CPU) of the computer.

- (i) The components of the CPU include registers, memory, Arithmetic Logic Unit (ALU) and the Control Unit (CU).
- (ii) The CU holds the data temporarily during the execution of an instruction.
- (iii) The ALU performs mathematical calculations.

Identify the CORRECT statement/s.

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

- 19) The following statements are about software issues and trends.

- (i) Copyright violations refer to copying software illegally.
- (ii) All commercially available software is always released without any software bugs.
- (iii) Open Source software products may provide only limited user support.

Identify the CORRECT statement/s.

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

- 20) The following statements are based on Intranets and Extranets.

- (i) Extranets allow communication between organisations and its suppliers.
- (ii) Intranets are useful to provide latest organisational information to employees.
- (iii) Information on the Extranets is accessible to the public.

Identify the CORRECT statement/s.

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

- 21) Hacking is

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| (a) illegal access and abuse of computer resources. |
| (b) a malicious software. |
| (c) another term used to refer to security vulnerability in a web application. |
| (d) a computer crime. |
| (e) a computer program that can spread across computers and networks by making copies of itself |

- 22) The following statements are about the advantages of purchasing off-the-shelf software as opposed to developing a bespoke system.
- (i) Off the shelf software deployment speed is high.
 - (ii) There is greater possibility of achieving competitive advantage by using off-the-shelf software.
 - (iii) Some features required by the users may not be available in off-the-shelf software.
- Identify the CORRECT statement/s.
- | | |
|---|----------------------------------|
| (a) Only i
(c) Only ii and iii
(e) Only iii | (b) Only i and ii
(d) Only ii |
|---|----------------------------------|
- 23) Which of the following activities is carried out during the Systems Implementation phase of the traditional systems development life cycle?
- | | |
|---|--|
| (a) Hardware acquisition
(c) Preparing the Request for Proposal
(e) Testing | (b) Data preparation
(d) Carrying out the feasibility study |
|---|--|
- 24) The following statements are about Systems Maintenance and Review phase of the traditional software development life cycle. Identify the CORRECT statement/s.
- | |
|--|
| (a) Systems Maintenance and Review phase is carried out after the implementation phase.
(b) A review can be triggered due to a problem with the existing system.
(c) Systems Review is carried out to find out whether the system is operating as intended by the organisation.
(d) Only internal employees can perform the Systems Review.
(e) Event driven and time driven reviews are two types of review procedures. |
|--|
- 25) Which of the following can be used to protect information assets?
- | | |
|--|---|
| (a) Firewalls
(c) Cryptography
(e) Worms | (b) Trojan Horses
(d) Virus Scanners |
|--|---|
- 26) Which of the following feature/s enhance/s the capabilities of interactive processing?
- | | |
|---|--|
| (a) Identification numbers and passwords
(c) Lookup tables
(e) Backup Systems | (b) Restart procedures
(d) Menu driven system |
|---|--|
- 27) The following statements are based on Computer Waste and Computer Mistakes.
- (i) Computer waste relates to errors and mistakes which result in output that is incorrect and without value.
 - (ii) A computer mistake is the inappropriate use of computer technology and resources.
 - (iii) Computer waste and mistakes can be prevented by implementing and monitoring effective policies and procedures.
- Which of the above statements is/are CORRECT?
- | | |
|--|-----------------------------|
| (a) Only i and ii
(c) Only i and iii
(e) Only ii and iii | (b) Only iii
(d) Only ii |
|--|-----------------------------|

28) Health problems caused due to heavy use of computers include

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|-----------------------------|-----------------|
| (a) Eye strain. | (b) Ergonomics. |
| (c) Back pain. | (d) Cough. |
| (e) Carpel tunnel syndrome. | |

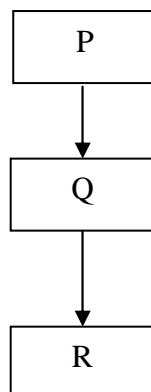
29) Which of the following practices can lead to a successful systems development project?

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| (a) Using project management software |
| (b) Improved communication between different stakeholders of the project |
| (c) Lack of understanding of the real problem/issue to be solved |
| (d) Support from top management |
| (e) Use of inappropriate data collection techniques |

30) Which of the following deal with the right to be left alone or to be withdrawn from public view?

- | | |
|-----------------------------|---------------|
| (a) Information Systems Law | (b) IS Policy |
| (c) Privacy | (d) Patents |
| (e) Copyrights | |

31) The following diagram relates to 'IS Planning'. It depicts the relationship between 'Systems Development Initiative', 'Strategic Plan' and 'IS Planning'. Identify the CORRECT order.



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|--|--|
| (a) P – IS Planning | Q – Strategic Plan, R – Systems Development Initiative |
| (b) P – Strategic Plan | Q – IS Planning, R – Systems Development Initiative |
| (c) P – IS Planning | Q – Systems Development Initiative, R – Strategic Plan |
| (d) P – Strategic Plan | Q – Systems Development Initiative, R – IS Planning |
| (e) P – Systems Development Initiative | Q – IS Planning, R – Strategic Plan |

32) Which of the following statement/s is/are CORRECT about 'prototyping' approach to systems development?

