



UNIVERSITY OF COLOMBO, SRI LANKA

UNIVERSITY OF COLOMBO SCHOOL OF COMPUTING

DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY (EXTERNAL)

Academic Year 2018 – 1st Year Examination – Semester 1

IT1105: Information Systems & Technology
Multiple Choice Question Paper

05th May, 2018

(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 **13 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. The backbone of any organization is/are,

- | | |
|--------------------|-------------|
| (a) information | (b) assets |
| (c) management | (d) capital |
| (e) infrastructure | |

02. Select the **CORRECT** statement(s) regarding the “Bespoke and Off-the-shelf software”.

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|---|
| (a) Bespoke software is built to meet the exact requirements of the customers but Off-the-shelf software is built for the mass market to meet generic requirements. |
| (b) In Bespoke software risk of failure is low but in Off-the-shelf software risk of failure is high. |
| (c) In Bespoke software initial cost is higher than the Off-the-shelf software. |
| (d) When compared to Off-the-shelf software, Bespoke software needs long time and significant resources. |
| (e) Bespoke software might lack important features, but features can be modified according to the user requirements in Off-the-shelf software. |

03. Identify the characteristic(s) of valuable information.

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|--------------|----------------|---------------|
| (a) Complex | (b) Accurate | (c) Expensive |
| (d) Relevant | (e) Verifiable | |

04. What is meant by an organized collection of people, procedures, software, databases, and devices used to create, store, share, and use the organization’s experience and knowledge?

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|---|
| (a) TPS (Transaction Processing System) |
| (b) MIS (Management Information System) |
| (c) DSS (Decision Support System) |
| (d) KM (Knowledge Management) |
| (e) KW (Knowledge Worker) |

05. Consider the following statements about Personal Information Managers (PIMs).

- (i) PIMs allow you to schedule and coordinate group meetings.
- (ii) Help people, groups, and organizations to store useful information, such as a list of tasks to complete or a set of names and addresses.
- (iii) PIMs can be used to coordinate e-mails sent and received over the Internet.

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

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

06. When you buy a typical off-the-shelf computer software package, you are purchasing

- (i) a guarantee that the software has no bugs in it
- (ii) a share of stock in the company making the software
- (iii) a license to use the software
- (iv) a maintenance free software

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

- | | |
|---|---|
| <ul style="list-style-type: none">(a) Only (i) and (ii)(c) Only (iii)(e) Only (i) | <ul style="list-style-type: none">(b) Only (ii) and (iii)(d) Only (iii) and (iv) |
|---|---|

07. Which of the following is/are open source software?

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|---|
| <ul style="list-style-type: none">(a) Microsoft Windows(b) Mac OS X(c) UNIX(d) Linux(e) Solaris |
|---|

08. A Decision Support System (DSS) differs from an Management Information System (MIS) in numerous ways. The following statements are about DSS and MIS.

- (i) An MIS's response time is usually longer than a DSS.
- (ii) A DSS can handle unstructured problems and an MIS can be used only with structured problems.
- (iii) In the short run, users typically have more control over a DSS. Whereas they have less control over an MIS.

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

- | | | |
|--|---|--|
| <ul style="list-style-type: none">(a) Only (i)(d) Only (ii) and (iii) | <ul style="list-style-type: none">(b) Only (ii)(e) (i), (ii) and (iii) | <ul style="list-style-type: none">(c) Only (i) and (iii) |
|--|---|--|

09. Which of the following statements is/are **CORRECT** about Enterprise Resource Planning (ERP) systems?

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|---|
| <ul style="list-style-type: none">(a) SAP, Oracle and Microsoft Dynamics are some of the examples for the Enterprise Application vendors.(b) ERP systems do not provide integrated software to support manufacturing and finance.(c) ERP systems do not eliminate inefficient systems.(d) Improved access to data for operational decision making allowing even small businesses to benefit from enterprise application software.(e) ERP systems do not enable Supply Chain Management (SCM). |
|---|

10. Which of the following statements is/are **CORRECT** with respect to Firewalls?

- (a) The Firewall is a "gatekeeper" system that protects a company's intranets and other computer networks from intrusion.
- (b) In Firewalls, the transmission of data is done through telecommunications lines in "scrambled" form.
- (c) Firewall is the act of ensuring the accuracy, integrity, and safety of all business processes and resources.
- (d) Firewall is an audit system to identify the controls that govern individual information systems and accesses their effectiveness.
- (e) A Firewall is a hierarchical decentralized naming system for computers, services, or other resources connected to the Internet or a private network.

