ATD LEVEL I

INFORMATION COMMUNICATION TECHNOLOGY

THURSDAY: 5 December 2024. Morning Paper.   **Time Allowed: 2 hours.**

This paper consists of fifty (50) Multiple Choice Questions. Answer ALL questions by indicating the letter (A, B, C or D) that represents the correct answer. Each question is allocated two (2) marks. Do NOT write anything on this paper.

1.   Virtual memory handles limited RAM by_____.
        A.   compressing data to fit into RAM
        B.   allocating only the necessary memory for running processes
        C.   expanding the physical memory capacity
        D.   replacing the need for physical memory   (2 marks)

2.   The storage area used to store data to compensate for the difference in speed at which different units can handle data is known as_____.
        A.   memory
        B.   buffer
        C.   accumulator
        D.   address   (2 marks)

3.   An integrated circuit is_____.
        A.   a complicated circuit
        B.   an integrating device
        C.   costlier than a single transistor
        D.   fabricated on a tiny silicon chip   (2 marks)

4.   Which one of the following refers to a collection of hyper linked document on the internet?
        A.   WWW
        B.   Html
        C.   Email
        D.   Internet   (2 marks)

5.   Which one of the following network devices is used to connect two dissimilar types of network?
        A.   Hub
        B.   Switch
        C.   Bridge
        D.   Gateway   (2 marks)

6.   Which one of the following network devices is used to boost-up weak signal?
        A.   Repeater
        B.   Modem
        C.   Router
        D.   Switch   (2 marks)

7.   Data moves in and out of the Central Processing Unit (CPU) through embedded wires called_____.
        A.   bus
        B.   electronic wires
        C.   lines
        D.   cables   (2 marks)

8. Which one of the following component is used to measure the speed of a Central Processing Unit (processor)?
   A. Processing speed
   B. Unit
   C. Coprocessor
   D. Clock speed (2 marks)

9. Which one of the following devices instructs the computer hardware on what to do and how to do it?
   A. Hardware
   B. Operating system
   C. Software
   D. Device driver (2 marks)

10. Which one of the following application software can be used to create, edit and print documents?
    A. Spreadsheet
    B. Word processing
    C. Database software
    D. Desktop publishing (DTP) (2 marks)

11. Which one of the following types of software is an accounting package?
    A. System Software
    B. Application Software
    C. Utility Software
    D. Basic Software (2 marks)

12. The PowerPoint view that displays each slide of the presentation as a thumb nail and is useful for rearranging slides is known as_____.
    A. slide master
    B. slide show
    C. slide sorter
    D. notes page (2 marks)

13. Which one of the following is **NOT** an essential function of a word processing software package?
    A. Indexing
    B. Saving
    C. Editing
    D. Formatting (2 marks)

14. A numeric data analysis tool that allows one to create a computerised ledger is referred to as_____.
    A. word processing package
    B. spreadsheet package
    C. graphics package
    D. mathematical package (2 marks)

15. The type of system that enables many people located at various terminals to use a particular computer system at the same time is known as_____.
    A. batch operating system
    B. multitasking operating system
    C. time-sharing operating system
    D. distributed operating system (2 marks)

16. Which one of the following terms refers to the heart of an operating system?
    A. Thread
    B. Virtual memory
    C. Semaphore
    D. Kernel (2 marks)

17. Which one of the following is a type of system software?
    A. Special purpose
    B. Public domain software
    C. Device driver
    D. Application software (2 marks)

18. Which one of the following statements is an advantage of sharing a computer file?
 A. Increases infection of malware and viruses
 B. Eliminates multiple file versions
 C. Increases chance of unauthorised access
 D. Possible copyright and plagiarism (2 marks)

19. Most of the system software are developed using a programming language known as_____.
 A. machine
 B. assembly
 C. high level
 D. fourth generation (2 marks)

20. Identify the name of the output device below:

 A. Printer
 B. Plotter
 C. Projector
 D. Microfilm (2 marks)

21. The utility in windows operating system, that is used to draw, create and edit graphics is known as_____.
 A. paint
 B. notepad
 C. wordPad
 D. CorelDraw (2 marks)

22. Which one of the following is part of a computer microprocessor?
 A. ROM
 B. CMOS
 C. RAM
 D. Cache (2 marks)

23. The main function of an operating system is that it _____.
 A. turns digital data into printed media
 B. communicates with the computer user
 C. manages business processes
 D. enhances the computer's functionality by adding features and capabilities (2 marks)

24. Which one of the following is a disadvantage of application software?
 A. Immediately available
 B. Long-term cost implication
 C. Well documented
 D. Quick and easy to implement (2 marks)

25. The method of exchanging messages between digital computers through the internet is known as_____.
 A. uniform Resource Locator
 B. World Wide Web
 C. electronic Mail
 D. E-Commerce (2 marks)

26. Which one of the following factors should be considered when choosing an appropriate accounting package for a business?
   A. Speed of the processor
   B. Size of business
   C. Size of computer available
   D. Capacity of read only memory available (2 marks)

27. A text modifying feature in Microsoft Word, that includes effects such as shadows, outlines, colours, gradients and 3D effects that can be added to a word or phrase is known as _____.
   A. Word wrap
   B. Drop cap
   C. WordArt
   D. Thesaurus (2 marks)

28. Which one of the following is an example of a category of application software that allows users to create a presentation of ideas by stringing together text, images and audio/video?
   A. PowerPoint
   B. CorelDraw
   C. PageMaker
   D. AutoCAD (2 marks)

29. The following are characteristics of a type of a network.
   • It is the smallest network of computers
   • Bluetooth or other infrared-enabled devices could be used to connect devices
   • Enables a single person's personal devices to connect with each other

   Which one of the following networks is described above?
   A. Personal Area Network (PAN)
   B. Local Area Network (LAN)
   C. Metropolitan Area Network (MAN)
   D. Wide Area Network (WAN) (2 marks)

30. Which one of the following statements **BEST** describes a router?
   A. High-speed device that receives and redirects data packets on a Local Area Network (LAN)
   B. Hardware component that converts analogue signals to digital data and vice versa
   C. Networking device that forwards data packets between computer networks
   D. Network node or device that connects two networks that use different transmission protocols (2 marks)

31. Which one of the following network topology combines two or more different network topologies?
   A. Star
   B. Hybrid
   C. Ring
   D. Mesh (2 marks)

32. Which one of the following statements is **TRUE** about a computer folder?
   A. It occupies a certain amount of memory
   B. It cannot be shared on a network
   C. It does not have extension
   D. It is a collection of data (2 marks)

33. Which one of the following statements **BEST** describes integrity in security?
   A. Protecting information from unauthorised access and misuse
   B. Process of determining whether a user or entity has the necessary rights
   C. Protection of system data from intentional or accidental unauthorised changes
   D. Process of verifying whether someone (or something) is what it is declared to be (2 marks)

34. Which one of the following types of user interface is **BEST** described as one that uses a list of options to navigate a program or website?
   A. Speech user interface
   B. Menu driven interface
   C. Graphical user interface
   D. Command line interface (2 marks)

35. The purpose of a file system in an operating system is to_____.
    A.   control the input and output devices
    B.   allocate and deallocate system memory
    C.   manage and organise files on storage devices
    D.   provide a user interface for applications   (2 marks)

36. In a networked environment, which one of the following statements refers to the purpose of assigning user permissions during the account creation process?
    A.   To limit the number of user accounts
    B.   To increase system performance
    C.   To control what actions and resources a user can access
    D.   To improve network security   (2 marks)

37. The importance of having customisable data entry screens in computerised accounting software is to_____.
    A.   make the system harder to use and prevent unauthorised access
    B.   ensure the screens match specific needs and workflows of a business
    C.   limit the flexibility of data capture
    D.   enforce a single standard for all businesses   (2 marks)

38. The feature that allow users to create a pre-formatted document for various purposes, such as resumes or reports is known as _____.
    A.   styles
    B.   templates
    C.   themes
    D.   macros   (2 marks)

39. The purpose of Random Access Memory (RAM) in a computer is to _____.
    A.   permanently store user files and documents
    B.   hold data temporarily for quick access by the CPU
    C.   enhance the audio output of the computer
    D.   cool down the internal components of the computer   (2 marks)

40. The difference between a Hard Disk Drive (HDD) and a Solid State Drive (SSD) in terms of data storage technology is that _____.
    A.   HDD uses magnetic storage, while SSD uses integrated circuits
    B.   HDD enhances the computer's audio capabilities, while SSD improves video quality
    C.   HDD is used for data backup only, while SSD is used for primary storage
    D.   HDD is a type of display technology, while SSD is a type of processor   (2 marks)

41. The function of a graphics card in a computer system is to_____.
    A.   process and render visual data to display images on the monitor
    B.   increase the storage capacity of the computer
    C.   enhance the speed of the internet connection
    D.   serve as the primary input device for user commands   (2 marks)

42. An IP address in network communication_____.
    A.   serves as a unique identifier for devices on a network
    B.   acts as a password for secure online transactions
    C.   enhances the graphics quality of online games
    D.   increases the storage capacity of cloud services   (2 marks)

