



UNIVERSITY OF COLOMBO, SRI LANKA

UNIVERSITY OF COLOMBO SCHOOL OF COMPUTING

DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY (EXTERNAL)

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IT1105: Information Systems & Technology
Multiple Choice Question Paper

27th May, 2017

(TWO HOURS)

Important Instructions :

- The duration of the paper is **2 (Two) hours**.
- The medium of instructions and questions is English.
- The paper has **50 questions** and **12 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.
- Calculators are **not** allowed.
- 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.**

01. Which of the following can be considered as application software?

- | | |
|--------------------|-----------------------|
| (a) Acrobat Reader | (b) Linux |
| (c) MS PowerPoint | (d) Internet Explorer |
| (e) MS Word | |

02. Database Management Systems (DBMS)

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|---------------------------------------------------------------------------------------------|
| (a) support storing of data relevant to a business. |
| (b) provide quick access to data and easy modification of data. |
| (c) provide security to the data stored in the database. |
| (d) grant privileges to user groups without the intervention of the database administrator. |
| (e) provide an interface between the database and the users of the database. |

03. The process of finding hidden patterns and relationships in large databases and inferring rules from them to predict future behaviour as best described as

- | | | |
|-----------------------|----------------------------|------------------|
| (a) data warehousing. | (b) data clustering. | (c) data mining. |
| (b) data extraction. | (d) knowledge acquisition. | |

04. Following incomplete statements are related to issues associated with the use of computers in an organisation.

Using the Internet during working hours is a computer Computer wastes and mistakes could be minimised by implementing

Select the appropriate words in the **CORRECT** respective order to complete the above statements.

- | |
|--------------------------------------------|
| (a) waste, employee monitoring |
| (b) waste, policies |
| (c) mistake, policies |
| (d) policy, practices |
| (e) privacy violation, employee monitoring |

05. Consider the following statements about information.

- (i) Ability to present information in a complex way is a characteristic of quality information.
- (ii) Information is generated by processing raw data.
- (iii) Information is considered as an asset by organisations and is useful for decision making.

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

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

06. Consider the following statements about Management Information Systems (MIS).

- (i) MIS are designed only to support unstructured decision making.
- (ii) Outputs of a Transaction Processing System (TPS) as well as other external data could be used as inputs to a MIS.
- (iii) The primary function of an MIS is to generate information to support decision making.

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

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

07. There are competitive strategies that a firm can use to counter the threats of competitive forces. Which of the following strategy(ies) is/are about the joining of two or more companies in order to produce and distribute jointly?

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|-----------------------------|
| (a) Cost leadership |
| (b) Innovation |
| (c) Alliance |
| (d) Product Differentiation |
| (e) Focus |

08. Following statements are about Systems Design.

- (i) Systems controls considered during system design can help minimise computer misuse as well as crime and fraud by managers and employees.
- (ii) Two key aspects of systems design are logical and physical design.
- (iii) Interface Design is a key aspect considered during systems design and it determines backups and their frequencies.

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

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

09. Which of the following statement(s) is/are **CORRECT** about traditional software development lifecycle?

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|------------------------------------------------------------------------------------------------------------------------------------|
| (a) In the Systems Design phase, the newly built systems are thoroughly tested. |
| (b) Based on the feedback collected during systems design, modifications to the existing system are carried out. |
| (c) Systems Analysis is the process of gathering requirements to build a new system. |
| (d) Systems Reviews are important to identify whether existing systems support changing business requirements of the organisation. |
| (e) During the Systems Analysis phase, the database and the user interface are designed. |

10. Following statements are related to information systems security of an organisation.

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

- (a) Firewalls are useful to protect organisational data from harmful threats.
- (b) Encryption is useful to protect physical resources from intruders.
- (c) Implementing access controls enables one to protect databases.
- (d) Biometrics can be used as an access control mechanism.
- (e) Employee monitoring is practiced by some organizations to protect information systems from harmful threats.