11. Identify the **CORRECT** hierarchy of data.

- (a) Character → Record → File → Field → Database
- (b) Record → Character → Field → File → Database
- (c) Field → Character → Record → Database → File
- (d) Character → Field → Record → File → Database
- (e) Field → Character → File → Record → Database

12. Which of the following statements is/are **CORRECT** about “Business Process Re-engineering (BPR)” and “Continuous Improvement”?

- (a) BPR is a top down approach and Continuous Improvement is bottom up approach.
- (b) The scope of Continuous Improvement is narrow and in BPR's is broad.
- (c) In BPR the goal is to achieve gradual improvements while in Continuous Improvement, the goal is to achieve a major breakthrough.
- (d) BPR is often led by outsiders while Continuous Improvement is usually led by workers close to the business.
- (e) In continuous improvement, strong actions are taken to solve serious problems, but in BPR routine actions are taken to make minor improvements.

13. To gain a competitive advantage a company should

- (i) align it's IS strategy with general business strategies and objectives.
- (ii) achieve cost leadership, differentiation and niche strategy.
- (iii) alter the industry structure to create new products and services, and to improve existing product lines and services.

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

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

14. Select the **CORRECT** statement(s) about “Utility software”.

- (a) Utility software is a type of application software.
- (b) Data mining software is an example for Utility software
- (c) Utility programs always come installed on computer systems and cannot be purchased in the market.
- (d) Utility software provides an addition to the capabilities provided by the operating system.
- (e) Utility software is a type of system software.

15. Consider the following statements about a Virtual Organization. Identify the **CORRECT** statement(s).

- (a) An organizational structure in which major department heads report to a top-level manager.
- (b) A structure which mainly uses information technology to communicate and coordinate the work.
- (c) A system of formal functions that include planning, organizing, coordinating, deciding, and controlling.
- (d) A structure which empowers employees at lower levels to make decisions and solve problems without needing permission from midlevel managers.
- (e) A structure that employs individuals, groups, or complete business units in geographically dispersed areas.

16. Following statements are based on computer crimes.

- (i) Spoofing and sniffing are examples of hacking and cyber-vandalism.
- (ii) Denial of Service (DoS) attack is a form of spoofing and sniffing to steal your personal information.
- (iii) An attempt to obtain sensitive information by disguising as a trustworthy entity is known as Phishing.

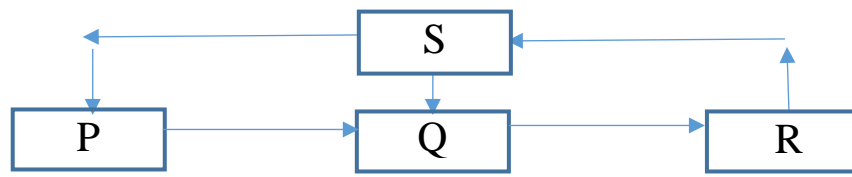
Identify the **CORRECT** statement(s).

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

17. A Decision Support System (DSS) usually:

- (a) handles large amounts of data from different sources.
- (b) helps managers make decisions that are unique, rapidly changing, and not easily specified in advance.
- (c) provides managers with a generalized computing and telecommunications capacity that can be applied to a changing array of problems.
- (d) does not emphasize actual decisions and decision-making styles.
- (e) performs complex, sophisticated analysis and comparisons using advanced software packages.

18. Identify the components denoted by P, Q, R and S.



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|------------------|--------------|------------|--------------|
| (a) P-input | Q-processing | R-feedback | S-processing |
| (b) P-input | Q-feedback | R-output | S-processing |
| (c) P-processing | Q-output | R-input | S-feedback |
| (d) P-processing | Q-input | R-feedback | S-output |
| (e) P-input | Q-processing | R-output | S-feedback |

19. Which of the following components perform(s) mathematical calculations and makes logical comparisons?

- (i) Control unit
- (ii) Register
- (iii) ALU
- (iv) Main memory
- (v) RAM

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

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

20. Consider the following database models.

- (i) Relational database
- (ii) Hierarchical database
- (iii) Network database
- (iv) Object-oriented database
- (v) Flat file model

Which of the above models use(s) a series of logically related two-dimensional tables or files to store information?

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

21. Which of the following is/are malicious software that, once installed on your computer, tracks your internet browsing habits and sends you popups containing advertisements related to the sites and topics you have visited?

