kasneb

ATD LEVEL I

INFORMATION COMMUNICATION TECHNOLOGY

THURSDAY: 16 December 2021.   **Time Allowed: 3 hours.**

Answer any FIVE questions.   **ALL questions carry equal marks.**

QUESTION ONE
(a)   Outline four limitations of first generation computers.   (4 marks)

(b)   Describe the function of BIOS-Power On-Self-Test (POST) during computer booting.   (2 marks)

(c)   Distinguish between "main storage" and "secondary storage" of a computer.   (4 marks)

(d)   Examine four metrics used to assess the stability of a Local Area Network (LAN) topology.   (4 marks)

(e)   Explain the function of the following devices used in a computer network environment:

      (i)   Network Interface Card.   (2 marks)

      (ii)   Switch.   (2 marks)

      (iii)   Bridge.   (2 marks)
                                                                    (Total: 20 marks)

QUESTION TWO
(a)   Explain three factors that determine the processing power of a computer.   (6 marks)

(b)   Differentiate between "compiler" and "interpreter" as used in computer programming.   (4 marks)

(c)   Distinguish between "parallel transmission" and "serial transmission" in the context of computer communication.   (2 marks)

(d)   With reference to information processing, describe four information technological trends that raise ethical issues.   (8 marks)
                                                                    (Total: 20 marks)

QUESTION THREE
(a)   Outline five functions of utility programs.   (5 marks)

(b)   Explain three factors that could be considered when choosing data storage media.   (6 marks)

(c)   Highlight five factors that could be considered when selecting an internet service provider.   (5 marks)

(d)   List four types of input devices.   (4 marks)
                                                                    (Total: 20 marks)

QUESTION FOUR
(a)   Identify four computer resources managed by a computer operating system.   (4 marks)

(b)   Citing an example in each case, identify three data types used in a spreadsheet.   (6 marks)

(c)   (i)   Define the term "file compression".   (2 marks)

      (ii)   Highlight two reasons for file compression.   (2 marks)

(d)   Computer networks have two dimensions for classification namely, transmission technology and scale.

Required:
(i)   Suggest two examples of each classification.   (4 marks)

(ii)   Demonstrate how you could secure wireless network applications.   (2 marks)
(Total: 20 marks)

QUESTION FIVE
(a)   Outline four improvements in the integrated circuits since the third generation computers.   (4 marks)

(b)   Describe three functions of a router as used in computer networks.   (6 marks)

(c)   Identify four devices that could be connected to a computer using Bluetooth Technology.   (4 marks)

(d)   Explain three ways the spread of computer virus could be prevented.   (6 marks)
(Total: 20 marks)

QUESTION SIX
(a)   Explain two functions of arithmetic logic unit (ALU) of a computer.   (4 marks)

(b)   Distinguish between a "master file" and "transaction file".   (4 marks)

(c)   Describe three commercial services offered on the internet.   (6 marks)

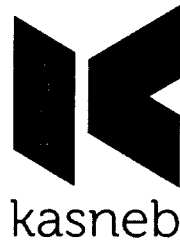(d)   Giving example in each case, differentiate between "wireless" and "wired" classification of communication media.   (6 marks)
(Total: 20 marks)

QUESTION SEVEN
(a)   Explain the following computer network terms.

(i)   Burst.   (1 mark)

(ii)   Crosstalk.   (1 mark)

(iii)   Handshake.   (1 mark)

(b)   Differentiate between a "program file" and a "system file".   (4 marks)

(c)   Highlight four reasons why flash disks are replacing optical disks.   (4 marks)

(d)   Examine five factors to consider when choosing an accounting software package.   (5 marks)

(e)   Highlight two application areas for each of the following software application packages:

(i)   Word processing.   (2 marks)

(ii)   Spreadsheet.   (2 marks)
(Total: 20 marks)

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ATD LEVEL I

DCM LEVEL I

INFORMATION COMMUNICATION TECHNOLOGY

TUESDAY: 31 August 2021. **Time Allowed: 3 hours.**

Answer any FIVE questions. **ALL questions carry equal marks.**

QUESTION ONE
(a) Many organisations have embraced the concept of cloud computing.

Required:
Explain three disadvantages of cloud computing. (6 marks)

(b) The management of ABC Ltd. is planning to install a Local Area Network in the organisation.

Outline five ways the company will benefit as a result of the new infrastructure. (5 marks)

(c) Describe four factors that you would consider when determining the type of network topology to use. (4 marks)

(d) Veronica bought a laptop with the following specifications:

Windows 10 Pro, 11ᵗʰ Gen Intel®, HP Sure Shutler and HP Sure View Reflect Privacy Screen.

Required:
Explain each of the above specifications. (5 marks)
(Total: 20 marks)

QUESTION TWO
(a) List four types of files extensions. (4 marks)

(b) Explain four factors that you might consider when selecting an application software package. (4 marks)

(c) Computers have become an integral part of life and work.

Describe four suitable applications that investment groups could use if they computerise their operations. (8 marks)

(d) List two examples of devices in each category below:

(i) Softcopy output device. (2 marks)

(ii) Hardcopy output device. (2 marks)
(Total: 20 marks)

QUESTION THREE
(a) (i) Describe four occupational diseases associated with people who spend a lot of time using computerised information system. (4 marks)

(ii) Suggest the remedy available for each of the occupational diseases identified in (a) (i) above. (4 marks)

(b) Using a diagram, illustrate the relationship between information systems and organisation in terms of users, functional perspective and levels of management. (6 marks)

(c) Summarise six guidelines that you would follow to evaluate the quality of an operating system. (6 marks)
(Total: 20 marks)

QUESTION FOUR

(a)   Draw the following components used in a computer network:

        (i)   MiFi.   (1 mark)

        (ii)   Server.   (1 mark)

        (iii)   Wireless router.   (1 mark)

        (iv)   RJ45 UTP cable.   (1 mark)

(b)   Describe four advantages of using wireless peripherals.   (4 marks)

(c)   Explain the relationship between data and information.   (4 marks)

(d)   Summarise four business objectives of investing in information systems by a firm.   (4 marks)

(e)   State two advantages and two disadvantages of using application packages by a business firm.   (4 marks)

(Total: 20 marks)

QUESTION FIVE
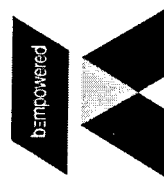
(a)   Outline four characteristics of a good storage system.   (4 marks)

(b)   State four categories of programming languages suggesting the basic reason behind their evolution.   (6 marks)

(c)   Using an illustration, explain three types of network topologies.   (6 marks)

(d)   State four physical security measures that could be put in place to protect an organisation's hardware and software.   (4 marks)

(Total: 20 marks)

QUESTION SIX

(a)   Using illustrations, recommend two file access methods you could use during file design.   (4 marks)

(b)   Explain three factors fostering growth of end user computing in modern computing environment.   (6 marks)

(c)   Explain four positive impacts of teleworking to each of the following:

        (i)   An organisation.   (4 marks)

        (ii)   The society.   (4 marks)

(d)   State three business reasons for using secondary storage devices.   (2 marks)

(Total: 20 marks)

QUESTION SEVEN

(a)   Summarise four business strategic objectives of information systems.   (5 marks)

(b)   Benchmarking is one of the key steps during hardware acquisition.