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| (a) The prototyping approach enables users to try the system and provide constructive feedback during development. |
| (b) The prototyping approach creates considerable amount of system documentation. |
| (c) During the 'System Maintenance and Review' phase/stage of prototyping, users are able to evaluate the system. |
| (d) The prototyping approach enables early detection of errors. |
| (e) Prototyping approach is useful, when the user requirements are not clear. |

- 33) Which of the following statements is/are related to Rapid Application Development (RAD)?
- (a) Software is developed only by end users.
 - (b) Considerable system documentation is created by the formal review at the end of each phase.
 - (c) RAD uses tools, techniques and methodologies designed to speed application development.
 - (d) RAD is not a suitable methodology to be used on every software development project.
 - (e) In appropriate projects, this approach enables to develop software quickly than other approaches.
- 34) Which of the following statement is CORRECT about e-government and re-engineering of government services in Sri Lanka?
- (a) There are no e-government services provided to the citizens by the Sri Lankan government.
 - (b) Information about many departments of the Sri Lankan government is available for public access via the Internet.
 - (c) e-Sri Lanka is a project which aims to provide better government services to the citizen.
 - (d) In Re-engineering projects, processes in government departments are automated without eliminating deficiencies in the processes.
 - (e) Re-engineering of governmental department processes are yet to be started in Sri Lanka.
- 35) Which of the following statements is/are CORRECT regarding interactive dialogue design?
- (a) All dialogue should use IS terms & acronyms as much as possible.
 - (b) Users must be given more than 20 options on a menu at any time.
 - (c) An attractive layout and format should be used for the screens/displays.
 - (d) Messages should be grammatically correct.
 - (e) Screens/displays within a specific application should take different formats.
- 36) Which of the following statements is/are CORRECT about a system?
- (a) Components of a system act together to achieve a common goal.
 - (b) A business organisation is an example of a closed system.
 - (c) Converting or transforming inputs to outputs is known as processing.
 - (d) Components of an information system include only input, processing and feedback.
 - (e) Feedback enables one to make changes to the input and/or the processing activity.
- 37) Information produced by a Computer Based Information System should be
- | | |
|---|---|
| <ul style="list-style-type: none"> (a) economical. (c) accurate. (e) simple. | <ul style="list-style-type: none"> (b) printable. (d) relevant. |
|---|---|
- 38) Which of the following systems support/s generation of reports such as demand reports and exception reports?
- | | |
|--|--|
| <ul style="list-style-type: none"> (a) Expert Systems (c) Transaction Processing Systems (e) Management Information Systems | <ul style="list-style-type: none"> (b) Knowledge Management Systems (d) Decision Support Systems |
|--|--|

- 39) Which of the following processes is/are known as the automated discovery of patterns and relationships of data in a data warehouse?
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|---------------------------|---------------------------|
| (a) Data Mart | (b) Business Intelligence |
| (c) Data mining | (d) Predictive Analysis |
| (e) Analytical processing | |
- 40) Which of the following is a/are function(s) performed by a database management system?
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|---|
| (a) acts as an interface between application software and system software |
| (b) stores and retrieves data |
| (c) provides concurrency control |
| (d) produces a variety of documents and reports |
| (e) enables data mining |
- 41) The following statements are based on database applications. Identify the CORRECT statement/s.
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|---|
| (a) Through data mining, it is possible to predict customers who are likely to switch to a competitor. |
| (b) There are no disadvantages associated with using distributed databases. |
| (c) Use of Business Intelligence applications facilitates improved communication between organisations. |
| (d) Online Analytical Processing supports top-down and query driven data analysis. |
| (e) Data mining supports bottom-up and discovery driven analysis. |
- 42) Which of the following statements is/are CORRECT about Management Information Systems (MIS)?
- | |
|--|
| (a) MISs does not produce hard copies of reports. |
| (b) Typically, MIS reports have fixed and standard formats. |
| (c) MIS s use the Internet to access external data. |
| (d) Inputs to an MIS include internal data stored in computer systems. |
| (e) MIS supports only structured questions. |
- 43) Which of the following statements is/are CORRECT about Group Support Systems (GSSs)?
- | |
|---|
| (a) GSSs facilitate collaborative work among group members. |
| (b) Some GSSs support anonymous input. |
| (c) Some GSSs reduce negative group behaviour. |
| (d) GSSs are useful for medical diagnosis. |
| (e) Some GSSs have the ability to vote automatically. |
- 44) Which of the following is a/are component/s of an expert system?
- | | |
|--------------------------|--------------------|
| (a) Explanation facility | (b) User interface |
| (c) Inference engine | (d) Model base |
| (e) Knowledge base | |
- 45) Which of the following is an/are input/s to the Purchasing Transaction Processing System?
- | | |
|-------------------------------------|------------------------|
| (a) Order request | (b) Cheque to Supplier |
| (c) Inventory Control Status Report | (d) Picking list |
| (e) Purchase Order | |