43. Which one of the following statements differentiates between "volatile memory" and "non-volatile memory" based on their characteristics?
    A.   Volatile memory retains data without power; non-volatile does not
    B.   Volatile memory loses data without power; non-volatile retains it
    C.   Both types of memory retain data without power
    D.   Both types of memory lose data without power   (2 marks)

44. Which one of the following statements is the appropriate action to safely remove a USB drive from a Windows' computer?
    A.   Eject through the "My Computer" window
    B.   Pull out the USB drive without any prior action
    C.   Disable the USB port from Device Manager
    D.   Turn off the computer and then remove the USB drive   (2 marks)

45. Which one of the following is a formula in a spreadsheet to calculate the sum of cells, A1 through A10?
    A.   =SUM (A1:A10)
    B.   =ADD (A1:A10)
    C.   =TOTAL (A1:A10)
    D.   =COMBINE (A1:A10)   (2 marks)

46. Which one of the following statements explains the difference between solid-state drives (SSD) and hard disk drives (HDD) in terms of data retrieval speed?
    A.   SSDs are slower because they have no moving parts
    B.   HDDs are faster because they use spinning disks
    C.   SSDs are faster because they access data electronically without moving parts
    D.   There is no difference in speed between SSDs and HDDs   (2 marks)

47. Which one of the following statements would construct a user-friendly interface for a mobile banking application that ensures security and ease of use?
    A.   Use complex navigation menus, require multiple logins for each action
    B.   Implement biometric authentication, clear navigation and quick access to common tasks
    C.   Provide no security features, prioritise aesthetic design over functionality
    D.   Require users to write code to perform transactions   (2 marks)

48. Which one of the following statements correctly appraises the effectiveness of using a mesh network in a large office compared to a traditional Wi-Fi network?
    A.   Mesh networks are less effective due to increased complexity
    B.   Traditional Wi-Fi networks are always superior regardless of office size
    C.   Mesh networks provide better coverage and reliability in large spaces
    D.   There is no difference in effectiveness between mesh and traditional Wi-Fi networks   (2 marks)

49. The primary form of data input for first generation computers is_____.
    A.   punch cards
    B.   magnetic tape
    C.   floppy disks
    D.   optical discs   (2 marks)

50. Which one of the following type of printer does not use ink or toner to create images on paper?
    A.   Dot matrix printer
    B.   Inkjet printer
    C.   Laser printer
    D.   Thermal printer   (2 marks)

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ATD LEVEL I

INFORMATION COMMUNICATION TECHNOLOGY

THURSDAY: 22 August 2024. Morning Paper.   **Time Allowed: 2 hours.**

This paper consists of fifty (50) Multiple Choice Questions. Answer ALL questions by indicating the letter (A, B, C or D) that represents the correct answer. Each question is allocated two (2) marks. Do NOT write anything on this paper.

1.   Which one of the following statements is an advantage of computerisation?
       A.   Reduces employee's productivity
       B.   Increases paper work
       C.   Leads to digital divide
       D.   Creates employment for skilled personnel   (2 marks)

2.   A system software component responsible for performing common tasks is known as _____.
       A.   utility program
       B.   language translator
       C.   operating system
       D.   device driver   (2 marks)

3.   A computer component that acts as a connection point or interface between a computer and external or internal device is known as _____.
       A.   device controller
       B.   device driver
       C.   computer port
       D.   expansion slot   (2 marks)

4.   A feature that enables a user to send a similar letter or document to multiple recipients is found in an application called _____.
       A.   word processor
       B.   spreadsheet
       C.   presentation
       D.   database   (2 marks)

5.   A high-speed device that receives incoming data packets and redirects them to their destination on a Local Area Network (LAN) is known as _____.
       A.   switch
       B.   gateway
       C.   bridge
       D.   router   (2 marks)

6.   Which one of the following statements is a disadvantage of sharing a computer file?
       A.   Saves time
       B.   Eliminates multiple file versions
       C.   Increases risk of infection
       D.   Saves money   (2 marks)

7.   Which one of the following statements is an advantage of a word processing software?
       A.   You need to have access to a computer which has word processing software installed
       B.   It takes time to learn to use the program effectively
       C.   Easier to use due to automated features
       D.   People can become reliant on using the word processor and their handwriting skills can deteriorate
                                                                                     (2 marks)

8. A word processor feature where the first character of a paragraph is made larger, taking up several lines of text is known as _____.
   A. word wrap
   B. drop cap
   C. wordart
   D. thesaurus (2 marks)

9. The following are components of a computer:
   Register;
   Port;
   Bus;
   RAM.

   The two components which are contained in a computer processor are:
   A. Register and port
   B. Register and bus
   C. Port and bus
   D. Port and RAM (2 marks)

10. A type of an operating system which allows a single Central Processing Unit (CPU) to execute what appears to be more than one program at the same time is known as _____.
    A. multiprocessing
    B. multiprogramming
    C. multi-user
    D. multitasking (2 marks)

11. Which one of the following statements refers to an advantage of Information Communication Technology (ICT) in education sector?
    A. When used in the classroom it can be a distraction
    B. Detracts students from social interactions
    C. Its use motivates learning
    D. Can foster cheating

    (2 marks)

12. The name of a computer network where electronic devices within an individual person's workspace are interconnected is called _____.
    A. Personal Area Network (PAN)
    B. Metropolitan Area Network (MAN)
    C. Wide Area Network (WAN)
    D. Virtual Private Network (VPN) (2 marks)

13. A high-performance computer system that is designed for a single user and has advanced graphics capabilities, large storage capacity and a powerful processor is known as _____.
    A. mainframe
    B. server
    C. workstation
    D. supercomputer (2 marks)

14. An information security control measure that is used to transform usable information into a form that renders it unusable by anyone other than an authorised user is known as _____.
    A. intrusion detector
    B. firewall
    C. biometric
    D. cryptography (2 marks)

15. Which one of the following statements **BEST** describes the function of Magnetic Ink Character Recognition (MICR) method of capturing data?
    A. Converts the physical action to be measured into an electrical equivalent and processes it so that the electrical signals can be easily sent and further processed
    B. Verifies the legitimacy or originality of paper documents, especially bank cheques
    C. Converts an image of text into a machine-readable text format
    D. Scans and captures the optical marks on such documents as the multiple-choice scoring sheets (2 marks)

16. Which one of the following statements **BEST** describes the function of a slide master view?
    A. It shows the layout of your presentation as it is printed out on paper
    B. It allows to change the layout for every single note section in your project
    C. It allows a colourful presentation to be shown
    D. It allows you edit and create your own layouts (2 marks)

17. A financial organisational tool that provides an index of every account in an accounting system is called a _____.
    A. general ledger
    B. chart of accounts
    C. customers' ledger
    D. suppliers' ledger (2 marks)

18. The following are features of a programming language:
    • It the machine dependent
    • Execution speed is high
    • Mnemonics are used as programming code

    The above statements describe features of _____ programming language.
    A. machine
    B. assembly
    C. high level
    D. fourth generation (2 marks)

19. The term animation can **BEST** be defined as _____.
    A. the effect that takes place when you advance from one slide to the next
    B. an item that you create or a graphic that you import from another source
    C. the file containing the collection of slides
    D. visual or sound effect accompanying text or graphics (2 marks)

20. Which one of the following factors is **NOT** necessary in determining the speed of a computer processor?
    A. Operating system installed
    B. Bus size
    C. Number of cores available
    D. Capacity of main memory (2 marks)

21. Which one of the following statements is **TRUE** about a twisted pair cable?
    A. It supports high bandwidth levels
    B. It carries signals over longer distances
    C. It is relatively easy to implement and terminate
    D. It offers better reliability (2 marks)

22. The process of verifying the identity of a user, process or device before allowing access to resources in an information system is known as _____.
    A. authorisation
    B. automation
    C. authentication
    D. non-repudiation (2 marks)

23. The type of an operating system design that allows multiple users or processes to concurrently share the same system resources is known as _____.
    A. batch system
    B. distributed system
    C. multiprocessing system
    D. time sharing system (2 marks)

24. The type of an application software created to execute one particular task is known as _____.
    A. bespoke
    B. special purpose
    C. general purpose
    D. customised (2 marks)

25. Input devices includes _____.
   A. monitor and printer
   B. keyboard and mouse
   C. CPU and RAM
   D. hard disk and CD-ROM (2 marks)

26. The basic components of a computer network are _____.
   A. server, client, transmission medium and NIC
   B. router, switch, hub and firewall
   C. internet, intranet, extranet and VPN
   D. LAN, WAN, MAN and PAN (2 marks)

27. The **MOST** appropriate device to read the information set on a barcode of a product is a _____.
   A. printer
   B. scanner
   C. keyboard
   D. monitor (2 marks)

28. The formula used to calculate the average of the values in cells A1 to A10 is _____.
   A. =AVERAGE(A1:A10)
   B. =SUM(A1:A10)
   C. =MEAN(A1:A10)
   D. =AVER(A1:A10) (2 marks)

29. Which one of the following steps would you take when sharing a file with another computer on the same network?
   A. Right-click the file, select share, choose the computer you want to share with and click OK
   B. Drag the file to the appropriate folder, open the network folder on the other computer and copy the file
   C. Email the file to the other computer, open the email on the other computer and download the file
   D. Using share point, right click on the file, on the context menu, choose the destination computer (2 marks)