        Explain the relevance of this step.   (2 marks)

(c)   Explain the following terms as used in emails:

        (i)   Cc.   (1 mark)

        (ii)   Bcc.   (1 mark)

        (iii)   Attachment.   (1 mark)

        (iv)   Backscatter.   (1 mark)

        (v)   Subject.   (1 mark)

(d)   Outline five ways to minimize errors in a computerized information system.   (5 marks)

(e)   Highlight three advantages of using 5G network over 4G network.   (3 marks)

(Total: 20 marks)

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ATD LEVEL I

DCM LEVEL I

INFORMATION COMMUNICATION TECHNOLOGY

TUESDAY: 18 May 2021.

Time Allowed: 3 hours.

Answer any FIVE questions.

ALL questions carry equal marks.

QUESTION ONE

(a)   Data processing methods have evolved over time in tandem with the technology advancement.

In relation to the above statement, state three evolutionary data input technologies, citing one factor in each case that determines their application suitability.   (6 marks)

(b)   Describe six ways that information communication technology could be used to prevent crime in the society today.
                                                                                                                                         (6 marks)

(c)   State two types of files needed to support different data processing system.   (2 marks)

(d)   Explain three trends of current information communication technology infrastructure.
                                                                                                                                         (6 marks)
                                                                                                                         (Total: 20 marks)

QUESTION TWO

(a)   One of the growing technologies is Radio Frequency Identification (RFID), a system for tagging and identifying mobile objects.

    (i)   Identify three benefits of RFID over barcoding.   (3 marks)

    (ii)   List two disadvantages of RFID over barcoding.   (2 marks)

(b)   (i)   Highlight three disadvantages of a Wide Area Network (WAN).   (3 marks)

    (ii)   State four advantages of intranet.   (4 marks)

(c)   Many businesses are now aware of the benefits derived through adoption and use of information communication technology (ICT) but there are many challenges which must be addressed.

Highlight four challenges that prevent ICT usage in businesses.   (4 marks)

(d)   Applications software are programs designed to help end users solve particular problems or perform specific tasks. The end-user could either choose to use proprietary software or open-source software.

    (i)   Describe four barriers that you may encounter when using proprietary software.   (2 marks)

    (ii)   Outline four benefits associated with the use of open-source software.   (2 marks)
                                                                                                                         (Total: 20 marks)

QUESTION THREE

(a)   A member of staff in the human resource department reports to the IT service desk that they have found an unlabeled USB disk plugged into a spare port on their office desktop PC. Your organisation has strict rules regarding removable media and has banned them from the site.

Indicate the first five actions which you would take.   (5 marks)

(b)   The management of the organisation where you work has decided to set up a new computer server room. You have been asked to recommend where the new central computer server room in your organisation should be located. The organisation is based in a five story modern office block on a business park close to a major town, with a staff restaurant on part of the ground floor. There is space to locate the central computer server room in any of the five floors.

Outline six factors that need to be considered when choosing an appropriate location for the new central server room.   (6 marks)

(c)   Operating system is the most basic software in a computer system.

Explain:

(i)   Three advantages of time sharing operating system.   (3 marks)

(ii)   Two disadvantages of time sharing operating system.   (2 marks)

(d)   Describe four major criteria for selecting file organization method.   (4 marks)

(Total: 20 marks)

QUESTION FOUR

(a)   Most computerised security systems make use of biometric analysis. Name three physical features of human beings that could be considered in this analysis.   (3 marks)

(b)   (i)   List four ways in which data integrity could be compromised.   (4 marks)

(ii)   A technician recommended that a computer in the principal's office need a central processing unit (CPU) upgrade.

State two reasons that might have necessitated upgrading of the CPU.   (2 marks)

(c)   (i)   State three ways in which organisations manage system entropy.   (3 marks)

(ii)   Explain three types of errors that could occur during data collection stage of data processing cycle.   (3 marks)

(d)   (i)   Explain the meaning of identification and authentication in computer access control.   (2 marks)

(ii)   State three benefits of telecommuting.   (3 marks)

(Total: 20 marks)

QUESTION FIVE

(a)   (i)   Differentiate between "data" and "information" as used in computing.   (2 marks)

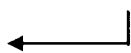(ii)   List four mouse technologies.   (2 marks)

(iii)   Outline three criteria used to classify computers.   (3 marks)

(b)   Name three non-electronic tools that were used before the invention of electronic computers.   (3 marks)

(c)   Identify the keyboard keys represented by the symbols below and their functions:

          (i)   (ii)   (iii)   (3 marks)

(d)   Identify three ways in which ICT could be used in industrial control.   (3 marks)

(e)   In each of the following, state an example of a popular application in the market:

          (i)   Word processing.   (1 mark)
          (ii)   Spreadsheet.   (1 mark)
          (iii)   Presentation.   (1 mark)
          (iv)   Computerised accounting software.   (1 mark)

(Total: 20 marks)

QUESTION SIX

(a) Explain the term "file organisation". (2 marks)

(b) State the method of file access for the following file organisation methods:

   (i) Index sequential. (1 mark)

   (ii) Serial. (1 mark)

   (iii) Sequential. (1 mark)

   (iv) Random. (1 mark)

(c) Organisations use massive resources to develop information systems.

   (i) Define the term "information system". (1 mark)

   (ii) Describe three elements of an information system. (3 marks)

   (iii) State the main purpose of an information system. (2 marks)

(d) Explain the use of BIOS in a computer system. (2 marks)

(e) (i) Explain two uses of forms in a database design. (2 marks)

   (ii) Differentiate between bound and unbound control in the context of database applications. (2 marks)

   (iii) List two components of a spreadsheet. (2 marks)

(Total: 20 marks)

QUESTION SEVEN

(a) Identify a reason for each of the following disk management techniques:

   (i) Disk partitioning. (2 marks)

   (ii) Disk compression. (2 marks)

   (iii) Disk defragmentation. (2 marks)

(b) Highlight two reasons why a password may not be a reliable security control measure. (2 marks)

(c) Explain how the following data security measures function:

   (i) Audit trail. (2 marks)

   (ii) Log file. (2 marks)

   (iii) Fire walls. (2 marks)

(d) Give two disadvantages of using e-commerce rather than the conventional method of carrying out business. (2 marks)

(e) (i) Define the term "email". (1 mark)

   (ii) Outline three advantages of emails. (3 marks)

(Total: 20 marks)

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ATD LEVEL I

DCM LEVEL I

INFORMATION COMMUNICATION TECHNOLOGY

TUESDAY: 24 November 2020. **Time Allowed: 3 hours.**

Answer any FIVE questions. **ALL questions carry equal marks.**

QUESTION ONE

(a)   Describe four trends that have characterised the development of Information Communication Technology (ICT) infrastructure. (4 marks)

(b)   Explain the meaning of the following concepts of a computer file:

   (i)   Hit rate. (2 marks)

   (ii)   Sort. (2 marks)

   (iii)   Append. (2 marks)

   (iv)   Seek. (2 marks)

(c)   (i)   State two functions of primary memory in a computer system. (2 marks)

   (ii)   Recommend with a reason the major memory design constraint that must be given due consideration by the computer designer. (2 marks)

