University of Colombo, Sri Lanka

University of Colombo School of Computing
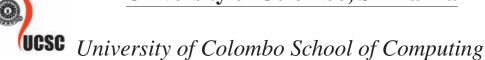
DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY (EXTERNAL)

Academic Year 2023— 1st Year Examination — Semester 1

IT1106 — Information Systems

Multiple Choice Question Paper
(2 Hours)

Important Instructions

- The duration of the paper is **2 Hours**.

- The medium of instructions and questions is English.

- This paper has **40 questions** on **10 pages**. Answer **all** questions.

- All questions are of the **MCQ** (Multiple Choice Questions) type.

- Each question will have **5 (five)** choices with **ONLY ONE** correct answer.

- This paper consists of 100 marks and all the questions will carry equal marks.

- Answers should be marked on the **special answer sheet** provided.

- Note that questions appear on both sides of the paper. If a page or part of a page is not printed, please inform the supervisor/invigilator 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.**

- Any electronic device capable of storing and retrieving text, including electronic dictionaries, smartwatches, and mobile phones, is not allowed.

- Calculators are **not** allowed.

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1) Which of the following is **NOT** a computing device?

(a) Laptop	(b) Tablet	(c) Mouse
(d) Desktop	(e) Smartphone	

2) Which of the following is **INCORRECT** regarding software?

(a) Software is essential to work with any computer.

(b) Google's Android and Apple's iOS are examples of application software.

(c) There are two major types of software: system software and application software.

(d) System software is required to control access to system resources and manage memory and files.

(e) Virtual machine is a software that can enable running multiple operating systems on a computer.

3) Utility software is used to,

(a) prepare reports and print them.

(b) design other software and develop them.

(c) analyze, optimize and maintain a computer.

(d) develop graphics and synchronize with audio to create videos.

(e) check the accuracy of calculations done using statistical applications.

4) Which of the following is **INCORRECT** regarding Open-Source Software (OSS)?

(a) All kinds of OSS are free to use.

(b) Mozilla Firefox is an example of an OSS.

(c) The source code of the OSS can be edited.

(d) Users or third parties can access the source code of an OSS.

(e) There are different types of OSS distributed under different licenses.

5) Consider the network types listed under column A and the descriptions provided in column B.

A	B
I. IoE	I. Enables sharing information and working collaboratively with members within an organization.
II. IoT	II. Enables connecting devices, systems as well as people to a network.
III. Intranet	III. Enables connecting any device with an on/off switch to a network.

Which of the following correctly matches the information systems given in column A with their descriptions in column B?

(a) A(I)-B(I), A(II)-B(II), A(III)-B(III)	(b) A(I)-B(II), A(II)-B(III), A(III)-B(I)
(c) A(I)-B(III), A(II)-B(II), A(III)-B(I)	(d) A(I)-B(I), A(II)-B(III), A(III)-B(II)
(e) A(I)-B(III), A(II)-B(I), A(III)-B(II)	

6) Which of the following is **NOT** a common component of an Information system?

(a) Users	(b) Software	(c) Data resources
(d) Communication networks	(e) Server room	

7) Which of the following is **CORRECT** regarding computer networks?

(a) Wide Area Networks are usually built with twisted-pair cables.

(b) A Wide Area Network connects computer systems and devices in an office building.

(c) In a Bus Network, all network devices connect to one another through a single central device.

(d) A Local Area Network can be used by a small business to share their files and hardware devices.

(e) A server can be any computer that sends messages requesting service from a client on the network.

8) Even though information systems play different roles in a business, they **CANNOT**,

(a) support business operations.

(b) monitor business performance.

(c) report the status of the business.

(d) make strategic business decisions.

(e) inform loyal customers about discounts and special offers.

9) Organizations with a strategic focus on *customer value* **NEVER** use information technology to,

(a) keep track of their customers' individual preferences.

(b) provide customer services tailored to individual needs.

(c) reveal the privacy of their customers to take advantage of them.

(d) allow customers to track their order details anytime and anywhere.