30. The computer network components responsible for directing data packets between networks is known as a _____.
   A. server
   B. client
   C. route
   D. switch (2 marks)

31. Which one of the following storage devices provides the **FASTEST** access to data in a computer system?
   A. Solid State Drive (SSD)
   B. Optical Disc Drive (ODD)
   C. Magnetic Tape Drive (MTD)
   D. Floppy Disk Drive (FDD) (2 marks)

32. The volatile memory type that loses its data when the power is turned off is known as _____.
   A. hard disk
   B. ram (random access memory)
   C. ssd (solid state drive)
   D. flash memory (2 marks)

33. Which one of the following components is responsible for managing and coordinating the activities of all hardware components in a computer system?
   A. Motherboard
   B. Power supply
   C. Hard drive
   D. Graphics card (2 marks)

34. The purpose of an operating system in a computer is to _____.
   A. store files and folders
   B. control and manage hardware resources
   C. connect to the internet
   D. create graphic designs (2 marks)

35. The type of software that serves as an intermediary between the operating system and the computer hardware, managing the flow of data and instructions is known as _____.
    A. device drivers
    B. application software
    C. system utilities
    D. firmware (2 marks)

36. Which one of the following types of software is responsible for managing computer's hardware components and providing a platform for application software to run?
    A. Application software.
    B. Atility software
    C. System software
    D. Middleware (2 marks)

37. The primary purpose of a Graphical User Interface (GUI) in computer systems is to _____.
    A. manage file storage and organisation
    B. provide a visual way for users to interact with a computer
    C. allocate system memory for applications
    D. establish network connections between devices (2 marks)

38. Which one of the following statements explains the function of the "taskbar" in a graphical user interface?
    A. Manage file permissions
    B. Provide a space for organising desktop icons
    C. Display open applications and facilitate quick access
    D. Control the computer's hardware components (2 marks)

39. The function of a file extension in the context of file management is to _____.
    A. indicate the type of file and the program that can open it
    B. determine the file's location on the computer
    C. manage file permissions
    D. allocate system memory for the file (2 marks)

40. The purpose of the "copy" function in file management is to _____.
    A. create a duplicate of a file in the same location
    B. move a file from one location to another
    C. permanently delete a file from the system
    D. open and view the contents of a file (2 marks)

41. The purpose of slide transitions in a presentation is to _____.
    A. change the color scheme of the slides
    B. add animation effects to text and images
    C. control the flow between one slide and the next
    D. insert hyperlinks to external websites (2 marks)

42. The primary purpose of a computerised accounting software is _____.
    A. managing inventory in a business
    B. tracking and recording financial transactions
    C. designing marketing campaigns
    D. creating graphic designs for promotional materials (2 marks)

43. Which one of the following features in a computerised accounting software allows automatic calculation of financial data based on predefined formulas?
    A. Config function
    B. General ledger
    C. Formula editor
    D. Automatic reconciliation (2 marks)

44. The primary purpose of creating user accounts in a computer system is to _____.
    A. enhance the computer's processing speed
    B. manage and control access to system resources
    C. uninstall software applications
    D. organise files and folders (2 marks)

45. The memory technique used to increase main memory capacity beyond the limits of physical memory is known as _____.
   A.   virtual memory
   B.   cache memory
   C.   register memory
   D.   flash memory   (2 marks)

46. An example of a printer commonly used for printing labels and barcodes is a(n) _____.
   A.   inkjet printer
   B.   laser printer
   C.   dot-matrix printer
   D.   thermal printer   (2 marks)

47. Which one of the following statements **BEST** describes first generation programming languages?
   A.   Platform-independent
   B.   Easy to understand for humans
   C.   Translatable by a compiler
   D.   Executable directly by the CPU   (2 marks)

48. The type of network topology where failure of a single device result in the failure of the entire network is known as _____.
   A.   star
   B.   ring
   C.   bus
   D.   mesh   (2 marks)

49. Which one of the following data transmission line is **MOSTLY** associated with the "RJ-45" connector?
   A.   Coaxial cable
   B.   Fiber optic cable
   C.   Twisted pair cable
   D.   Ethernet cable   (2 marks)

50. Which one of the following is both an input and an output device?
   A.   LED Printer
   B.   Touch screen
   C.   Stylus pen
   D.   Wireless keyboard   (2 marks)

……………………………………………………………………………………

1.   What is the name of the application software that is user-specific and does a specific task?
        A.   Special purpose
        B.   General purpose
        C.   Bespoke
        D.   Customised   (2 marks)

2.   The following are reasons for setting up a computer network in an organisation, **EXCEPT**_____.
        A.   Provides best way of business communication
        B.   Effective resource sharing
        C.   Cut costs on hardware and software
        D.   To keep in step with emerging trends   (2 marks)

3.   Which of the following is **FALSE** about Random Access Memory (RAM)?
        A.   It is also called the working memory
        B.   Content of the RAM can be written, modified and deleted
        C.   Its capacity cannot be increased unless by the computer manufacturer
        D.   Its capacity ranges from 4GB to 32GB or higher for modern computers   (2 marks)

4.   In a presentation software, what is a predefined set of colours, fonts and visual effects that is applied to slides for a unified professional look?
        A.   Template
        B.   Animation
        C.   Transition
        D.   Theme   (2 marks)

5.   What is the name of the text-based user interface used to run programs, manage computer files and interact with the computer?
        A.   Voice user interface
        B.   Graphical user interface
        C.   Command line interface
        D.   Menu driven interface   (2 marks)

6.   In a spreadsheet, a function is a calculation or operation that returns a result.

        What is the name given to the inputs in a function?
        A.   Labels
        B.   Arguments
        C.   Values
        D.   Data   (2 marks)

7. Which is the topology where all the devices in the network are connected to a single cable or line?
   A. Ring
   B. Mesh
   C. Bus
   D. Star (2 marks)

8. Which of the statements below clearly describes the purpose of a register in computer memory?
   A. To provide extra storage space for data
   B. To supplement the processor
   C. To arrange, organise and sort data awaiting processing
   D. To store small amounts of data needed during processing (2 marks)

9. In spreadsheet program, the feature that displays the cell that is currently selected in the worksheet is known as _____.
   A. Status bar
   B. Menu bar
   C. Name box
   D. Formula bar (2 marks)

10. Which of the following is **NOT** a characteristic of a Wide Area Network (WAN)?
    A. It connects computers over a small geographical area
    B. The range of the network is enormous to transfer data
    C. The speed of the data transmission is sometimes fast and sometimes slow
    D. It allows users to share resources with other users on the internet (2 marks)

11. A computer's memory is measured in _____.
    A. Bytes
    B. Hertz
    C. Watts
    D. Volts (2 marks)

12. The following are advantages of a custom-built application software, **EXCEPT**_____.
    A. Tailor-made to the specific needs of the user
    B. Increased productivity
    C. Increased development costs
    D. Dependable technical support (2 marks)

13. The following are characteristics of a mainframe computer, **EXCEPT**_____.
    A. Higher memory capacity
    B. Smallest in size
    C. Runs many applications at the same time
    D. Supports multiprocessing (2 marks)

14. Which of the following is **NOT** a component of system software?
    A. Utilities
    B. Translators
    C. Device drivers
    D. Database (2 marks)

15. A copy of computer data taken and stored elsewhere so that it may be used to restore the original after a data loss event is known as _____.
    A. Disaster plan
    B. Backup
    C. Recovery
    D. License (2 marks)

16. Which of the following is an advantage of sharing a computer file?
    A. Offers security
    B. Eliminates multiple file versions
    C. Risk of infection
    D. Increased data integrity (2 marks)

17. Which of the following is **NOT** an important feature of a presentation software?
    A.   Different slide layouts
    B.   Animation effects
    C.   Spell checker
    D.   Transition effects   (2 marks)

18. Which one of the following is **NOT** a function in a spreadsheet application?
    A.   Value
    B.   Esc
    C.   Label
    D.   If   (2 marks)

19. A part of a computer program that usually causes the computer to malfunction; often corrected using patches or updates to the program is known as _____.
    A.   Bug
    B.   Virus
    C.   POST
    D.   BIOS   (2 marks)

20. Which of the following is **NOT** a reason why it is important to manage computer files?
    A.   To improve organisation
    B.   To centralise document location
    C.   To increase typing speed
    D.   To reduce filing errors   (2 marks)

21. The utility used to create a bitmapped image file in Windows Operating System is known as _____.
    A.   Paint
    B.   Notepad
    C.   Control panel
    D.   Scandisk   (2 marks)

22. Which one of the following components is **NOT** necessary when setting up a local area network in an office?
    A.   Switch
    B.   Bridge
    C.   Twisted pair cable
    D.   Computers   (2 marks)

23. Which of the following is **NOT** a characteristic of impact printers?
    A.   It's noisy
    B.   Slow in printing
    C.   Break easily
    D.   Quiet when printing   (2 marks)

24. Which of the following statements **BEST** describe the function of a slide master view?
    A.   It allows a user to edit and create own layouts
    B.   It shows the layout of a presentation as it is printed out on paper
    C.   It allows user to change the layout for every single note section in the project
    D.   It allows a colourful presentation to be shown   (2 marks)