(d)   Examine two performance metrics that could be applied by an organisation in assessing the investment in information technology (IT) infrastructure. (2 marks)

(e)   Recommend the suitable media for the following file access methods:

   (i)   Random. (1 mark)

   (ii)   Direct. (1 mark)
   (Total: 20 marks)

QUESTION TWO

(a)   (i)   Explain the term point-and-draw devices. (2 marks)

   (ii)   List four commonly used point-and-draw devices. (4 marks)

(b)   State four components of an operating system. (4 marks)

(c)   Outline four classifications of optical media. (4 marks)

(d)   Highlight six strategic uses of internet by a software industry. (6 marks)
   (Total: 20 marks)

QUESTION THREE

(a) Propose four relevant information systems that supports the different levels of an organisation giving examples in each case. (8 marks)

(b) State the electronic component used in the following computer generations:

    (i)   First. (1 mark)

    (ii)   Second. (1 mark)

    (iii)   Third. (1 mark)

    (iv)   Fourth. (1 mark)

    (v)   Fifth. (1 mark)

(c) Examine three measures that could be adopted by both software developers and client organisations to protect software from piracy. (3 marks)

(d) Highlight four reasons for changing from manual to computerised systems. (4 marks)

(Total: 20 marks)

QUESTION FOUR

(a) State four business applications supported by a Desktop Publishing (DTP) package. (4 marks)

(b) Citing two examples in each case, differentiate between "guided" and "unguided" data transmission media. (8 marks)

(c) Describe three types of charts available in a spreadsheet program. (6 marks)

(d) State two commonly used web browser in a web environment. (2 marks)

(Total: 20 marks)

QUESTION FIVE

(a) State four basic evaluation criteria for a flat panel monitor. (4 marks)

(b) (i) Explain the term control as a component of a system. (2 marks)

    (ii) State two components in a computer system which influence its behaviour. (2 marks)

(c) Examine three advantages and three disadvantages of electronic government. (6 marks)

(d) Describe three hardware devices found in a local area network (LAN). (6 marks)

(Total: 20 marks)

QUESTION SIX

(a) Explain the term "clock speed" stating its unit of measure. (2 marks)

(b) Besides operating system, explain giving an example in each, two other components of a system software. (4 marks)

(c) (i) Outline five features of an accounting package. (5 marks)

    (ii) Explain three benefits of an accounting package. (3 marks)

    (iii) List three examples of accounting packages. (3 marks)

(d) Examine three operations done on a file by an operating system. (3 marks)

(Total: 20 marks)

QUESTION SEVEN

(a)   Identify three types of a computer mouse.   (3 marks)

(b)   Categorise the following peripheral devices in terms of input, output and storage devices:
Hard disk, sensor, speaker, flash memory, digital camera, bar code reader.   (6 marks)

(c)   Assess two positive and two negative impacts that information communication technology (ICT) has had on people.   (4 marks)

(d)   One of the biggest negative impacts of the internet is the "internet addiction disorder (IAD)".

Required:

(i)   Explain the meaning of IAD.   (2 marks)

(ii)   Identify three symptoms of IAD.   (3 marks)

(e)   List two limitations of computer files.   (2 marks)

(Total: 20 marks)

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ATD LEVEL I

DCM LEVEL I

INFORMATION COMMUNICATION TECHNOLOGY

WEDNESDAY: 27 November 2019.   **Time Allowed: 3 hours.**

Answer any FIVE questions.   **ALL questions carry equal marks.**

QUESTION ONE

(a)   Examine five factors that could lead to the successful implementation of information communication technologies (ICT's) in small businesses.   (5 marks)

(b)   Highlight two ways that could be used to reduce the threats in a computer through emails.   (4 marks)

(c)   (i)   Explain the term computer port.   (2 marks)

      (ii)   List two types of computer ports.   (2 marks)

(d)   Using examples differentiate between a search engine and a web browser.   (4 marks)

(e)   Explain the following components:

      (i)   Network interface card.   (1 mark)

      (ii)   Modem.   (1 mark)

      (iii)   Twisted pair cable.   (1 mark)
(Total: 20 marks)

QUESTION TWO

(a)   Suggest six actions which a company should take on a day-to-day basis to ensure as far as possible that data stored is secure and that processing can take place without disruption.   (6 marks)

(b)   Describe four types of microcomputers.   (4 marks)

(c)   Highlight four components of an information system.   (4 marks)

(d)   (i)   Define the term peripheral device.   (1 mark)

      (ii)   State an example of a peripheral device.   (1 mark)

(e)   Using an example, distinguish between a field and a record as used in file management.   (4 marks)
(Total: 20 marks)

QUESTION THREE

(a)   Explain the following types of software:

      (i)   Malware.   (1 mark)

      (ii)   Freeware.   (1 mark)

      (iii)   Shareware.   (1 mark)

      (iv)   Spyware.   (1 mark)

(b)   Printers could be classified as impact printers and non-impact printers.

State two examples in each class of the above types of printers.   (4 marks)

(c)   Compare read only memory (ROM) and random access memory (RAM) based on the following criteria:

(i)   Size.   (2 marks)

(ii)   Use.   (2 marks)

(d)   Differentiate between multiprogramming and multiprocessing.   (4 marks)

(e)   Citing an example, explain the term firmware.   (2 marks)

(f)   List two components contained in a computer motherboard.   (2 marks)
                                                                              (Total: 20 marks)

QUESTION FOUR

(a)   Cite four reasons why a programmer may be hesitant to develop a program using first generation programming language.   (4 marks)

(b)   Explain four factors that might affect the method of file organisation.   (8 marks)

(c)   Describe the following word processing features:

(i)   Print preview.   (2 marks)

(ii)   Watermark.   (2 marks)

(iii) Indent.   (2 marks)

(d)   State two reasons why a graphical user interface (GUI) is considered easier to use than a command driven interface.
                                                                                          (2 marks)
                                                                              (Total: 20 marks)

QUESTION FIVE

(a)   Describe the following file processing activities:

(i)   File merging.   (2 marks)

(ii)   File sorting.   (2 marks)

(b)   Assess four potential impacts of an attack on information systems.   (8 marks)

(c)   Outline six disadvantages associated with the use of internet.   (6 marks)

(d)   Explain the meaning of "knowledge workers" in the context of information systems.