(e) keep customers updated with information related to products and services

10) The primary business processes of a firm's value chain do **NOT** include,

(a) Inbound logistics.	(b) Marketing and sales.
(c) Outbound logistics.	(d) Human resources management.
(e) Customer services.	

11) e-Commerce can bring lots of benefits to an organization. But still, it **CANNOT**,

(a) support to improve the operating efficiencies of its organization.

(b) provide the necessary information to identify new revenue streams.

(c) create and enhance relationships with customers and business partners.

(d) increase the opportunity to identify loyal customers through multiple channels and support them.

(e) provide the richness of information and interaction via tangible experiences and personal services.

12) Consider the e-commerce types listed under column A and the descriptions provided in column B.

A	B
I. B2B	I. It facilitates new organizations to apply for necessary business licenses and permits and everyone to submit tax returns online.
II. B2C	II. It enables business partners to get connected in a virtual supply chain to cut resupply times and the associated costs.
III. B2G	III. It assists firms to use social media sites to reach potential customers and offer them personalized services.

Which of the following correctly matches the e-commerce types listed under column A with their descriptions in column B?

(a) A(I)-B(I), A(II)-B(II), A(III)-B(III)   (b) A(I)-B(II), A(II)-B(III), A(III)-B(I)

(c) A(I)-B(III), A(II)-B(II), A(III)-B(I)   (d) A(I)-B(I), A(II)-B(III), A(III)-B(II)

(e) A(I)-B(III), A(II)-B(I), A(III)-B(II)

13) Select the **most** appropriate option to fill in the blank.

"Organizations selling garments via m-commerce or e-commerce platforms focus on reducing the price of garments by_____."

(a) identifying loyal customers   (b) lowering the production cost

(c) reducing the inventory costs   (d) reducing the cost of raw materials

(e) giving incentives to their staff

14) Which of the following is **NOT** an e-commerce platform in Sri Lanka?

(a) Kapruka   (b) WASI   (c) mySoftlogic

(d) Takas   (e) eBay

15) Consider the following statements regarding Credit, Charge, Debit, and Smart Cards.
   I. Visa cards and Master cards are credit cards.
   II. Charge cards do not have a preset spending limit.
   III. Smart cards operate like cash or personal cheques
   IV. Owners of Debit cards have to bear an extra charge per each transaction they make.

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

(a) Only I and II.   (b) Only II and III

(c) Only III and IV   (d) Only I and IV

(e) Only II and IV

4

16) Consider the functional information systems(IS)s listed under column A and the Functions provided in column B.

A	B
I. Marketing and Sales IS	I. Develops production schedules, controls inventory levels, and monitors product quality.
II. Finance and Accounting IS	II. Forecasts revenues and expenses and determines the best sources and uses of funds.
III. Manufacturing IS	III. Conducts product analysis, promotion analysis, and price analysis.

Which of the following correctly matches the information systems given in column A with their descriptions in column B?

(a) A(I)-B(I), A(II)-B(II), A(III)-B(III)   (b) A(I)-B(II), A(II)-B(III), A(III)-B(I)

(c) A(I)-B(III), A(II)-B(II), A(III)-B(I)   (d) A(I)-B(I), A(II)-B(III), A(III)-B(II)

(e) A(I)-B(III), A(II)-B(I), A(III)-B(II)

17) Transaction processing systems (TPS) are used to,

(a) provides routine information to managers and decision-makers.

(b) increase the cost of ownership of information technology infrastructure.

(c) track the progress and early identification of issues in the production line.

(d) reduce the costs and efficiency of labour-intensive exchanges such as a sale to a customer.

(e) identify knowledge gaps of the employees and design suitable training programmes to improve their knowledge.

18) Batch processing is more suitable for,

(a) airline ticketing.   (b) making payrolls.

(c) preparing electricity bills   (d) handling stock market investments.

(e) film hall seat booking.

19) Which of the following is **NOT** a Transaction Processing System?

(a) Order Processing System   (b) Purchasing System

(c) Accounting System   (d) Hotel Reservation System

(e) Sales Management System

20) Select the **most** appropriate option to fill in the blanks.