25. The following are features of a graphical user interface (GUI), **EXCEPT** _____.
    A.   They are much easier to use for beginners
    B.   They enable you to easily exchange information between software using cut and paste or "drag and drop"
    C.   Commands must be typed correctly and in the right order or the command will not work
    D.   They use a lot of memory and processing power   (2 marks)

26. Which **ONE** of the following is neither an input nor an output device?
    A.   Scanner
    B.   Speaker
    C.   Inkjet
    D.   Flash disk   (2 marks)

27. In a Word processing program, landscape refers to _____.
    A. Page Layout
    B. Paper Size
    C. Page Orientation
    D. A Font Style (2 marks)

28. _____is a PowerPoint feature that allow a user to create a presentation quickly.
    A. Animations
    B. Chart Wizard
    C. Transition Wizard
    D. AutoContent Wizard (2 marks)

29. The main folder on a storage device is called_____.
    A. Device driver
    B. Root directory
    C. Interface
    D. Platform (2 marks)

30. Which type of user interface is **MOST** suitable to somebody with a visual impairment?
    A. Graphical User Interface
    B. Speech and Sound Interface
    C. Command Line Interface
    D. Menu Interface (2 marks)

31. Identify the file format that is commonly used to compress multiple files into a single archive.
    A. .zip
    B. .gif
    C. .mp3
    D. .txt (2 marks)

32. What is the purpose of a device driver?
    A. To connect hardware devices to the system
    B. To manage memory allocation
    C. To process user input
    D. To convert source code into machine code (2 marks)

33. Which of the following is an advantage of using a command line interface (CLI)?
    A. It provides more intuitive and user-friendly interaction
    B. It allows for faster and more efficient execution of commands
    C. It offers a graphical representation of data and information
    D. It requires minimal technical knowledge for operation (2 marks)

34. Which function of an operating system ensures that each application gets a fair share of the CPU time?
    A. Process scheduling
    B. Memory management
    C. File management
    D. Security and authentication (2 marks)

35. A type of port used to connect a printer, keyboard and mouse to a computer is known as _____.
    A. USB
    B. HDMI
    C. Ethernet
    D. VGA (2 marks)

36. Which of the following is an example of open-source software?
    A. Microsoft Office
    B. Adobe Acrobat
    C. Linux operating system
    D. AutoCAD (2 marks)

37. Which feature of accounting software allows you to automatically import bank statements and reconcile them with your financial records?
  A. Data capture
  B. Auto-tax calculation
  C. Bank reconciliation
  D. Financial reporting (2 marks)

38. Which network resource is used to control access to specific folders and files, ensuring that only authorised users can view or modify them?
  A. Printer
  B. Router
  C. File permissions
  D. Modem (2 marks)

39. Which programming language is often used for web development and can run on both the client and server sides?
  A. Java
  B. Python
  C. JavaScript
  D. C++ (2 marks)

40. What is a key advantage of using accounting software for data capture compared to manual bookkeeping?
  A. Lower cost
  B. More flexibility
  C. Reduced human error
  D. Better communication (2 marks)

41. A small amount of fast temporary memory within the processor where data is stored and values needed to execute instructions are changed is called_____.
  A. Register
  B. Bus
  C. Control unit
  D. Arithmetic and Logic unit (2 marks)

42. Memory used by the computer to store the information temporarily during processing is referred to as_____.
  A. Random Access Memory (RAM)
  B. Read only Memory (ROM)
  C. Write once read Many (WORM)
  D. Flash Memory (2 marks)

43. Which of the following is the most common modern type of personal computer monitor?
  A. Cathode Ray Tube
  B. Liquid Crystal Display
  C. Thin Film Transistor
  D. Gas Plasma Display (2 marks)

44. Which of the following is used for primary storage in a computer?
  A. Flash disk
  B. Cache memory
  C. Compact disk
  D. Magnetic tape (2 marks)

45. The process of restoring data that has been lost, accidentally deleted, corrupted or made inaccessible is known as_____.
  A. Disaster plan
  B. Backup
  C. Recovery
  D. Retrieval (2 marks)

46. Which of the following is a source document input device?
   A. Voice entry
   B. Mouse
   C. Keyboard
   D. Bar code reader (2 marks)

47. Which of the following is a characteristic of third generation computers?
   A. Use magnetic core as primary storage medium
   B. Use high-level programming languages in developing software
   C. Generated a lot of heat
   D. Use transistors as switching devices (2 marks)

48. Which programming language is **OFTEN** used to develop mobile applications for Android devices?
   A. Swift
   B. Kotlin
   C. Objective-C
   D. Java (2 marks)

49. What is the purpose of a motherboard in a computer system?
   A. To process data and execute instructions
   B. To store data permanently
   C. To provide temporary storage for the CPU
   D. To connect and coordinate various hardware components (2 marks)

50. In the context of software licensing, what is the main characteristic of open-source software?
   A. It is developed exclusively for commercial purposes
   B. Its source code is freely available for modification and redistribution
   C. It cannot be modified or distributed by users
   D. It is proprietary and closed to public access (2 marks)

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ATD LEVEL I

INFORMATION COMMUNICATION TECHNOLOGY

THURSDAY: 7 December 2023. Morning Paper.   **Time Allowed: 2 hours.**

This paper is made up of fifty (50) Multiple Choice Questions. Answer ALL questions by indicating the letter (A, B, C or D) that represents the correct answer. Each question is allocated two (2) marks. Do NOT write anything on this paper.

1. _____ is responsible for converting the data received from the user into a computer understandable format.
   A. Output Unit
   B. Input Unit
   C. Memory Unit
   D. Arithmetic & Logic Unit   (2 marks)

2. Which of the following ICT resources can access a server?
   A. Web Client
   B. User
   C. Web Browser
   D. Web Server   (2 marks)

3. _____ is **NOT** a form of data storage media.
   A. A database
   B. Magnetic tape
   C. Magnetic disc
   D. Optical disc   (2 marks)

4. An example of a browser software is_____.
   A. Microsoft Word
   B. Notepad
   C. Internet navigator
   D. Microsoft Edge   (2 marks)

5. In computer architecture, the cache memory works between _____.
   A. ROM and CPU
   B. RAM and ROM
   C. CPU and RAM
   D. Random and secondary memory   (2 marks)

6. When discussing technology, which of the following statement best describes a hot spot?
   A. A small overheated area on a CPU
   B. A place served by public wireless access
   C. Jargon for an X-rated Web site
   D. A faulty area in the programming code   (2 marks)

7. A computer virus that actively attacks an anti-virus program in an effort to prevent detection is known as _____.
   A. Worm
   B. Retrovirus
   C. Trojan
   D. Ghost virus   (2 marks)

8. What is World Wide Web?
   A. A computer game
   B. A software program
   C. The part of the Internet that enables information-sharing via interconnected pages
   D. Another name for the Internet (2 marks)

9. Which of the following forms the foundation of fifth-generation computers?
   A. Artificial Intelligence
   B. Vacuum tubes
   C. VVLSI
   D. Transistors (2 marks)

10. Which computer generation saw the introduction of the microprocessor?
    A. First Generation
    B. Fourth Generation
    C. Second Generation
    D. Third Generation (2 marks)

11. _____ refers to the period of time that a computer spends processing a job.
    A. Execution Time
    B. Real Time
    C. Delay Time
    D. Waiting Time (2 marks)

12. Which of the following term can be used to refer to a Landscape in context of word processing program?
    A. A font style
    B. Paper size
    C. Page layout
    D. Page orientation (2 marks)

13. What is a "folder" as applied in operating system?
    A. A catalogue for files stored on the hard disk of a computer
    B. A package of instruction that causes the computer to do something
    C. Storage of all files which are deleted
    D. A disk used to store bulk data (2 marks)

14. The product of data processing is referred to as_____.
    A. Information
    B. Data
    C. Software Program
    D. System (2 marks)

15. A new Laptop comes with various characteristics: weighs less, is smaller and uses less power than previous Laptop models. Which of the following technologies has been used to accomplish this feature?
    A. Universal Serial Bus Mouse
    B. Faster Random Access Memory
    C. Blu Ray Drive
    D. Solid State Hard Drive (2 marks)

16. The data storage hierarchy consists of:
    A. Bits, bytes, fields, records, files and databases
    B. Bits, bytes, records, fields, files and databases
    C. Bits, bytes, fields, files, records and databases
    D. Bytes, bits, fields, records, files and databases (2 marks)

17. Which one of the following is **NOT** an operating system?
    A. Android Donut
    B. Unix
    C. Linux
    D. Microsoft Word (2 marks)

18. Which program translates an entire set of instructions written in a higher-level language into machine language before the instructions can be executed?
    A. Interpreter
    B. Assembler
    C. Compiler
    D. Debugger   (2 marks)

19. Which one of the following is **NOT** an advantage of computerisation?
    A. Becomes outdated quickly
    B. Reduced costs
    C. Reduced space requirements
    D. Provides information to management   (2 marks)

20. Which one of the following is **NOT** a part of system software?
    A. Device drivers
    B. Word processing
    C. Utility programs
    D. Operating system   (2 marks)