                                                                                          (2 marks)
                                                                              (Total: 20 marks)

QUESTION SIX

(a)   Your organisation has invited an IT consultant to advice on the concept of cloud computing. The IT consultant said, "It is a great idea to embrace cloud computing but there are challenges associated with it".
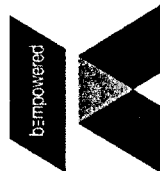
Required:

(i)   Justify the need to embrace cloud computing in an organisation.   (5 marks)

(ii)   Assess five challenges associated with cloud computing.   (5 marks)

(b)   Explain the following types of operating systems:

(i)   Time sharing operating system.   (2 marks)

(ii)   Real time operating system.   (2 marks)

(c)   Enumerate six stages of data processing cycle.   (6 marks)
                                                                              (Total: 20 marks)

QUESTION SEVEN

(a) State three metrics which could be used when evaluating hardware performance.   (3 marks)

(b) (i) State four automated data capture techniques that could be used by an organisation.   (4 marks)

(ii) List four precautionary measures taken when using automated data input techniques.   (4 marks)

(c) Identify four features of e-commerce.   (4 marks)

(d) (i) Define the term virtual private network (VPN).   (1 mark)

(ii) Explain four benefits that could accrue to an organisation as a result of deploying virtual private networks.
                                                                                             (4 marks)
                                                                                     (Total: 20 marks)

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kasneb

ATD LEVEL I

DCM LEVEL 1

INFORMATION COMMUNICATION TECHNOLOGY

TUESDAY: 21 May 2019.   **Time Allowed: 3 hours.**

Answer any FIVE questions.   **ALL questions carry equal marks.**

QUESTION ONE

(a)   (i)   Assess three negative impacts of e-waste on the environment.   **(3 marks)**

      (ii)   Highlight two remedies that could be employed to address the e-waste menace.   **(2 marks)**

(b)   List three direct data entry (DDE) devices.   **(3 marks)**

(c)   Describe three characteristics of a computer operating system.   **(3 marks)**

(d)   Outline two activities that might be performed when updating a file.   **(2 marks)**

(e)   Classify printers using the following criteria:

      (i)   Speed.   **(2 marks)**

      (ii)   Characters printed per given time.   **(2 marks)**

(f)   Highlight three factors considered when selecting an input device for a computer system.   **(3 marks)**
                                                  (Total: 20 marks)

QUESTION TWO

(a)   Outline two features of an operating system in a computer.   **(2 marks)**

(b)   (i)   Examine three uses of a presentation software.   **(6 marks)**

      (ii)   State two examples of popular presentation software.   **(2 marks)**

(c)   Compare a "local area network (LAN)" and a "wide area network (WAN)" based on the following:

      (i)   Coverage.   **(2 marks)**

      (ii)   Form of data transmitted.   **(2 marks)**

      (iii)   Transmission speed.   **(2 marks)**

(d)   Explain the following terms as used in social media:

      (i)   Chat slang.   **(2 marks)**

      (ii)   Hash tag.   **(2 marks)**
                                                  (Total: 20 marks)

QUESTION THREE

(a)   Justify the use of a transaction file in an accounting department.   (2 marks)

(b)   State four reasons why mobile phones are regarded as computers.   (4 marks)

(c)   A data analyst intends to introduce an application software to make the analysis of data gathered by a sales man easy.

      Required:

      (i)   Examine five factors that could be used to select an appropriate software.   (5 marks)

      (ii)   Identify the most suitable application software for the above type of work.   (1 mark)

(d)   Apart from a mouse, state two other input devices categorised as pointing devices.   (2 marks)

(e)   Compare between read only memory (ROM) and random access memory (RAM) based on the following criteria:

      (i)   Capacity.   (2 marks)

      (ii)   Read/write.   (2 marks)

      (iii)   Upgradability.   (2 marks)

(Total: 20 marks)

QUESTION FOUR

(a)   James bought a computer with the following specifications:

      Processor – dual core 2.4GHz (i5 intel processor)
      RAM – 16GB
      Hard Drive – 256GB solid state hard drive
      Monitor – 23" widescreen LCD with Display Port/HDMI
      Operating system – Windows 10 Home edition
      Backup Device – External hard drive and USB Flash Drive

      Required:
      Explain the following in the context of computer hardware:

      (i)   23" widescreen LCD.   (1 mark)

      (ii)   HDMI.   (1 mark)

      (iii)   Processor – dual core 2.4GHz.   (1 mark)

      (iv)   USB flash disk.   (1 mark)

(b)   Outline four benefits of mobile computing.   (4 marks)

(c)   In each case, highlight three characteristics of the following information systems:

      (i)   Transaction processing system (TPS).   (3 marks)

      (ii)   Executive support system (ESS).   (3 marks)

(d)   Justify the need of using hierarchical file structure in a computer.   (2 marks)

(e)   Highlight four applications of computers in the banking sector.   (4 marks)

(Total: 20 marks)

QUESTION FIVE

(a)   Explain two benefits to an organisation of using Electronic Data Interchange (EDI).   (4 marks)

(b)   In today's world, hacking of computerised systems is a reality.

      Required:
      Outline four safeguards you could take to protect your personal computer from hackers.   (4 marks)

(c)   Explain the functions supported by the following internet services:

    (i)   Newsgroups. (2 marks)

    (ii),   Telnet. (2 marks)

(d)   Differentiate between the following computer network terms:

    (i)   "Coaxial cable" and "twisted wire pairs cable". (4 marks)

    (ii)   "Simplex mode" and "half-duplex mode". (4 marks)
(Total: 20 marks)

QUESTION SIX
(a)   Explain the purpose of the following utility programs:

    (i)   File compression utility. (2 marks)

    (ii)   Uninstall utilities. (2 marks)

    (iii)   Diagnostic utility. (2 marks)

(b)   Differentiate between "hard copy output" and "soft copy output". (2 marks)

(c)   Describe the following features of a spreadsheet:

    (i)   Pivot table. (2 marks)

    (ii)   What if analysis. (2 marks)

    (iii)   Sorting. (2 marks)

    (iv)   Filtering. (2 marks)

(d)   Decision support systems (DSS) and management information systems (MIS) both serve the management level of an organisation.

Required:
Describe two major differences between DSS and MIS. (4 marks)
(Total: 20 marks)

QUESTION SEVEN
(a)   Citing an example in each case, describe the following types of information systems:

    (i)   Enterprise information system. (2 marks)

    (ii)   Functional information system. (2 marks)

(b)   The internet has offered both benefits and challenges to businesses and their customers.

Required:
(i)   Describe two business activities which could be done on the internet. (2 marks)

(ii)   Highlight three positive impacts of internet technology to the business sector in your country. (3 marks)

(c)   Explain the following types of systems:

    (i)   Cybernetic system. (2 marks)

    (ii)   Soft system. (2 marks)

    (iii)   Hard system. (2 marks)

(d)   Identify three advantages and two disadvantages of a laser printer. (5 marks)
(Total: 20 marks)

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ATD LEVEL 1

DCM LEVEL 1

INFORMATION COMMUNICATION TECHNOLOGY

TUESDAY: 27 November 2018.   **Time Allowed: 3 hours.**

Answer any FIVE questions.   **ALL questions carry equal marks.**

QUESTION ONE

(a)   Outline four advantages that might accrue to an organisation from the purchase of bespoke software.   (4 marks)

(b)   List five computer embedded devices that might be used in the home environment.   (5 marks)

(c)   State the five stages in the information technology infrastructure evolution.   (5 marks)

(d)   Analyse the purpose of the following software utilities:

    (i)   System status utilities.   (2 marks)

    (ii)   Debuggers.   (2 marks)

    (iii)   Dump utilities.   (2 marks)

(Total: 20 marks)

QUESTION TWO

(a)   Describe two collision detection methods used in data transmission.   (4 marks)

(b)   List four desirable features of notebook personal computers.   (4 marks)

(c)   Contrast "optical character recognition" and "optical mark recognition" based on the following criteria:

    (i)   Application area.   (2 marks)

    (ii)   What is recognised.   (2 marks)

(d)   Distinguish between the following terms:

    (i)   "CRT monitor" and "LCD monitor".   (4 marks)

    (ii)   "Light pen" and "Joystick".   (4 marks)

(Total: 20 marks)

QUESTION THREE

(a)   Explain three reasons why a hotel might use M-commerce.   (3 marks)

(b)   With the aid of a diagram, illustrate the open systems interconnections model (OSI).   (7 marks)

(c)   (i)   Define the term "web browser".   (2 marks)

    (ii)   State two commonly used web browsers.   (2 marks)

(d)   Discuss the following e-payment methods:

        (i)   Digital wallet.   (2 marks)

        (ii)   Smart card.   (2 marks)

        (iii)   Stored value payment system.   (2 marks)
                                                                                            (Total: 20 marks)

QUESTION FOUR
(a)   Explain four reasons why images are used in the design of human computer interface (HCI).   (4 marks)

(b)   Identify two examples of each of the following basis of classification of operating systems:

        (i)   The services they provide.   (2 marks)

        (ii)   The interface that makes them available to users and programs.   (2 marks)

(c)   Describe three documents created during mail merging in word processing.   (6 marks)

(d)   Discuss the following methods used in computer memory allocation:

        (i)   Continuous allocation.   (2 marks)

        (ii)   Linked allocation.   (2 marks)

        (iii)   Indexed allocation.   (2 marks)
                                                                                            (Total: 20 marks)

QUESTION FIVE
(a)   Highlight four problems that might occur if a software is not thoroughly tested before use. (4 marks)

(b)   Explain four guidelines of setting up a strong computer password.   (4 marks)

(c)   Suggest four business processes that could be supported by spreadsheet software.   (4 marks)

(d)   (i)   State four external sources of information for use in a decision support system.   (4 marks)

        (ii)   Outline four types of reports produced by a decision support system.   (4 marks)
                                                                                            (Total: 20 marks)

QUESTION SIX
(a)   State five precautionary measures taken to protect a compact disc from damage.   (5 marks)

(b)   Identify five factors that you could consider when designing a method of file organisation. (5 marks)

(c)   Analyse five factors that might determine the type of network topology to be used by an organisation. (5 marks)

(d)   List five types of cybercrime.   (5 marks)
                                                                                            (Total: 20 marks)

QUESTION SEVEN
(a)   State six basic types of desktop applications.   (6 marks)

(b)   With the aid of diagrams, illustrate three types of charts that might be used to analyse business trends in spreadsheets.
                                                                                                    (6 marks)

(c)   Discuss four benefits that might accrue to banks from advancing loans through mobile phone platforms.   (8 marks)
                                                                                            (Total: 20 marks)
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ATD LEVEL I

DCM LEVEL I

INFORMATION COMMUNICATION TECHNOLOGY

TUESDAY: 22 May 2018.   **Time Allowed: 3 hours.**

Answer any FIVE questions.   **ALL questions carry equal marks.**

QUESTION ONE
(a)   Identify six uses of information communication technology (ICT) in hospitals.   (6 marks)

(b)   Citing an application of each in the context of the end user, distinguish between "information centre" and "help desk".
                                                                                                      (6 marks)

(c)   Explain the meaning of the following terms used in reference to a computer file:

    (i)   Hit rate.   (2 marks)

    (ii)   Sort.   (2 marks)

    (iii)   Append.   (2 marks)

    (iv)   Seek.   (2 marks)
                                                                                        (Total: 20 marks)

QUESTION TWO
(a)   Explain the main function of the following:

    (i)   Memory card.   (2 marks)

    (ii)   Sound card.   (2 marks)

    (iii)   Television tuner card.   (2 marks)

(b)   Distinguish between the following types of software:

    (i)   "Closed source software" and "open source software".   (4 marks)

    (ii)   "Alpha software" and "beta software".   (4 marks)

(c)   Describe the following characteristics of storage media:

    (i)   Mutability.   (2 marks)

    (ii)   Addressability.   (2 marks)

    (iii)   Volatility.   (2 marks)
                                                                                        (Total: 20 marks)

QUESTION THREE

(a)   (i)   Explain the term "conditional formatting" as used in spreadsheets.   (2 marks)

  (ii)   Highlight two benefits of electronic spreadsheets over manual worksheets.   (2 marks)

(b)   Technology used to make the processors of computers has evolved over time.

Required:
Distinguish between a "second generation" and an "third generation" computers on the basis of the technology used to make their processors.   (6 marks)

(c)   Discuss five types of operating systems.   (10 marks)
  (Total: 20 marks)

QUESTION FOUR

(a)   Distinguish between "structured decisions" and "unstructured decisions" as used in information systems.   (4 marks)

(b)   Describe the following types of management information system (MIS) reports:

  (i)   Summary report.   (2 marks)

  (ii)   Exception report.   (2 marks)

  (iii)   Statutory/scheduled report.   (2 marks)

(c)   (i)   Explain the term "turnkey systems".   (2 marks)

  (ii)   Summarise four advantages of turnkey systems.   (8 marks)
  (Total: 20 marks)

QUESTION FIVE

(a)   Illustrate the following LAN topologies:

  (i)   Mesh.   (2 marks)

  (ii)   Tree.   (2 marks)

  (iii)   Star.   (2 marks)

(b)   Highlight six features of an accounting package.   (6 marks)

(c)   Describe four benefits of using wireless media in network connectivity.   (8 marks)
  (Total: 20 marks)

QUESTION SIX

(a)   (i)   Explain the term "data/information privacy".   (2 marks)

  (ii)   Highlight three internet-related computer technologies that might threaten data/information privacy.   (3 marks)

  (iii)   Recommend three measures that could be used to protect data/information privacy.   (3 marks)

(b)   Describe six methods that could be used to prevent unauthorised access to information in a computer within a networked environment.   (6 marks)

(c)   Explain the following web-related terms:

  (i)   Web browser.   (2 marks)

  (ii)   Hyperlink.   (2 marks)

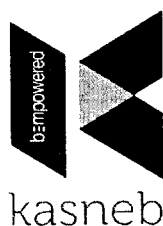 (iii)   Hypertext document.   (2 marks)
  (Total: 20 marks)

QUESTION SEVEN

(a) (i)   Define the term "executive support system (ESS)".   (2 marks)

     (ii) Explain four internal factors that might drive the need for an ESS in an organisation.   (8 marks)

(b) Describe the following internet business models:

     (i)   Information broker.   (2 marks)

     (ii) Transaction broker.   (2 marks)

     (iii) Content provider.   (2 marks)

(c) Explain how the following factors affect the processing power of a computer:

     (i)   Data bus.   (2 marks)

     (ii) RAM size.   (2 marks)
                                                                                                       (Total: 20 marks)

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ATD LEVEL I

DCM LEVEL I

INFORMATION COMMUNICATION TECHNOLOGY

TUESDAY: 28 November 2017.   **Time Allowed: 3 hours.**

Answer any FIVE questions.   **ALL questions carry equal marks.**

QUESTION ONE

(a)   List four external storage devices that could be used to transfer information from one computer to another.   (4 marks)

(b)   Differentiate between a "peer-to-peer" and a "client server" network.   (4 marks)

(c)   Explain the function of the following in a computer system:

     (i)   Mother board.   (2 marks)

     (ii)   BIOS.   (2 marks)