"Decision Support Systems rely on _____as well as _____as vital system resources."

(a) Managers, Analysts   (b) Interfaces, Integrated Systems

(c) Databases, Interfaces   (d) Model Bases, Databases

(e) Model Bases, Users

21) Which of the following is **INCORRECT** regarding ERP systems?

(a) ERP stands for Enterprise Resource Planning.

(b) It is a cross-functional system.

(c) An ERP system can be implemented faster than a functional system.

(d) It provides access to quality data and supports operational decision-making.

(e) It can handle many activities including accounting and resource management.

22) Legacy systems in an organization are,

(a) the systems used by many competitive organizations.

(b) the new systems introduced with innovative technologies.

(c) old systems that can be easily updated and scaled as the business grows.

(d) outdated systems that cannot be easily replaced as they are used to deliver the key services.

(e) the systems newly introduced to the organization but still cannot be used by most of the staff.

23) Online analytical processing (OLAP) involves basic operations such as,

(a) Drill down, Roll up, Slice and Dice.   (b) Cut, Paste, Copy, Duplicate.

(c) Create, Read, Update and Delete.   (d) Find, Replace, Edit and Select.

(e) Write, Erase, Append and Insert.

24) A manager received or engaged in creating the following reports. Which one of them can be considered as an Exception Report?

(a) The manager created a report with the information that he selected.

(b) The manager can see the real-time sales records in a prespecified format.

(c) The manager received a scheduled report automatically with the daily sales records.

(d) The manager searched and analyzed some sales records and generated reports as required.

(e) The manager received an alert and a report with some information related to an unexpected incident which required immediate action.

25) Brain-Computer Interface (BCI) is a system that,

(a) has interfaces that look like a human brain.

(b) comes in a robot to make it work as a human.

(c) enables a human to control the activities of a computer with his thoughts.

(d) can handle any activity such as driving vehicles while drivers take a nap.

(e) can perform some specific tasks with precision and no human intervention.

26) Which of the following is **NOT** a component of a typical Expert System?

(a) Knowledge base	(b) User Interface	(c) Data Warehouse
(d) Inference Engine	(e) Explanation Facility	

27) Which of the following is **INCORRECT** regarding buying software?

(a) The software should be tested and evaluated before buying.

(b) After purchase, the buying organization gets a license to use the software.

(c) Usually, the buying organization will not own the product after the purchase.

(d) The software need not be purchased if there is a cracked version of the same software.

(e) Before purchasing, make sure that the existing software can work with the new software.

28) Productivity Paradox related to Information Systems and Technology (IS & IT) refers to,

(a) difficulty in getting the expected work done from the IT and IS specialists on time.

(b) the issue of not being able to find the real causes of poor investments in IT and IS.

(c) lowering employee productivity and getting the work done by the automated systems.

(d) the fear and dissatisfaction caused by the displacement of jobs with the establishments of IS and IT.

(e) the issue of not achieving the productivity enhancements as expected from the IT and IS investments.

29) Which of the following techniques is **NOT** used in information technology investment evaluation?

(a) Payback	(b) Cost Ratio	(c) Net Present Value
(d) Internal Rate of Return	(e) Cost-Benefit Analysis	

30) Select the **most** appropriate option to fill in the blank.
"A feasibility study is conducted during the system _____stage of the software development process."

(a) Analysis	(b) Design	(c) Maintenance
(d) Implementation	(e) Investigation	

31) A logical model of an information system,

(a) displays how the system works and what issues are there.

(b) describes how the company's business processes are to be conducted.

(c) is a blueprint including both computer and noncomputer components of the system.

(d) describes how information flows and how users can access the required information.

(e) displays how each component of the system has been integrated to handle different data formats.

32) The Prototyping Cycle in the information development process includes,

> (a) Investigation, Analysis and Design
>
> (b) Analysis, Design and Implementation
>
> (c) Design, Implementation and Maintenance
>
> (d) Investigation, Maintenance, and Analysis
>
> (e) Investigation, Implementation and Maintenance

33) Which of the following is **NOT** included in the Four Principles of Technology Ethics?