21. Which one of the following is **NOT** an example of a utility software?
    A. Disk defragmenters
    B. Antivirus software
    C. Word Processing
    D. Backup software   (2 marks)

22. What is defined as a large capital letter used as a decorative element at the beginning of a paragraph or section where it is made larger, taking up several lines of text or the first few sentences?
    A. Word wrap
    B. Word art
    C. Drop cap
    D. Typeface   (2 marks)

23. Which of the following is **NOT** a characteristic of impact printers?
    A. Cheap to buy
    B. Slow when printing
    C. Relatively poor quality printout
    D. Quiet when printing   (2 marks)

24. Which of the following is **NOT** a type of a Chart in a spreadsheet software?
    A. Pie
    B. Combo
    C. Area
    D. Flow   (2 marks)

25. The statement "covers an entire city", describes which type of a network?
    A. LAN
    B. CAN
    C. MAN
    D. WAN   (2 marks)

26. What is the name of the networking hardware which provides the physical connection between the network and the computer workstation?
    A. Network interface card
    B. Router
    C. Multiplexer
    D. Gateway   (2 marks)

27. The following are characteristics of a microcomputer computer, **EXCEPT** _____.
    A. Small size and low cost
    B. Low computing power
    C. Runs many applications at the same time
    D. Easy to use   (2 marks)

28. A set of digits that represents the release date and specific changes to a computer software is known as _____.
    A.   Release
    B.   Version
    C.   Deployment
    D.   Configuration   (2 marks)

29. The following are important objectives of computer networks, **EXCEPT** _____.
    A.   Resource sharing
    B.   Increase reliability
    C.   Security of resources
    D.   Communication   (2 marks)

30. A collection of related fields that can be treated as a unit by an application program is called a _____.
    A.   Field
    B.   Record
    C.   File
    D.   Database   (2 marks)

31. Virtual memory is_____.
    A.   An illusion of a large main memory
    B.   A large main memory
    C.   A large secondary memory
    D.   A large backing storage   (2 marks

32. _____ feature allows a user to create a simple presentation quicker.
    A.   Animations
    B.   Chart Wizard
    C.   Transition Wizard
    D.   AutoContent Wizard   (2 marks)

33. Which type of topology is best suited for large businesses which must carefully control and coordinate the operation of distributed branch outlets?
    A.   Ring
    B.   Local area
    C.   Hierarchical
    D.   Star   (2 marks

34. Which of the following is **NOT** a process associated with an accounting information system?
    A.   Auditing existing data
    B.   Collecting and recording data
    C.   Providing information to users
    D.   Analysing and managing data   (2 marks)

35. What is the name of the output device shown below?

    A.   Printer
    B.   Projector
    C.   Plotter
    D.   Scanner   (2 marks)

36. Which of the following **BEST** describes the term multiprocessing?
    A.   The technique of utilising several programs concurrently in a single processor
    B.   Running of several programs simultaneously by a computer with several processors
    C.   System that allows more than one person to access and use it at the same time
    D.   This is a technique that allows multiple tasks to share a processor   (2 marks)

37. What is the name of the feature in a spreadsheet software that automatically applies formatting, such as font colour or bolding, to a cell when the data in that cell meets specific criteria?
   A. Relative referencing
   B. Filtering
   C. Conditional formatting
   D. Freezing (2 marks)

38. Network topology refers to the way in which computers and computing devices are linked together. Which of the following factor is **NOT** important when choosing a topology?
   A. Desired reliability of the system
   B. Size of the system
   C. Availability of communication lines
   D. Skills of the personnel (2 marks)

39. The term that includes various forms of technologies that are used to create, display, store, process, transmit, share or exchange information by electronic means is known as _____.
   A. Information system
   B. Information Communication Technology
   C. Internet
   D. Computer network (2 marks)

40. Which of the following is an example of a programming language?
   A. A++
   B. B++
   C. C++
   D. D++ (2 marks)

41. The type of main memory which is extremely fast and of small capacity and its access time is closer to the processor speed is known as _____.
   A. Virtual
   B. Cache
   C. RAM
   D. Bubble (2 marks)

42. In the context of presentation software, what is the name of the boxes that are included in a slide layout to hold specific types of content, such as text, images or charts?
   A. Placeholders
   B. Master slides
   C. Slide shows
   D. Design templates (2 marks)

43. Which of the following is a pointing input device?
   A. Keyboard
   B. Sensor
   C. Trackpad
   D. Digital camera (2 marks)

44. In a spreadsheet program, a workbook holds a number of worksheets, and each worksheet is made up of cells. A cell can hold the following, **EXCEPT** _____.
   A. Text
   B. A formula
   C. A file
   D. A chart (2 marks)

45. Which type of network topology is shown by the figure below?
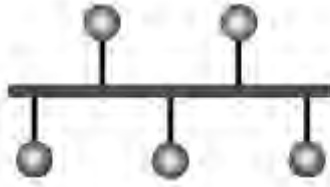
    A.   Ring
    B.   Bus
    C.   Star
    D.   Tree   (2 marks)

46. Presentation templates are good resource for anyone looking to improve the quality of presentations made using a presentation software. The following are reasons why presentation templates are preferred, **EXCEPT** _____.
    A.   To increase the speed of running professional presentations
    B.   To customise templates in order to build bespoke presentations
    C.   To achieve consistency for a more professional style
    D.   To help make the content more visual

47. The following are applications of a spreadsheet software, **EXCEPT** _____.
    A.   Tracking profits and losses in corporations
    B.   Managing household budgets by individuals
    C.   Creating, editing, saving and printing documents
    D.   Budgeting and spending help   (2 marks)

48. During the second generation, the size of computers was decreased by replacing vacuum tubes with_____.
    A.   ICs
    B.   Semiconductors
    C.   Transistors
    D.   Microprocessor   (2 marks)

49. A computer on a network that requests files from another computer is known as_____.
    A.   A client
    B.   A host
    C.   A router
    D.   A web server   (2 marks)

50. A filename without path information is known as_____.
    A.   File name
    B.   Complete filename
    C.   Directory name
    D.   Relative filename   (2 marks)

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ATD LEVEL I

PILOT PAPER

INFORMATION COMMUNICATION TECHNOLOGY

August 2023.   **Time Allowed: 2 hours.**

Answer ALL questions by indicating the letter (A, B, C, or D) that represents the correct answer. This paper is made up of (50) multiple choice questions. Each question is allocated two (2) marks.

1.   You visited an ICT museum during an academic trip and came across the various computers arranged according to their evolution per generation. Which of the following computer generation is characterised by integrated circuits that allowed for the development of smaller and more powerful computers?
        A.   First
        B.   Second
        C.   Third
        D.   Fifth   (2 marks)

2.   The powerful computers designed for managing and receiving requests from other computers in a network environment is known as _____.
        A.   Mainframes
        B.   Servers
        C.   Data Centers
        D.   Supercomputers   (2 marks)

3.   When the computer is started, it undergoes some diagnostic tests to ensure the basic functionality of essential computer hardware components are working properly before the operating system is loaded. This process is referred to as _____.
        A.   Boot Loading
        B.   System Diagnostics
        C.   Memory Diagnostics
        D.   Power On Self-Test   (2 marks)

4.   Ted, a computer student would like to acquire software for study purposes. However, he is financially challenged to buy the software. Which of the following software category would you recommend to Ted because they do not require license to use and allows the users to access, view, modify, and distribute the source code freely?
        A.   Proprietary software
        B.   Open-source
        C.   On-shelf software
        D.   Off-shelf software   (2 marks)

5.   Communication media links network node together in a computer network. Identify the type of the communication media, which falls under the unguided transmission media category.
        A.   Coaxial
        B.   Fiber optic
        C.   Infrared
        D.   Twisted   (2 marks)

6.   ICT has revolutionised the way traditional businesses operated and has become the backbone of major business operations. Start-up companies may not need to invest heavily in the ICT computing resources, such as servers, storage, databases, software, and networking. Which technology would you recommend for a start-up company, to allow them to utilise these resources on a pay-as-you-go basis?