11. Computer Based Information Systems (CBIS)

- (a) are able to perform repetitive and dangerous tasks which are not suitable to be carried out by human beings.
- (b) are being used in different functional units of organisations to automate the business processes.
- (c) cannot support organisations to increase customer loyalty.
- (d) can contribute to improve the efficiency of the tasks performed by organisations.
- (e) such as expert systems are used by organisations to support routine decision making.

12. Which of the following statement(s) is/are **CORRECT** about information systems development?

- (a) Information systems development may be initiated by organisations when existing systems do not support organisational goals and objectives.
- (b) RAD is a systems development approach that uses tools, techniques and methodologies to speed application development.
- (c) Systems Analysis is the process that results in specifications for database design, controls and security.
- (d) Systems Documentation is a phase in the traditional systems development life cycle.
- (e) A team effort is required for successful systems development.

13. Consider the following statements about output devices of a Computer Based Information System (CBIS).

- (i) Output devices are hardware devices which enable users to enter data to a CBIS.
- (ii) Output devices such as monitors help us to get soft and hard copies of a document or a report.
- (iii) Some hardware devices support input and output functions.

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

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

14. The following incomplete statement relates to databases.

..... is a popular personal database management system suitable to be used by a small business such as a pharmacy store.

Select the **CORRECT** phrase(s) in order to complete the above statement.

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|----------------|----------------|
| (a) Oracle | (b) SQL Server |
| (c) PostgreSQL | (d) MS Access |
| (e) Unix | |

15. Systems Development is carried out by organisations due to many reasons. Following statements are related to Systems Development. Identify the **CORRECT** statement/s.

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|-------------------------------------------------------------------------------------------------------------|
| (a) Waterfall method to systems development is appropriate when requirements are not clear. |
| (b) Interviews and observations are techniques that can be used to collect requirements for the new system. |
| (c) RFP is a tool that shows the flow of data through a system. |
| (d) Typically, system evaluation is carried out prior to the implementation phase. |
| (e) It is important to align business objectives with IS objectives when developing a new system. |

16. Consider the following incomplete sentence with three ways of completing it.

During the systems analysis phase of the system development life cycle

- (i) system design documentations are prepared.
- (ii) requirements of the new system are determined.
- (iii) information related to the existing system are gathered and analysed.

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

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

17. Which of the following statement(s) is/are **CORRECT** about Transaction Processing Systems (TPS) and Management Information Systems (MIS)?

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|-------------------------------------------------------------------------------------------------------------------------------------|
| (a) Outputs generated from a TPS do not provide adequate information for decision making compared with outputs generated by an MIS. |
| (b) MIS carry out repetitive information processing and handle larger volumes of data than a TPS. |
| (c) Input to a MIS includes internal data resources generated by a TPS. |
| (d) Exception reports are generated by the TPS and not by MIS. |
| (e) Asset Management is supported by Financial MIS. |

18. Which of the following statement(s) is/are **CORRECT** about Group Support System (GSS) and Executive Support System (ESS)?

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|--------------------------------------------------------------------------------------------------------------------------------|
| (a) GSS is a software that helps joint group scheduling, communication and management. |
| (b) An ESS must be easy to learn and use by top management. |
| (c) An effective ESS is able to extract data useful to the decision maker from variety of sources including external databases |
| (d) E-mail and instant messaging are common tools found in GSS. |
| (e) GSS typically support routine tasks of an organisation. |

Questions 19 to 21 are based on the following scenario.

Sunila owns a small hotel in Bandarawela. It has 10 rooms and provides bed and breakfast to locals and tourists. She intends to market it to both local and foreign tourists.

19. Sunila can reach potential customers

- (i) by setting up an ERP system.
- (ii) by developing a Decision Support System (DSS).
- (iii) through a web site of the company.