> (a) Justice   (b) Peace   (c) Minimized Risks
>
> (d) Proportionality   (e) Informed Consent

34) Consider the following hacking methods to attack companies through networks listed under column A and the descriptions provided in column B.

A	B
I. Packet Sniffer	I. The act of sending email, WhatsApp or SMS messages or giving phone calls to trick receivers into sharing their critical information such as personal data, passwords or credit card numbers
II. Trojan Horse	II. A malware that appears to be useful and harmless or enters the computer systems as a part of legitimate software and enables attackers to enter the system
III. Spoofing	III. A technique of collecting confidential data that travels through an unencrypted computer network for malicious purposes. However, this can be used as a useful tool for network administrators to identify network issues and fix them.

Which of the following correctly matches the hacking methods listed under column A with their descriptions in column B?

> (a) A(I)-B(I), A(II)-B(II), A(III)-B(III)   (b) A(I)-B(II), A(II)-B(III), A(III)-B(I)
>
> (c) A(I)-B(III), A(II)-B(II), A(III)-B(I)   (d) A(I)-B(I), A(II)-B(III), A(III)-B(II)
>
> (e) A(I)-B(III), A(II)-B(I), A(III)-B(II)

35) Cyber-Warfare is the action of_____. (Select the most appropriate option.)

> (a) invading cyberspace with virus attacks for damaging data belongs to competitive organizations.
>
> (b) attacking computers and information systems of an organization or a country to gain financial advantages.
>
> (c) one country or nation to enter the computers or networks of another country to cause damage or disruption.
>
> (d) using computers and networks to steal confidential information to sell it to another organization or set up a competing company.
>
> (e) sending messages with fake evidence and fabricated stories to arouse the anger of the general public and gain political advantage.

Consider the following description to **answer the questions 36 to 40**.

A tuition master running an institute has expanded his services by implementing an online learning platform (OLP). The students can make monthly payments online and access the tuition master's learning resources through the OLP. The students who do not have the required infrastructure to access the online learning resources can use a computer laboratory at the institute with an additional payment.

36) Select the **most** appropriate option to fill in the blank.

"To secure the students' personal data in the OLP and maintain integrity, the tuition master has prepared a _____ stating all rules and procedures that all the students should follow."

(a) Security Policy	(b) Firewall	(c) Security Audit
(d) Antivirus Software	(e) Security Dashboard	

37) The students using the laboratory should be advised to,

(a) share their passwords with the tuition master to get them recovered easily.

(b) write the password on a piece of paper and bring it to the laboratory every day.

(c) use a strong password with capital letters, simple letters, numbers and special characters.

(d) help peer students who cannot make the class fees by sharing the OLP's login details and materials.

(e) use the student's name as the password so that they will not forget the password to access the system.

38) The tuition master has created his learning materials by copying lecture notes from freely accessible websites and learning platforms without getting written permission from the owners of the materials. This activity of the tuition master **CANNOT** be considered,

(a) infringement	(b) ethical
(c) a copyright violation	(d) violation of a law
(e) intellectual property theft	

39) Some students complained that they got neck and shoulder pain after working with the computers at the laboratory. The tuition master should advise them to,

(a) bring their parents to the institute.

(b) leave the class immediately and find another class.

(c) use proper posture when working at the computer.

(d) keep a wrist-rest pad between the keyboard and the edge of the table.

(e) focus away from the screen every 20 or 30 minutes by looking at a wall hanging in front of them.

40) | To protect the privacy of the students, the tuition master instructed the students **NOT** to,

> (a) be careful about sharing their information online.
>
> (b) make sure whether they have saved any personal data on the computers at the laboratory.
>
> (c) take a copy of all files created and delete the files saved in the shared folders daily before leaving the laboratory.
>
> (d) share their personal information with anyone even if they need to fill out any questionnaires or forms for some purpose.
>
> (e) ignore the messages about lotteries and job offers informed or advertised via SMS, email or social media applications from unknown phone numbers or email addresses.

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