A. Blockchain
B. Virtualisation
C. Visualisation
D. Cloud computing (2 marks)

7. Information centers can play a major role in reducing the digital divide in the developing nations. Which of the following services **CANNOT** be offered at the information centers?
A. Medical imaging
B. Research
C. Knowledge sharing
D. Education (2 marks)

8. You would like to do data analysis and summarise some financial data using spreadsheet package excel. Select the best data summarisation spreadsheet tool, that you would perform the task?
A. Goal seek
B. Filter
C. Pivot table
D. What if analysis (2 marks)

9. You would like to purchase a computer for the finance department for payroll processing. Which of the following is **NOT** a factor that you would consider to determine the processing power of the computer to purchase?
A. RAM capacity
B. Storage capacity
C. Processor speed
D. The number of cores (2 marks)

10. Identify the type of computer network depicted in figure 1.

Figure 1

A. LAN
B. MAN
C. PAN
D. WAN (2 marks)

11. What is the purpose of network protocols in a computer network?
A. To manage computer hardware components
B. To provide power to network devices
C. To optimise computer network performance
D. To define the rules for communication and data exchange (2 marks)

12. Identify the file organisation technique where each record is assigned a specific physical address enabling a quick retrieval from the desired location.
A. Direct file organisation
B. Sequential file organisation
C. Index file organisation
D. Hashed file organisation (2 marks)

13. Which of the following type of computer file contains non-textual data, such as images, videos, executable, and compressed files?
A. Dataset file
B. Text file
C. Binary file
D. Temporary file (2 marks)

14. Identify which PowerPoint feature is used to give life to text during the presentation?
    A.   Transition
    B.   Animation
    C.   Customisation
    D.   Templates   (2 marks)

15. Spreadsheets are the super calculators used to perform computations involving rows and columns. Which one of the following is **NOT** a spreadsheet application?
    A.   Excel
    B.   Lotus 1-2-3
    C.   Oracle
    D.   Quattro Pro   (2 marks)

16. Select the component of the computer system that is used for data validation and security measures to protect the system and its data from unauthorised access?
    A.   Feedback
    B.   Password
    C.   Biometric
    D.   Control   (2 marks)

17. Which of the following type of an information system is the **ODD** one, considering the level of management used in information systems?
    A.   CRM (Customer Relationship Management)
    B.   MIS (Management Information Systems)
    C.   DSS (Decision Support Systems)
    D.   EIS (Executive Information Systems)   (2 marks)

18. Computer network is the interlinking of computers and devices to facilitate communication and resource sharing. Which of the following is a challenge of computer networking?
    A.   Collaboration
    B.   Compatibility
    C.   Centralised management
    D.   Reduced operational costs   (2 marks)

19. The type of utility software used to reduce the size of files for easier storage and transfer is called _____.
    A.   File managers
    B.   File shredders
    C.   File archives
    D.   File compression   (2 marks)

20. Identify the type of operating system designed for use for critical mission areas such as astronomy and medical research.
    A.   Multi-user OS
    B.   Multi-tasking OS
    C.   Real-Time OS
    D.   Embedded OS   (2 marks)

21. Embedded computers are everywhere in our households from cars, fridges, microwaves, TVs among others. What is the name given to the non-volatile software, written directly on the embedded computers to provide the low level operation needed?
    A.   Kernel
    B.   Firmware
    C.   Library
    D.   Loader   (2 marks)

22. Which of the following is **NOT** an element of a computer file stored on a hard disk or a solid states device?
    A.   Database
    B.   Metadata
    C.   File extension
    D.   File format   (2 marks)

23. The World Wide Web has vast amount of information that is useful in the business growth and strategy. What is the name given to the software that is used for finding information over the internet?
    A. Browser
    B. chatGPT
    C. Search Engine
    D. Hypermedia   (2 marks)

24. ABC Bank customer care department would like to serve its customers efficiently and effectively through interactive human conversation with its clients. Which of the following internet service is best suited to achieve their goal?
    A. World Wide Web
    B. Instant Messaging
    C. Internet
    D. Intranet   (2 marks)

25. The widespread adoption of ICT by the companies, organisations and individuals, has had a profound impact on our society today. Which of the following technologies has revolutionized healthcare?
    A. IoT
    B. Video conferencing
    C. Artificial intelligence
    D. Telemedicine   (2 marks)

26. The feature integrated in word processing software that provides users with the synonyms and the antonyms of words is called?
    A. Thesaurus
    B. Kerning
    C. Translate
    D. Macros   (2 marks)

27. XYZ Ltd. has approached you for advise on how to manage and track money owed by customers. Suggest an accounting module which the company could use for automating invoicing, tracking payments and managing overdue accounts.
    A. Account payables
    B. Account receivables
    C. General ledger
    D. Bank feeds   (2 marks)

28. State the name given to the ICT technology that combine different forms of media, such as text, graphics, audio and video.
    A. Multiplexing
    B. Internet
    C. Hybrid
    D. Multimedia   (2 marks)

29. The type of technology that allows organisations' devices to connect to the internet over a local network without requiring physical cables is referred to as _____.
    A. Wireless Fidelity
    B. Broadband
    C. Baseband
    D. Tethering   (2 marks)

30. Which of the following is **NOT** a major factor to consider when acquiring a new Operating System for an organisation's computers?
    A. Usability
    B. Compatibility
    C. Size
    D. Support   (2 marks)

31. Identify the type of computer hardware which is used to capture data that originates in audio form.
    A. Headset
    B. Microphone
    C. Scanner
    D. Speaker   (2 marks)

32.   _____ is the process of restarting a computer that was initially on, to help improve overall system performance.
A.   Refreshing
B.   Loading
C.   Cold booting
D.   Warm booting   (2 marks)

33.   Given the URL, "https://www.kasneb.or.ke", identify the Top-Level Domain of the URL.
A.   ke
B.   https
C.   kasneb
D.   or   (2 marks)

34.   Which of the following emerging technology do the users use a headset to immerse them in a computer-generated world that you can explore like the real world?
A.   Machine Learning
B.   Deep Learning
C.   Augmented reality
D.   Artificial Intelligence   (2 marks)

35.   The process of concealing sensitive data when being transmitted over the communication network to ensure protection if intercepted by illegitimate persons is referred to as _____.
A.   Eavesdropping
B.   Encryption
C.   Authentication
D.   Authorisation   (2 marks)

36.   Which of the following issue is becoming a significant concern in the digital age, with the rise of social media platforms?
A.   Cyber security
B.   Cyber terrorism
C.   Misinformation
D.   Gene editing   (2 marks)

37.   What type of information system, mimic the reasoning of a domain specialists to solve complex problems by applying rules and logic?
A.   Expert systems
B.   Decision support systems
C.   Knowledge based systems
D.   Business intelligence systems   (2 marks)

38.   A state-of-the-art type of storage device that uses flash memory to store data with no moving parts, making them faster, more durable, and less prone to mechanical failure compared to Hard Disk Drives (HDD) is known as?
A.   USB Flash Drive
B.   Optical Discs
C.   Network Attached Storage (NAS)
D.   Solid State Drive (SSD)   (2 marks)

39.   Which of the following functions of the Operating System is used for creating, deleting and renaming folders in a computer system?
A.   Memory management
B.   Process management
C.   File management
D.   User Interface   (2 marks)

40.   Select the type of interface that uses visual elements such as icons, windows, buttons, menus, and other graphical elements to represent commands.
A.   GUI
B.   WIMP
C.   CLI
D.   DOS   (2 marks)

41. The computer networking device that is used to amplify the signal as it travels over long distance to reduce attenuation is called _____.
    A.   Router
    B.   Switch
    C.   Hub
    D.   Repeater   (2 marks)

42. Which of the following type of processor is used for parallel processing, making them highly efficient for tasks like gaming, video editing, and scientific simulations?
    A.   Central Processing Unit (CPU)
    B.   Tensor Processing Unit (TPU)
    C.   Graphics Processing Unit (GPU)
    D.   Quantum Processor   (2 marks)

43. The interconnection of computers within two different organisations that do business together for communication purpose is known as?
    A.   Extranet
    B.   Internet
    C.   Intranet
    D.   Hybrid   (2 marks)

44. Programming languages are classified into different categories. Determine the category of the programming language which uses mnemonic or symbolic codes to represent machine instructions.
    A.   High level language
    B.   Domain specific language
    C.   Assembly language
    D.   Machine language   (2 marks)

45. The type of software that is used to manage the systems resources such as the processor, memory and storage is referred to as _____.
    A.   Utility software
    B.   Debugger
    C.   Translator
    D.   System software   (2 marks)

46. Each file on a computer system has authorised user rights and permissions for security reasons. Which of the following is **NOT** a type of user rights and permissions for a file?
    A.   Read
    B.   Audit
    C.   Write
    D.   Execute   (2 marks)

47. Which of the following file organisation technique does the order of the records determine the order in which they were created or modified?
    A.   Sequential
    B.   Serial
    C.   Indexed sequential
    D.   Clusters file organisation   (2 marks)

48. The collection of interrelated components that work together to achieve a common goal as used in information systems is called _____.
    A.   Graph
    B.   Network
    C.   Link
    D.   System   (2 marks)

49. A mode of transmission where many bits flow together simultaneously from one computer to another computer is referred to _____.
    A.   Serial transmission
    B.   Parallel transmission
    C.   Simplex mode
    D.   Full duplex   (2 marks)

50. Client/server architecture allows the network to centralise functions and applications in one or more dedicated file servers. Which of the following is a client/server characteristic that allows a new technology to be easily integrated into system?
    A. Flexibility
    B. Interoperability
    C. Scalability
    D. Accessibility   (2 marks)

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ATD LEVEL I

INFORMATION COMMUNICATION TECHNOLOGY

THURSDAY: 24 August 2023. Morning Paper.   **Time Allowed: 2 hours.**

This paper is made up of fifty (50) Multiple Choice Questions. Answer ALL questions by indicating the letter (A, B, C or D) that represents the correct answer. Each question is allocated two (2) marks. Do NOT write anything on this paper.

1.   _____ computers are lower than mainframe computers in terms of speed and storage capacity.
    A.   Macro
    B.   Hybrid
    C.   Mini
    D.   Super   (2 marks)

2.   _____ is **NOT** an example of a system software.
    A.   Language translator
    B.   Utility software
    C.   Communication software
    D.   Word processor   (2 marks)

3.   _____ generation of computers used vacuum tubes as their basic components.