     (iii)   RAM.   (2 marks)

     (iv)   ROM.   (2 marks)

     (v)   CMOS.   (2 marks)

     (vi)   Processor.   (2 marks)
                                                                            (Total: 20 marks)

QUESTION TWO

(a)   Outline four advantages of online data capture.   (4 marks)

(b)   Highlight four factors to consider when choosing an input device.   (4 marks)

(c)   State six reasons for using computer based advertising in an organisation.   (6 marks)

(d)   (i)   Describe the term "knowledge based systems" in the context of information systems.   (2 marks)

     (ii)   Explain two benefits of knowledge based systems within an organisation.   (4 marks)
                                                                            (Total: 20 marks)

QUESTION THREE

(a)   State the main electronic component used in the following computer generations:

     (i)   First.   (1 mark)

     (ii)   Second.   (1 mark)

     (iii)   Third.   (1 mark)

     (iv)   Fourth.   (1 mark)

     (v)   Fifth.   (1 mark)

(b)	(i)	Distinguish between an "impact printer" and a "non impact printer".	(4 marks)

	(ii)	Outline two advantages of each of the printers in (b) (i) above.	(4 marks)

(c)	Highlight seven safety measures that could be taken when using the social media.	(7 marks)
	(Total: 20 marks)

QUESTION FOUR
(a)	Explain the following terms as used in information security:

	(i)	Hackers.	(2 marks)

	(ii)	Identify theft.	(2 marks)

	(iii)	Viruses.	(2 marks)

	(iv)	Spam.	(2 marks)

(b)	Describe three ways in which the intranet could be used in a college.	(6 marks)

(c)	(i)	Define the term "cloud computing".	(2 marks)

	(ii)	Highlight two benefits of cloud computing to an organisation.	(4 marks)
	(Total: 20 marks)

QUESTION FIVE
(a)	Citing a suitable media in each case, explain the following file access methods:

	(i)	Sequential.	(3 marks)

	(ii)	Direct.	(3 marks)

	(iii)	Random.	(3 marks)

(b)	Outline five main features of a spreadsheet program.	(5 marks)

(c)	Describe three benefits of using instant messaging in an organisation.	(6 marks)
	(Total: 20 marks)

QUESTION SIX
(a)	Distinguish between the following information communication technology terms:

	(i)	"Digital divide" and "network coverage".	(4 marks)

	(ii)	"Teleworking" and "video conferencing".	(4 marks)

(b)	In relation to information systems, differentiate between "structured" and "unstructured" decisions.	(4 marks)

(c)	Highlight four factors that could lead to a poor management information system.	(4 marks)

(d)	Outline four advantages of using fibre optic cables in computer networks.	(4 marks)
	(Total: 20 marks)

QUESTION SEVEN
(a)	(i)	State four automated data capture techniques that could be used by an organisation.	(4 marks)

	(ii)	Outline two strengths and two limitations associated with automated data capture.	(4 marks)

(b)	Explain four main functions of an operating system.	(8 marks)

(c)	Distinguish between "productivity software" and "software suite".	(4 marks)
	(Total: 20 marks)

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ATD LEVEL I

DCM LEVEL I

INFORMATION COMMUNICATION TECHNOLOGY

TUESDAY: 23 May 2017.   **Time Allowed: 3 hours.**

Answer any FIVE questions.   **ALL questions carry equal marks.**

QUESTION ONE

(a)   Explain the following categories of personal computers:

          (i)   Desktop computer.   (2 marks)

          (ii)   Notebook computer.   (2 marks)

          (iii)   Tablet computer.   (2 marks)

(b)   Differentiate between "dynamic memory" and "static memory" as used in a computer system.   (4 marks)

(c)   Highlight six ways in which the use of computers could reduce operating cost of a school.   (6 marks)

(d)   Outline four benefits of using email as a means of communication in an organisation.   (4 marks)

                                                                   (Total: 20 marks)

QUESTION TWO

(a)   In the context of information systems, state five qualities of good information.   (5 marks)

(b)   Explain the meaning of the following concepts of a computer file:

          (i)   Hit rate.   (2 marks)

          (ii)   Volatility.   (2 marks)

          (iii)   Growth.   (2 marks)

(c)   Distinguish between a "modem" and a "multiplexer" as used in computer networks.   (4 marks)

(d)   Describe five factors to consider when selecting a computer programming language.   (5 marks)

                                                                   (Total: 20 marks)

QUESTION THREE

(a)   Highlight four business processes that could be supported by the use of computerised accounting software in an organisation.   (4 marks)

(b)   Explain three functions of a power supply unit in a computer system.   (6 marks)

(c)   Highlight four signs that could warn a user of an overheating computer.   (4 marks)

(d)   Describe each of the following multiuser computers:

          (i)   Server.   (2 marks)

          (ii)   Mainframe.   (2 marks)

          (iii)   Supercomputer.   (2 marks)

                                                                (Total: 20 marks)

QUESTION FOUR

(a) Explain the following terms as used in information security:

    (i) Malware. (2 marks)

    (ii) Spyware. (2 marks)

    (iii) Worm. (2 marks)

    (iv) Trojan. (2 marks)

(b) Highlight four ways in which an operating system could be used to sort computer files. (4 marks)

(c) Describe four features of each of the following information systems:

    (i) Transaction Processing System (TPS). (4 marks)

    (ii) Executive Support System (ESS). (4 marks)

(Total: 20 marks)

QUESTION FIVE

(a) Outline four features that could determine the choice of appropriate smartphone for internet usage. (4 marks)

(b) Differentiate between the following types of internet connections:

    (i) "Dial-up internet" and "cable internet". (4 marks)

    (ii) "Digital subscriber line (DSL)" and "Satellite internet". (4 marks)

(c) Identify two hardware devices in each case that could be used to produce the following output:

    (i) Soft copy. (2 marks)

    (ii) Hard copy. (2 marks)

(d) Highlight four disadvantages of a wide area network (WAN). (4 marks)

(Total: 20 marks)

QUESTION SIX

(a) (i) Define the term "utility software". (2 marks)

    (ii) List three examples of utility software. (3 marks)

(b) Explain three factors that influence Garbage In, Garbage Out (GIGO) in the context of data processing. (6 marks)

(c) (i) Describe the role of a repeater in computer networking. (2 marks)

    (ii) State three advantages of star network topology. (3 marks)

(d) Distinguish between "switch user option" and "log off option" as used in graphical user interface (GUI) operating systems. (4 marks)

(Total: 20 marks)

QUESTION SEVEN

(a) Explain the meaning of the following wireless networking technologies:

    (i) Bluetooth. (2 marks)

    (ii) Infrared. (2 marks)

(b) Outline two advantages and two disadvantages of dot matrix printers. (4 marks)

(c) Explain three functions of control unit of a computer system. (6 marks)

(d) Describe two types of flat panel display monitor. (4 marks)

(e) List two examples of registers found within the central processing unit (CPU) of a computer. (2 marks)

(Total: 20 marks)

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ATD LEVEL I

DCM LEVEL I

INFORMATION COMMUNICATION TECHNOLOGY

TUESDAY: 22 November 2016.   **Time Allowed: 3 hours.**

Answer any FIVE questions.   **ALL questions carry equal marks.**

QUESTION ONE

(a)   Identify four devices that could be used in a supermarket to input data at the point of sale.   (4 marks)