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

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

20. Sunila is able to achieve competitive advantage by

- (i) reducing costs by automating customer information.
- (ii) providing unique services that will differentiate the company from the competitors.
- (iii) developing a web site for the company.

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

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

21. Assume that Sunila grew her business and expanded the hotel into 100 rooms and is managed by a Board of Management.

Which of the following system(s) will enable the company to understand customer behaviour better and address their requirements effectively?

(a) ERP	(b) SCM	(c) MS Access
(d) TPS	(e) CRM	

22. Which of the following should be considered when selecting an input/output device?

(a) Latest input device in the market
(b) Always small in size
(c) Economical
(d) Not used by the competitors
(e) Integrates well with the existing technical environment

23. Which of the following is/are used only as (an) output device(s)?

(a) Printer	(b) Speaker
(c) Joy stick	(d) Touchscreen
(e) Plotter	

24. Following statements are about Business Process Re-engineering (BPR).

BPR

- (i) is a technique used to achieve incremental quality improvements to an organisation.
- (ii) needs significant amount of time and resources to be carried out.
- (iii) initiatives are carried out twice a year or more often in many organisations.

Identify the **CORRECT** statement/s?

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

25. Which of the following statement(s) is/are **CORRECT** about components of a Computer Based Information Systems (CBIS)?

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|---------------------------------------------------------------------------------|
| (a) A computer cannot work without an operating system. |
| (b) A database is an organized collection of data in an organization. |
| (c) Linux and Oracle are examples of operating systems. |
| (d) Computer networks help to share resources such as printers among employees. |
| (e) People are components of a CBIS, but, procedures are not. |

26. Which of the following statement(s) is/are **CORRECT** about application software?

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|-------------------------------------------------------------------------------------------------------------------------------|
| (a) Some examples of application software are word processing software and software used for business planning. |
| (b) Groupware facilitates collaboration among group members who can be within the same premises or geographically dispersed. |
| (c) ERP software facilitates enterprise level activities whereas some application software support personal level activities. |
| (d) Utility software is considered as a type of application software. |
| (e) Application software is not available to purchase off-the-shelf. |

27. Which of the following is/are **NOT** (a) basic component(s) of a Transaction Processing System (TPS)?

- | | | |
|-----------------------|---------------|----------------|
| (a) Databases | (b) Networks | (c) Procedures |
| (d) Analytical models | (e) Modelbase | |

28. Which of the following statement(s) is/are **CORRECT** about Database Management Systems (DBMS)?

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|---------------------------------------------------------------------------------------------------|
| (a) Database size and the reliability of the vendor are important criteria when selecting a DBMS. |
| (b) A primary key is a field or a set of fields that uniquely identifies a record. |
| (c) PostgreSQL and MySQL are open-source commercial DBMS. |
| (d) The repetition of data in separate files is known as data integrity. |
| (e) Most widely used database model is the hierarchical model |

29. Consider the following statements about Decision Support Systems (DSS).

- (i) DSS are capable of using mathematical models to support decision making.
- (ii) DSS outputs are used as inputs to Transaction Processing Systems (TPS).
- (iii) A model-base supports all aspects of communication between the user and the hardware and software that constitute the DSS

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 (iii) | |

30. Following statements are about software. Identify the **CORRECT** statement/s.

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|---------------------------------------------------------------------------------------------------------------------------------|
| (a) Virus protection software is an example of utility software. |
| (b) Off the shelf software deployment takes much longer time than deploying bespoke software. |
| (c) Some open source software may provide limited support to developers. |
| (d) Copyright protection refers to protecting the privacy of customers who are using a system. |
| (e) Outsourcing software development enables organisations to meet its software needs when internal resources are not adequate. |