    A.   1st
    B.   2nd
    C.   3rd
    D.   4th   (2 marks)

4.   _____ are used for interconnecting dissimilar networks that use different communication protocols.

    A.   Switches
    B.   Gateways
    C.   Routers
    D.   Bridges   (2 marks)

5.   _____ is a type of a printer that prints one line at a time and has a predefined set of characters.
    A.   Laser
    B.   Drum
    C.   Inkjet
    D.   Impact   (2 marks)

6.   Output devices are key resources in a computer system. Which of the following is **NOT** a function of an output unit?

    A.   It produces results that can be easily understood by the user
    B.   It accepts the results produced by the computer
    C.   It supplies the data and instructions to the outside world
    D.   It supplies the data and instructions to a computer for further processing   (2 marks)

7. _____ enables you to calculate numbers related to rows and columns.
   A. Window program
   B. Spreadsheet program
   C. Graphics program
   D. Word program (2 marks)

8. _____ acts as an intermediary between a computer user and the computer hardware.
   A. Operating system
   B. User thread
   C. Superuser thread
   D. Application program (2 marks)

9. In computer development, Integrated Circuit (IC) has played a crucial role. The use of IC in a computer has _____.
   A. Increased the amount of heating
   B. Reduced the size and cost of computers
   C. Reduced the peripheral devices to be used
   D. Reduced the performance capacity of the computer (2 marks)

10. In computer development, the second-generation computer was based on _____.
    A. Transistor
    B. Electron tube
    C. Electron ray
    D. Vacuum tube (2 marks)

11. _____ is a device that can be used for both input and output processes.
    A. Monitor
    B. Speaker
    C. Scanner
    D. Modem (2 marks)

12. _____ is a word processing feature that catches most random typographical errors.
    A. Grammar checker
    B. Spell checker
    C. Word checker
    D. Find and replace (2 marks)

13. _____ refers to a temporary storage area that compensates for differences in data rate and data flow between devices.
    A. Buffer
    B. Bus
    C. Channel
    D. Modem (2 marks)

14. In a CPU, choose the part that interprets a program's instructions to initiate the control operations.
    A. Logic unit
    B. Control unit
    C. Storage unit
    D. Input (2 marks)

15. _____ refers to a collection of two or more computers that are located within a limited distance of each other and are connected to each other directly or indirectly.
    A. Internet
    B. Intranet
    C. Local Area Network
    D. Wide Area Network (2 marks)

16. https://www.kasneb.or.ke - is an example of:
    A. A URL
    B. An access code
    C. A directory
    D. A server (2 marks)

17. Which of the following statement refers to a web browser?
    A. A kind of spider
    B. A computer that stores World Wide Web files
    C. A person who likes to look at websites
    D. A software program that allows you to access sites on the World Wide Web   (2 marks)

18. _____ refers to a network whose elements may be separated by some distance. It usually involves two or more small networks and dedicated high-speed telephone lines.

    A. URL (Universal Resource Locator)
    B. LAN (Local Area Network)
    C. WAN (Wide Area Network)
    D. World Wide Web   (2 marks)

19. In word processing, a document's background color cannot be seen in which of the following view?
    A. Web layout view
    B. Print Preview
    C. Reading View
    D. Print Layout view   (2 marks)

20. The following statements are true about RAM **EXCEPT**_____.
    A. RAM is a temporary storage area
    B. RAM is the same as hard disk storage
    C. RAM is volatile
    D. Information stored in RAM is gone when you turn off the computer   (2 marks)

21. _____feature enables us to send the same letter to different persons in word processing application.
    A. Mail join
    B. Mail copy
    C. Mail insert
    D. Mail merge   (2 marks)

22. Which of the following is **NOT** a feature of a spreadsheet software?
    A. Conditional formatting
    B. IF statements
    C. Mail merge
    D. VLOOKUP   (2 marks)

23. The following are types of file attributes **EXCEPT**_____.
    A. Read-only
    B. Archive
    C. Random access
    D. Hidden   (2 marks)

24. A device that allows multiple computers to communicate with each other over a network is known as_____.
    A. Network hub
    B. Repeater
    C. Modem
    D. Network cable   (2 marks)

25. Which of the following application software is capable of organising, storing and analysing data in tabular form?
    A. Spreadsheet
    B. Database
    C. Word processing
    D. Accounting   (2 marks)

26. Which of the following is **TRUE** about sharing a computer file?
   - A. Saves processing time
   - B. Increases storage space
   - C. Risk of infection is high
   - D. Increases its integrity   (2 marks)

27. What is defined as a set of rules that governs communication between computers on a network?
   - A. Port
   - B. Protocol
   - C. Channel
   - D. Router   (2 marks)

28. Which of the following is **NOT** a feature of a presentation software?
   - A. Different slide layouts
   - B. Animation effects
   - C. Mail merge
   - D. Transition effects   (2 marks)

29. Which of the following is **NOT** a function in a spreadsheet application?
   - A. Average
   - B. Mem
   - C. Rank
   - D. Sum   (2 marks)

30. _____ is the operating speed of a computer or its microprocessor, expressed in cycles per second?
   - A. Bus speed
   - B. Clock speed
   - C. RAM speed
   - D. Pulse speed   (2 marks)

31. When setting up a local area network in an office, which of the following components is **NOT** necessary?
   - A. Switch
   - B. Repeater
   - C. Twisted pair cable
   - D. Computers   (2 marks)

32. In a presentation software, what is the name of a predefined set of colours, fonts, and visual effects that you apply to your slides for a unified, professional look?
   - A. Slide show
   - B. Animation
   - C. Transition
   - D. Theme   (2 marks)

33. _____ is the extension of PowerPoint Show.
   - A. .pptx
   - B. .ppsx
   - C. .ppt
   - D. .ps   (2 marks)

34. Excel workbook is a collection of _____.
   - A. Worksheets and charts
   - B. Graphs and images
   - C. Sheets and images
   - D. Video and audio   (2 marks)

35. Computerised accounting software is specifically designed for?
   - A. Managing inventory in a warehouse
   - B. Creating 3D graphics and animations
   - C. Tracking financial transactions and generating financial reports
   - D. Conducting scientific research and data analysis   (2 marks)

36. When creating user accounts on a computer network, which factor is typically used for authentication?
    A. Username and password
    B. IP address and subnet mask
    C. MAC address and hostname
    D. Password and server name   (2 marks)

37. Which network resource is commonly used for storing and organising files in a computer network?
    A. Folders
    B. Files
    C. Printers
    D. Servers   (2 marks)

38. Which category of computer software includes programs that provide additional functionality to the operating system, such as antivirus software or file compression tools?
    A. System software
    B. Application software
    C. Utility programs
    D. Operating software   (2 marks)

39. Identify the best comparison and contrast of Local Area Network (LAN) and Wide Area Network (WAN) from the statements below.
    A. LAN covers a small area, while WAN covers a large geographic area
    B. LAN typically has higher speed compared to WAN
    C. LAN offers local accessibility, while WAN offers remote accessibility
    D. WAN covers a larger area and has slower speed compared to LAN   (2 marks)

40. The component in the Central Processing Unit (CPU), which sends out regular electrical pulses and keeps time for all the components is known as_____.
    A. Bus
    B. Register
    C. Clock
    D. Port   (2 marks)

41. The following are characteristics of secondary memory, **EXCEPT**_____.
    A. It is volatile in nature
    B. It is less costly in comparison to primary memory
    C. The storage capacity is quite high and scalable
    D. It is removable or fixed as per the requirement   (2 marks)

42. Which of the following is **NOT** an example of a word processing software?
    A. Ms Word
    B. Word wrap
    C. LibreOffice Writer
    D. Google Docs   (2 marks)

43. In an operating system, which is the user account with the highest privilege?
    A. Super user
    B. Local user
    C. Guest user
    D. Remote user   (2 marks)

44. An operating system which allows many users to share computer resources simultaneously is referred to as?
    A. Batch system
    B. Time sharing system
    C. Distributed system
    D. Multiuser system   (2 marks)

45.   What is the name of the input device shown below?

     A.   Digital tablet
     B.   Light pen
     C.   Joystick
     D.   Barcode reader   (2 marks)

46.   Why is it necessary to format a worksheet in a spreadsheet software?
     A.   To enable a worksheet to open faster
     B.   To distinguish one worksheet from another
     C.   To help improve the readability of a worksheet
     D.   To prove user's artistic skills   (2 marks)

47.   Which of the following **BEST** describes cold booting?
     A.   It is a method of restarting a computer that is already on without completely turning it off
     B.   It is the process of starting a computer from shutdown and setting it to normal working condition
     C.   It is a backup facility that has the necessary electrical and physical components of a computer facility, but does not have the computer equipment in place
     D.   It is a type of facility an organisation uses to recover its technology infrastructure when its primary data centre goes down   (2 marks)

48.   The following are some reasons for renaming a file, **EXCEPT**_____.
     A.   To back up files to be used later in the recovery process in case of damage
     B.   To correct obvious errors in filenames, including misspelled proper nouns, incorrect dates, and misidentified objects
     C.   To harmonise the names of a set of images so that only one part of all names differs
     D.   To change from a meaningless or ambiguous name to a name that describes what the image particularly displays   (2 marks)

49.   A modification to a program to improve its security, performance, or other feature is known as_____.
     A.   Software patch
     B.   Software version
     C.   Backup
     D.   Recovery   (2 marks)

50.   The following requirements are necessary when choosing an appropriate accounting package. Which one is **NOT?**
     A.   Size of business
     B.   Features available
     C.   Vendor support
     D.   Type of processor   (2 marks

………………………..………………………………………………………..