(b)   Highlight four disadvantages of using the internet as a research tool.   (4 marks)

(c)   Explain three factors that a company could consider when choosing an online data storage.   (6 marks)

(d)   Outline three differences between "first generation computers" and "second generation computers".   (6 marks)

(Total: 20 marks)

QUESTION TWO

(a)   Explain the meaning of the following terms as used in word processing software:

   (i)   Mail merge.   (2 marks)

   (ii)   Thesaurus.   (2 marks)

   (iii)   Spell checker.   (2 marks)

   (iv)   Zoom.   (2 marks)

(b)   Describe six ways that information communication technology could be used to prevent crime.   (6 marks)

(c)   Citing an example in each case, differentiate between "wired" and "wireless" data transmission media.   (6 marks)

(Total: 20 marks)

QUESTION THREE

(a)   Outline four areas where flash memory cards could be used.   (4 marks)

(b)   State three functions of primary memory in a computer.   (3 marks)

(c)   (i)   Describe four health problems associated with prolonged use of computers.   (4 marks)

   (ii)   Explain how each problem in (c)(i) above could be prevented.   (4 marks)

(d)   Highlight five ways that could be used to prevent unauthorised access to information in a computer within a networked organisation.   (5 marks)

(Total: 20 marks)

QUESTION FOUR

(a)   Highlight four differences between a hard disk and a CD ROM.   (4 marks)

(b)   State an example of an information system used in the following levels of management:

   (i)   Strategic.   (1 mark)

   (ii)   Tactical.   (1 mark)

   (iii)   Operational.   (1 mark)

(c)   Explain three roles of information systems in each of the levels of management stated in (b)(i)-(iii) above.   (9 marks)

(d)   State four elements of a computer file.   (4 marks)

(Total: 20 marks)

QUESTION FIVE

(a)   Highlight two similarities between a "compiler" and an "interpreter" as used in computer programming.   (4 marks)

(b)   Explain three reasons for using a Graphical User Interface (GUI) rather than a Command Line Interface (CLI). (6 marks)

(c)   Identify four functions of a router in a computer network.   (4 marks)

(d)   State three advantages and three disadvantages of online shopping to a company.   (6 marks)
(Total: 20 marks)

QUESTION SIX

(a)   State two functions of Power On Self Test (POST) during the booting process of a computer.   (2 marks)

(b)   Distinguish between the following terms as used in computer files:

   (i)   "File sorting" and "File merging".   (4 marks)

   (ii)   "Transaction file" and "Backup file".   (4 marks)

(c)   Differentiate between "Animation" and "Transition" as used in presentation software.   (4 marks)

(d)   Describe three types of charts available in a spreadsheet program.   (6 marks)
(Total: 20 marks)

QUESTION SEVEN

(a)   Identify four uses of extranet in an organisation.   (4 marks)

(b)   Giving an example in each case, distinguish between "physical access control" and "logical access control" in the context of information systems.   (6 marks)

(c)   Explain the effect of variation in the following on computer system performance:

   (i)   Clock rate.   (2 marks)

   (ii)   Cache size.   (2 marks)

   (iii)   Word size.   (2 marks)

(d)   Describe four limitations of a computer.   (4 marks)
(Total: 20 marks)

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ATD LEVEL I

DCM LEVEL I

INFORMATION COMMUNICATION TECHNOLOGY

TUESDAY: 24 May 2016.　　　　　　　　　　　　　　**Time Allowed: 3 hours.**

Answer any FIVE questions.　　　　　　　　　　　　**ALL questions carry equal marks.**

QUESTION ONE

(a)　State four pointing devices used in computer systems.　　　　　　　　　　(4 marks)

(b)　Explain three benefits that might accrue to a business from using the internet.　　　(6 marks)

(c)　Differentiate between "data" and "information" in the context of information system.　　(4 marks)

(d)　Describe three goals of networking computers in an organisation.　　　　　(6 marks)
　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　(Total: 20 marks)

QUESTION TWO

(a)　Explain the following classes of computers:

　　(i)　Analog.　　　　　　　　　　　　　　　　　　　　　　　　　(2 marks)

　　(ii)　Digital.　　　　　　　　　　　　　　　　　　　　　　　　(2 marks)

　　(iii)　Hybrid.　　　　　　　　　　　　　　　　　　　　　　　　(2 marks)

(b)　Outline six functions of an operating system.　　　　　　　　　　　　(6 marks)

(c)　Highlight four factors that could influence the design of a computer file.　　　(4 marks)

(d)　(i)　Define the term "web browser".　　　　　　　　　　　　　　(2 marks)

　　(ii)　State two commonly used web browsers.　　　　　　　　　　　(2 marks)
　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　(Total: 20 marks)

QUESTION THREE

(a)　Distinguish between "cold booting" and "warm booting" as used in computer systems.　(4 marks)

(b)　Highlight six causes of computer failures.　　　　　　　　　　　　(6 marks)

(c)　Describe five basic operations of a computer system.　　　　　　　　(10 marks)
　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　(Total: 20 marks).

QUESTION FOUR

(a)　Outline two advantages of laser printers.　　　　　　　　　　　　(2 marks)

(b)　Highlight four characteristics of fifth generation computers.　　　　　　(4 marks)

(c)　Differentiate between "assembly language" and "high level language" in the context of programming.　(4 marks)

(d)　Explain two reasons for using auxiliary storage devices in computer systems.　　(4 marks)

(e)　Describe three components of the central processing unit (CPU) of a computer.　(6 marks)
　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　(Total: 20 marks)

QUESTION FIVE

(a) Explain four factors to consider when buying a computer. (8 marks)

(b) With the aid of a diagram, describe the following types of network topologies:

     (i) Bus. (3 marks)

     (ii) Star. (3 marks)

     (iii) Ring. (3 marks)

     (iv) Mesh. (3 marks)
     (Total: 20 marks)

QUESTION SIX

(a) Highlight four uses of information communication technology (ICT) in the health sector. (4 marks)

(b) (i) List four types of paragraph alignment used in a presentation program. (4 marks)

     (ii) State three ways of fitting overflowing word processing content on a single page. (3 marks)

     (iii) Highlight five advantages of using word processor. (5 marks)

(c) Outline four computing tools designed to facilitate online personal interaction. (4 marks)
     (Total: 20 marks)

QUESTION SEVEN

(a) Highlight six reasons for changing from manual to computerised systems. (6 marks)

(b) Distinguish between "count function" and "sum function" as used in a spreadsheet. (4 marks)

(c) Explain five components of an information system. (10 marks)
     (Total: 20 marks)

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ATD LEVEL I

DCM LEVEL I

INFORMATION COMMUNICATION TECHNOLOGY

WEDNESDAY: 18 November 2015.　　　　　　　　　　　　**Time Allowed: 3 hours.**

Answer any FIVE questions.　　　　　　　　　　　　**ALL questions carry equal marks.**

QUESTION ONE
(a)　List four household appliances that use computer control system.　　(4 marks)

(b)　Highlight six uses of information communication technology (ICT) in the entertainment industry.　　(6 marks)