31. Which of the following statement(s) is/are **CORRECT** about systems.

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|------------------------------------------------------------------------------------------------------------------------|
| (a) A system is a group of interrelated components working together to achieve a common goal. |
| (b) A system accepts inputs and processes it to produce an output. |
| (c) A system evaluates feedback and if required makes necessary adjustments to the processing and the output activity. |
| (d) Performing calculations on available data is an example of the processing activity. |
| (e) Very often manual systems are much more efficient in performing tasks than automated systems. |

32. How can one complete the following sentence?

Transaction Processing Systems (TPS)

- | |
|-------------------------------------------------------------------------|
| (a) support sophisticated and complex processing and analysis. |
| (b) process large amounts of data and produce large amounts of outputs. |
| (c) produce exception reports and support drill-down analysis. |
| (d) are very critical to the daily operations of the organization. |
| (e) require a dialogue manager to communicate with management. |

33. Which of the following is a/are primary process(es) in the 'value chain'?

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|----------------------------|
| (a) Customer Service |
| (b) Inbound Logistics |
| (c) Sales and Marketing |
| (d) Information Technology |
| (e) Human Resources |

34. How can one complete the following sentence?

Typical output/s (reports and updated databases) of a Marketing Management Information System provide support for

- (a) auditing
- (b) profit/loss systems
- (c) promotion and advertising
- (d) training and skills development
- (e) management of funds

35. An ethical Information Systems (IS) Manager

- (i) monitors employees without giving prior notice to them.
- (ii) considers ergonomics when designing the workplace environment and takes steps to minimize environment pollution.
- (iii) will not disclose private information of customers to external parties without prior consent of customers.

Identify the **CORRECT** statement/s.

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

36. Competitive strategies help organisations to achieve competitive advantage. Which of the following is a/are strategy(ies) linked with producing unique products and or services?

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|--------------------------------------|------------------------------|
| (a) Human resource strategy | (b) Growth strategy |
| (c) Alliance strategy | (d) Cost Leadership strategy |
| (e) Product Differentiation strategy | |

37. Which of the following can be considered as information produced by processing raw data in a computer system of a super market?

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|-------------------------------------------------------------|
| (a) Brand name of a toothpaste available in store. |
| (b) Names of the suppliers. |
| (c) Total sales revenue from toothpaste for a given month. |
| (d) Price of a pack of toothpaste named "SMILE". |
| (e) Number of total toothpaste tubes sold in a given month. |

38. Which of the following statement(s) is/are **CORRECT** about inputs and outputs of a computer system?

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|------------------------------------------------------------------------------------------------------------|
| (a) In large warehouses RFID tags are used as inputs to track the flow of goods. |
| (b) Kiosks can provide data/information to end users as well as support collection of data from end users. |
| (c) The mouse allows to type handwritten notes and to draw objects. |
| (d) Printers and scanners are popular output devices. |
| (e) Keyboard is a commonly used input device. |

39. Following statements are related to systems development.

- (i) Waterfall and RAD are two methods/methodologies used to carry out systems development.
- (ii) System reviews carried out by organisations are either event driven or periodical.
- (iii) Prototyping enables early detection of errors in a system.

Identify the **CORRECT** statement/s.

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

40. Transaction Processing Systems (TPS) can be used to

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|-------------------------------------------------------------------|
| (a) diagnose illnesses. |
| (b) predict customer behaviour. |
| (c) calculate total sales of a grocery store. |
| (d) produce a list of items in the inventory. |
| (e) perform techniques such as what-if analysis and optimisation. |

41. Computer Based Information Systems (CBIS) consists of

- | | |
|--------------------------------------|-----------------|
| (a) people. | (b) malware. |
| (c) hardware. | (d) procedures. |
| (e) telecommunications and networks. | |

42. Which of the following statement(s) is/are **CORRECT** with regard to systems software including operating systems?

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|-----------------------------------------------------------------------------------------------------------------------|
| (a) Decision Support Systems (DSS) and Transaction Processing Systems (TPS) are examples of system software. |
| (b) Operating systems provide the ability to connect to other devices in a network. |
| (c) The file management function takes appropriate action when one or multiple users require access to the same file. |
| (d) Operating systems maximize available memory and storage to increase the efficiency of processing. |
| (e) Systems software is written to support specific organizational activities and functions such as purchasing. |