(a) Backdoors	(b) Adware	(c) Malware
(d) Bots	(e) Spyware	

22. Software that enables users to improve their personal effectiveness, increase the amount of work they can do and its quality, is/are called

(a) personal productivity software
(b) operating system software
(c) utility software
(d) graphics software
(e) Integrated software

23. Which of the following could threaten the security of an organisation?

(a) Sandboxing
(b) Computer viruses
(c) Trojan horse programs
(d) Intrusion Detection Systems (IDS)
(e) Script bunnies

24. Data shaped into meaningful form is/are called:

(i) A databank
(ii) Feedback
(iii) Knowledge
(iv) Information

Identify the **CORRECT** term(s)?

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

25. Which of the following statements is/are **CORRECT** about software licenses?

- (a) Concurrent-user license specifies the number of users allowed to use the software, and can be installed on each user's computer.
- (b) Multiuser license allows any number of users to use the software, but only a specific number of users to use it at the same time.
- (c) Single-user license permits you to install the software on one computer, or sometimes two computers, used by one person.
- (d) A single-user license does not allow you to copy and share the software with others.
- (e) Site license does not permit the software to be used anywhere on a particular site.

26. Which of the following is/are a form of Denial-of-Service (DoS) attack?

- (a) Vulnerability attack
- (b) Bandwidth flooding
- (c) Connection flooding
- (d) Social engineering
- (e) SQL injection attack

27. When is it appropriate to use outsourcing for systems development?

- (a) When a company has skilled labours.
- (b) When a company has enough capacity or capabilities.
- (c) When you have confidential data that should not be disclosed.
- (d) When the firm's existing IS capabilities are limited or ineffective.
- (e) When a firm is downsizing.

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

- (a) The DBMS provides an interface between the database and its users and other application programs.
- (b) DBMSs can represent complex relationships between data.
- (c) DBMSs do not support concurrent access to the database.
- (d) DBMS provides a single point of management and control over data resources.
- (e) With the database approach to file management, a failure of a file affects only a single program.

29. Identify the reason(s) to initiate a systems development project.

- (i) Problems with existing system
- (ii) Increasing competition
- (iii) Merger or acquisition
- (iv) Organizational growth

Identify the **CORRECT** reason(s)?

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

30. What is/are the most important component(s) of a Decision Support System (DSS)?

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| (a) Architecture and network design |
| (b) Database |
| (c) Mathematical models and analytical tools |
| (d) User-friendly interface |
| (e) Accounting and financial models |

31. When the user requirements are not clear or are vague, which of the following software development methods is/are more appropriate to be used?

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|-----------------------------------|
| (a) Traditional waterfall method |
| (b) Agile methodology |
| (c) Rapid Application Development |
| (d) Prototyping model |
| (e) Spiral model |

32. Some of the terms which are related to the database management approach are given on the left hand side (A, B, C, D, E) and brief descriptions of these terms are given on the right hand side (P, Q, R, S, T).

A	Data definition language (DDL)	P	a detailed description of all data used in the database.
B	Data clean-up	Q	is a computer programming language used for adding (inserting), deleting, and modifying (updating) data in a database
C	Data dictionary	R	is a description of how the data is organized and how the relations among them are associated.
D	Data manipulation language (DML)	S	is the process of looking for and fixing inconsistencies to ensure that data is accurate and complete.
E	Database schema	T	is a collection of instructions and commands used to define and describe data and relationships in a specific database.

Match the terms with the **CORRECT** descriptions.

- | | | | | |
|---------|-----|-----|-----|-----|
| (a) A-Q | B-S | C-P | D-T | E-R |
| (b) A-T | B-S | C-P | D-Q | E-R |
| (c) A-T | B-S | C-R | D-Q | E-P |
| (d) A-R | B-Q | C-P | D-S | E-T |
| (e) A-R | B-S | C-T | D-Q | E-P |

33. Which of the following is/are commonly used programming language(s) for Artificial Intelligence (AI)?

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|------------|
| (a) Prolog |
| (b) Java |
| (c) Lisp |
| (d) Perl |
| (e) Pascal |

34. Consider the following statements about Online Transaction Processing (OLTP) systems.

Which of the following is/are **CORRECT**?

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| (a) Business transactions are accumulated over a period of time and prepared for processing as a single unit. |
| (b) Each transaction is processed immediately, without the delay of accumulating transactions into a batch. |
| (c) There is a delay between an event and the eventual processing of the related transaction to update the organization's records. |
| (d) This type of processing is essential for businesses that require access to current data such as airlines, ticket agencies, and stock investment firms. |
| (e) At any time, the data in an online system reflects the current status. |

35. Consider the following statements about open source software.

- (i) Users can download the source code and build the software themselves.
- (ii) Open-source software is not reliable and secure than most of the commercial software.
- (iii) Costs may increase with the need to update the software, apply patches, test and deploy new versions.