(c)　Distinguish between "serial port" and "parallel port" computer interfaces.　　(4 marks)

(d)　Explain three disadvantages of having computers networked in an organisation.　　(6 marks)
　　　　　　　　　　　　　　　　　　　　　　　　　(Total: 20 marks)

QUESTION TWO
(a)　(i)　Describe the purpose of a search engine.　　(2 marks)

　　　(ii)　State two examples of popular internet search engines.　　(2 marks)

(b)　Highlight two disadvantages of a multi-user operating system.　　(4 marks)

(c)　Explain the following terms as used in information security:

　　　(i)　Firewall.　　(2 marks)

　　　(ii)　Blacklisting.　　(2 marks)

(d)　Giving an example in each case, distinguish between "system software" and "application software".　　(6 marks)

(e)　State two commonly used computer input devices.　　(2 marks)
　　　　　　　　　　　　　　　　　　　　　　　　　(Total: 20 marks)

QUESTION THREE
(a)　State two advantages of using a memory stick as a data storage device.　　(2 marks)

(b)　Differentiate between "hardware" and "software" as used in computer systems.　　(4 marks)

(c)　Giving an example in each case, state three criteria of classifying operating systems.　　(6 marks)

(d)　Explain three advantages of secondary storage devices of a computer.　　(6 marks)

(e)　Identify two limitations of a computer.　　(2 marks)
　　　　　　　　　　　　　　　　　　　　　　　　　(Total: 20 marks)

QUESTION FOUR
(a)　Highlight four security threats to an information system.　　(4 marks)

(b)　Distinguish between "open source software" and "proprietary software".　　(4 marks)

(c)　Outline four benefits of using e-commerce in a business.　　(4 marks)

(d)   Explain two ways in which the size of a file could influence the choice of the file processing method.   (2 marks)

(e)   Outline three characteristics of microcomputing technology.   (3 marks)

(f)   Highlight three access permissions that could be assigned to a file.   (3 marks)
(Total: 20 marks)

QUESTION FIVE
(a)   Highlight four benefits of using social networking sites as a means of communication.   (4 marks)

(b)   Describe the three buses in a computer system unit.   (6 marks)

(c)   List four advantages of a presentation software.   (4 marks)

(d)   Differentiate between "word processor" and "spreadsheet" applications.   (4 marks)

(e)   Outline two data formats available in spreadsheets.   (2 marks)
(Total: 20 marks)

QUESTION SIX
(a)   Highlight four symptoms of a computer infected by a virus.   (4 marks)

(b)   Explain three roles of internet service providers (ISPs).   (6 marks)

(c)   Outline three disadvantages of star topology network.   (3 marks)

(d)   Describe three advantages of computerised accounting software.   (3 marks)

(e)   Differentiate between "absolute referencing" and "relative referencing" as used in a spreadsheet.   (4 marks)
(Total: 20 marks)

QUESTION SEVEN
(a)   Explain the function of the following devices in Information Communication Technology (ICT):

    (i)   Optical Character Reader (OCR).   (2 marks)

    (ii)   Magnetic Ink Character Reader (MICR).   (2 marks)

    (iii)   Barcode reader.   (2 marks)

(b)   Explain three disadvantages associated with outsourcing of Information Communication Technology (ICT) services.   (6 marks)

(c)   Highlight four reasons for backing up data.   (4 marks)

(d)   Distinguish between "Wi-Fi" and "Hotspot" as used in computer networks.   (4 marks)
(Total: 20 marks)

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KASNEB

ATD LEVEL I

DCM LEVEL I

INFORMATION COMMUNICATION TECHNOLOGY

PILOT PAPER

September 2015.   Time Allowed: 3 hours.

Answer any FIVE questions.   ALL questions carry equal marks.

QUESTION ONE

(a)   Using a well labelled diagram, describe the flow of data, instructions and commands in a computer system.   (7 marks)

(b)   Highlight five factors that determine the processing power of a computer.   (5 marks)

(c)   Distinguish between an "application software" and a "system software".   (2 marks)

(d)   Identify two characteristics of:

    (i)   First generation computers.   (2 marks)

    (ii)   Second generation computers.   (2 marks)

    (iii)   Third generation computers.   (2 marks)
   (Total: 20 marks)

QUESTION TWO

(a)   Outline five functions of an operating system.   (5 marks)

(b)   Distinguish between:

    (i)   "DVD-RAM" and "CD-RW".   (4 marks)

    (ii)   "Virtual memory" and "cache memory".   (4 marks)

(c)   Outline three methods of e-payments.   (3 marks)

(d)   State four advantages of using a database system rather than conventional file approach.   (4 marks)
   (Total: 20 marks)

QUESTION THREE

(a)   Describe three types of messaging systems.   (3 marks)

(b)   Outline four models of e-commerce.   (4 marks)

(c)   Explain the meaning of the following expressions:

    (i)   Assembly language is machine oriented.   (2 marks)

    (ii)   High level languages are problem oriented.   (2 marks)

    (iii)   Fourth generation languages are non-procedural languages.   (2 marks)

(d)   List the characteristics of the following information systems:

    (i)   Transaction processing systems.   (3 marks)

      (ii)   Decision support systems.   (2 marks)

      (iii)   Executive support systems.   (2 marks)
                                       (Total: 20 marks)

QUESTION FOUR

(a)   Explain the controls listed below as used in computer systems:

      (i)   Audit trail.   (2 marks)

      (ii)   Biometric controls.   (2 marks)

      (iii)   Encryption.   (2 marks)

      (iv)   Digital signature.   (2 marks)

      (v)   Back-up.   (2 marks)

(b)   Outline five features of an accounting software.   (5 marks)

(c)   Highlight five reasons why an organisation may opt to set up a computer network.   (5 marks)
                                         (Total: 20 marks)

QUESTION FIVE

(a)   Describe two features of each of the following application softwares:

      (i)   Word processing.   (2 marks)

      (ii)   Spreedsheets.   (2 marks)

      (iii)   Database package.   (2 marks)

(b)   Outline four factors to consider when choosing/designing the methods of file organisation.   (4 marks)

(c)   Highlight two factors to consider when acquiring a computer software.   (2 marks)

(d)   Examine three ways in which the internet can be useful to a business.   (3 marks)

(e)   Identify five factors to consider in the selection of data transmission media.   (5 marks)
                                         (Total: 20 marks)

QUESTION SIX

(a)   Distinguish between the following terms:

      (i)   Internet and intranet.   (4 marks)

      (ii)   Internet browser and protocol.   (4 marks)

(b)   List two advantages of teleworking to an employee.   (2 marks)

(c)   In the context of computer files, explain the relationship between hit rate, method of file organisation and type of storage media.   (6 marks)

(d)   Describe the purpose of the following computer network devices:

      (i)   Front end processor.   (2 marks)

      (ii)   Multiplexer.   (2 marks)
                                       (Total: 20 marks)

QUESTION SEVEN

(a)   Outline four factors to consider in the acquisition of an operating system.   (4 marks)

(b)   Describe two utility softwares.   (4 marks)

(c)   Describe three benefits which would accrue to a company as a result of having a computerised stock control system.
                    (6 marks)

(d)   Distinguish between data workers and knowledge workers.   (6 marks)
                    (Total: 20 marks)

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