43. The following statements are related to computer networks. Identify the **CORRECT** statement/s.

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|-------------------------------------------------------------------------------------------|
| (a) Networks enable organizations to share data among internal and external stakeholders. |
| (b) An extranet is useful to improve communication among suppliers of an organization. |
| (c) Networks do not support organizations to share peripheral devices. |
| (d) Intranets are useful to train employees and share information among them. |
| (e) Network are not required to support Group Support Systems (GSS). |

44. A Human Resource (HR) Management Information System (MIS) may consist of sub-systems such as
- | | |
|--------------------------------|-----------------------------|
| (a) inventory management. | (b) performance evaluation. |
| (c) recruitment and selection. | (d) product designing. |
| (e) sales forecasting. | |
45. The following statements are about hardware of a computer system
- (i) Hard disk is a primary storage device whereas Random Access Memory (RAM) is a secondary storage device.
 - (ii) Information retrieval from a tape takes a longer time than retrieving information from the hard disk.
 - (iii) RAM is not a part of the Central Processing Unit (CPU).
- Which of the above statement(s) is/are **CORRECT**?
- | | | |
|-----------------------|---------------------|----------------------|
| (a) Only (i) | (b) Only (i) & (ii) | (c) Only (i) & (iii) |
| (d) Only (ii) & (iii) | (e) Only (iii) | |
46. Which of the following is/are **CORRECT** about MIS and DSS?
- | |
|--------------------------------------------------------------------------------------------------------------------------|
| (a) DSS is used only by the operational level employees of an organisation. |
| (b) DSS can perform more complex processing than an MIS |
| (c) MIS is a system developed using artificial intelligence. |
| (d) DSS does not generate reports. |
| (e) MIS generally provides answers to non-routine questions and does not have a predefined procedure for answering them. |
47. Following statements are related to databases.
- (i) Use of Structured Query Languages (SQL) enable organisations to achieve competitive advantage.
 - (ii) Database approach to data management helps to reduce data redundancy.
 - (iii) A column of a table in the relational data model is known as a record.
- Identify the **CORRECT** statement/s.
- | | |
|----------------------|-----------------------|
| (a) Only (i) | (b) Only (ii) |
| (c) Only (i) & (iii) | (d) Only (ii) & (iii) |
| (e) All | |
48. 'Quality information' possesses important characteristics.
- A manager of a supermarket with a Transaction Processing System (TPS) needs to avoid 'no stock' situations. The TPS produces information about the number of items sold within a week or a given period of time. This information does not help the manager to manage the stock because the produced information is
- (i) not relevant to address the problem.
 - (ii) not presented in a simple manner.
 - (iii) too expensive to generate.
- Identify the **CORRECT** statement/s.
- | | |
|----------------------|-----------------------|
| (a) Only (i) | (b) Only (i) & (ii) |
| (c) Only (i) & (iii) | (d) Only (ii) & (iii) |
| (e) All | |

49. In order to minimize external and internal threats to an information system including natural disasters, which of the following strategy/ies could be used by a large organization such as a Bank?

- (a) Take backups frequently
- (b) Use firewalls and encryption when dealing with network related activities
- (c) Use biometrics to provide authorisation to access data
- (d) Using software to compress data
- (e) Allow internal and external stakeholders to carry portable storage devices in and out of office

50. Which of the following statement(s) is/are **CORRECT** about software?

- (a) ERP software developed for a particular industry which is available off-the-shelf help organisations directly to gain competitive advantage.
- (b) Customisation of ERP software often lead to high costs.
- (c) CRM and SCM applications are examples of personal application software.
- (d) Executive Information Systems support strategic decision making.
- (e) Web sites are developed using system software.

**