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

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

36. Select the **CORRECT** statement(s) about the traditional Systems Development Life Cycle (SDLC).

- (a) This approach creates considerable system documentation.
- (b) At the end user requirements will be fully met.
- (c) User does not use or see the product until the entire system is built.
- (d) Users can review intermediate products and evaluate whether a particular product meets their business requirements.
- (e) Testing is performed at every iteration.

37. Which of the following statements best describe(s) a worm virus?

- (a) A virus that is designed to slow down your computer
- (b) A virus that is designed to frighten people about a non-existent virus
- (c) A virus that replicates functional copies of themselves and produce damages
- (d) A virus that is designed to shut down a server
- (e) A virus that creates a backdoor on your computer that gives malicious users access to your system.

38. A group of programs that manipulate the database and provide an interface between the database and the user and other application programs is called a(n)_____.

- (a) GUI
- (b) Operating system
- (c) DBMS
- (d) Productivity software
- (e) Middleware

39. The following statements are related to ‘privacy rights’ of the employees and customers.

- (i) Providing personal information of customers to another company without notifying them could lead to violating privacy rights of customers.
- (ii) Informing the policies and procedures of the company to the employees would lead to violation of privacy of employees.
- (iii) Monitoring employee activities without prior notice is a form of violation of the privacy of employees.

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

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

40. Which of the following is/are **NOT** a characteristic(s) of prototyping.

- (a) High productivity and flexibility due to iterations
- (b) Quicker user feedback is available leading to better solutions
- (c) the client can get an “actual feel” of the system
- (d) Missing functionalities cannot be identified easily until the final stage
- (e) Developers encounter a freezing requirement

41. An information-analysis tool that involves the automated discovery of patterns and relationships in a data warehouse is called _____.

(a) a data mart	(b) data mining
(c) predictive analysis	(d) business intelligence
(e) data warehouse	

42. In a typical _____ network, application processing is shared between client applications and one or more servers.

(a) Data Computing
(b) Cloud Computing
(c) Client Server Computing
(d) Mobile Computing
(e) On Demand Computing

43. The following characteristic(s) is/are related to Rapid Application Development (RAD). Identify the **CORRECT** characteristic(s).

(a) Shorter development time
(b) Quick initial reviews occur
(c) Large teams with strictly defined roles
(d) Suitable for medium to long term duration projects
(e) Encourages customer feedback

44. Which of the following best describe(s) the integrated enterprise-wide information systems that coordinate key internal processes of the firm?

(a) knowledge systems	(b) Integrated systems
(c) Enterprise systems	(d) Extranets
(e) Intranets	

45. The attack that focuses on capturing small packets from the network transmitted by other computers and reading the data content in search of any type of information is/are _____.

(i) Phishing
(ii) Eavesdropping
(iii) Scams
(iv) Exploits
(v) Denial of service

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

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

46. Which of the following is/are **CORRECT** about Transaction Processing Systems (TPSs)?

- (a) TPSs support routine operations associated with customer ordering and billing.
- (b) The amount of support for decision making that a TPS directly provides managers and workers is high.
- (c) A TPS serves as the foundation for these other systems.
- (d) The processing activities of a TPS includes data collection, data editing, data correction, data manipulation and data storage.
- (e) TPS applications always run using online processing.

47. The following statements are related to Management Information Systems (MISs).

- (i) MISs improve customer service and gain a competitive advantage
- (ii) MISs provide necessary information at each level of management
- (iii) MISs train employees for a given task
- (iv) MISs facilitate the decision making process
- (v) MISs recruit people for system

Which of the above is/are **NOT** an objective(s) of an MIS.

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

48. Determining the hardware and software required for a new system is an example of _____.

- (a) logical design
- (b) physical design
- (c) interactive design
- (d) object-oriented design
- (e) iterative design

49. What is/are the basic idea(s) of artificial intelligence (AI)?

- (a) Putting your intelligence into a computer
- (b) Programming with your own intelligence
- (c) Making a machine or computer intelligent
- (d) Dealing with logical operations
- (e) Putting more memory into a computer

50. Which of the following is/are characteristic(s) of an Executive Support System (ESS)?

- (a) Difficult to use
- (b) Have drill-down abilities
- (c) Can help with situations that have a high degree of uncertainty
- (d) Does not have a future orientation
- (e) Are linked with value-added business processes