ATD LEVEL I

INFORMATION COMMUNICATION TECHNOLOGY

TUESDAY: 25 April 2023. Morning Paper.   **Time Allowed: 3 hours.**

Answer any FIVE questions. ALL questions carry equal marks. Do NOT write anything on this paper.

QUESTION ONE
(a)   Explain the function of each of the following utility programs:

    (i)   Device driver.   (2 marks)

    (ii)   Disk formatter.   (2 marks)

(b)   Propose a reason that might necessitate the use of rehearse timing feature in a presentation program.   (2 marks)

(c)   Outline **THREE** circumstances that could necessitate the use of a light pen as a computer input device.   (3 marks)

(d)   Bidii Society Ltd installed an electronic spreadsheet program for use in its operations.

    Outline **THREE** ways in which this program could be used.   (3 marks)

(e)   Outline **FOUR** reasons that would necessitate an organisation to connect its computers to a Local Area Network (LAN).   (4 marks)

(f)   State **FOUR** ways of acquiring a computer software.   (4 marks)
                                                                                         (Total: 20 marks)

QUESTION TWO
(a)   (i)   Define the term "anchor cell" as used in a spreadsheet.   (1 mark)

    (ii)   Using an illustration of a worksheet, explain how you would calculate and display total sales.   (3 marks)

(b)   Giving an example in each case, distinguish between a "minicomputer" and a "microcomputer".   (4 marks)

(c)   Citing examples, differentiate between hard copy and soft copy types of outputs.   (4 marks)

(d)   Explain **TWO** reasons why Universal Serial Bus (USB) devices have become more popular with computer users.   (4 marks)

(e)   Compare local user accounts and network user accounts in context of operating systems.   (4 marks)
                                                                                         (Total: 20 marks)

QUESTION THREE
(a)   John Ochola desires to acquire a computer for use in his hardware supplies shop.

    (i)   State **TWO** factors that he would need to look for when getting the computer, he will need to buy.
                                                                                             (2 marks)

    (ii)   Explain **TWO** types of system software that he may need to acquire.   (4 marks)

    (iii)   Suggest with a reason in each case, the **TWO** application software that might be necessary.   (4 marks)

(b)   Highlight **FOUR** challenges associated with the use of command line interface (CLI).   (4 marks)

(c)   Joyce Njenga intends to set up a local area network (LAN) to use in her small business premise.

       Explain **THREE** networking hardware tools that she may require to carry out this task.   (6 marks)
       (Total: 20 marks)

QUESTION FOUR

(a)   Highlight **THREE** disadvantages of a Wireless Network.   (3 marks)

(b)   Explain **FOUR** benefits of Quick Response (QR) codes over bar codes.   (4 marks)

(c)   Describe **FIVE** file management tasks of a computer operating system.   (5 marks)

(d)   Examine **FOUR** reasons why many organisations have embraced cloud storage.   (8 marks)
       (Total: 20 marks)

QUESTION FIVE

(a)   (i)   Outline **THREE** negative impacts of information communication technology on the environment.
              (3 marks)

       (ii)   Describe **THREE** technology trends that pose ethical issues.   (3 marks)

(b)   State **FOUR** features of a user-friendly program.   (4 marks)

(c)   Highlight **FOUR** circumstances under which the use of wireless communication would be preferred in data communication.   (4 marks)

(d)   Examine **SIX** problems associated with using e-mail technology for communication.   (6 marks)
       (Total: 20 marks)

QUESTION SIX

(a)   Explain the concept of scheduling in reference to operating systems.   (2 marks)

(b)   Describe a CAT 6 cable.   (2 marks)

(c)   State **TWO** functions of the recycle bin.   (2 marks)

(d)   Using relevant examples, distinguish between a "formula" and "function" in the context of spreadsheet.   (4 marks)

(e)   Distinguish between "multi user" and "single user" operating systems as used in computing.   (4 marks)

(f)   Examine **SIX** factors that you could consider when selecting a computer programming language.   (6 marks)
       (Total: 20 marks)

QUESTION SEVEN

(a)   Excellent college intends to purchase a computerised accounting software for students' use.

       Required:
       State **FOUR** features of such applications.   (4 marks)

(b)   Highlight **FIVE** applications of spreadsheet program in business.   (5 marks)

(c)   Outline **FIVE** challenges of coping with 3D printer's technology trend in the market.   (5 marks)

(d)   Explain **THREE** positive impacts of the internet to business operations.   (6 marks)
       (Total: 20 marks)

       ……………………….………………………………………………

ATD LEVEL I

INFORMATION COMMUNICATION TECHNOLOGY

TUESDAY: 6 December 2022. Morning Paper.   **Time Allowed: 3 hours.**

Answer any FIVE questions. ALL questions carry equal marks. Do NOT write anything on this paper.

QUESTION ONE

(a)   (i)   Identify **TWO** reasons why a menu driven interface is suitable for a novice user.   (2 marks)

     (ii)   Outline **TWO** application areas of a menu driven interface.   (2 marks)

(b)   ABC Ltd. sold a custom-built software to XYZ Company.

Summarise **FOUR** factors that ABC Ltd. would consider in confirming that the software is appropriate to XYZ Company.

    (4 marks)

(c)   In a busy office environment, a non-impact printer may be better than an impact printer.

State **THREE** reasons to justify this statement.   (6 marks)

(d)   Application software can either be "off-the-shelf" or "bespoke".

Differentiate between the above two types of application software using the following features:

    (i)   Flexibility.

    (ii)   Functionality.

    (iii)   Training.   (6 marks)
    (Total: 20 marks)

QUESTION TWO

(a)   Suggest **THREE** important features to consider when buying a computer keyboard.   (3 marks)

(b)   Explain **TWO** basic components of a computer network.   (4 marks)

(c)   Highlight **FIVE** reasons why flash disks have become more popular than optical disks.   (5 marks)

(d)   Discuss **FOUR** salient features of computerised accounting software (CAS).   (8 marks)
    (Total: 20 marks)

QUESTION THREE

(a)   Explain **FOUR** activities that are performed by an operating system during management of Input/output devices and ports.   (4 marks)

(b)   Explain the purpose of a switch and a router in a wireless LAN (WLAN).   (4 marks)

(c)   Highlight **THREE** advantages and **THREE** disadvantages of network operating systems.   (6 marks)

(d)   Assess **TWO** application areas of spread sheets.   (6 marks)
    (Total: 20 marks)

QUESTION FOUR

(a)   Outline **THREE** reasons why it is important to create different user accounts in a computer network.   (3 marks)

(b)   List **FIVE** advantages of using 5G technology.   (5 marks)

(c)   An accounting software is supposed to ensure security, integrity and confidentiality of data.

        Describe **THREE** security features that an accounting software should have.   (6 marks)

(d)   Explain **THREE** reasons why you would recommend the use of a CAT 6 cable.

                                                                                (6 marks)
                                                                    (Total: 20 marks)

QUESTION FIVE

(a)   Highlight **TWO** factors to consider when choosing an operating system.   (2 marks)

(b)   Explain **THREE** criteria that should be considered when setting up a local area network.   (6 marks)

(c)   Evaluate **SIX** reasons why a business organisation may want to use PDF files.   (6 marks)

(d)   List **SIX** advantages of Conditional Formatting in a spreadsheet.

                                                                                (6 marks)
                                                                    (Total: 20 marks)

QUESTION SIX

(a)   Define each of the following terms as used in computing:
        (i)   Information.   (2 marks)

        (ii)   Booting.   (2 marks)

        (iii)   Processing.   (2 marks)

        (iv)   Virus.   (2 marks)

(b)   Joyce Wambua intends to connect all her computers to the internet.

        Outline **THREE** hardware requirements she will need to accomplish this task.   (3 marks)

(c)   Explain **FOUR** file management activities that are done by the operating system.   (4 marks)

(d)   James Okoth was tasked with acquiring an application software for an organisation.

        Explain **FIVE** features that he should consider when buying the software.   (5 marks)
                                                                    (Total: 20 marks)

QUESTION SEVEN

(a)   Outline **THREE** benefits of using wireless fidelity technology for network connectivity.   (3 marks)

(b)   Highlight **THREE** advantages of using a word processor software over a type writer.   (3 marks)

(c)   State **FOUR** factors which may prevent computer users from using speech input devices.   (4 marks)

(d)   Outline **FOUR** reasons why a calculator is regarded as a computer.   (4 marks)

(e)   An operating system provides a standard interface between a computer user and the computer system for communication.

        Other than a menu driven interface, explain **TWO** types of interfaces citing their application areas.   (6 marks)
                                                                    (Total: 20 marks)
        ………………………….…………………………………………………..

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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

PILOT PAPER

INFORMATION COMMUNICATION TECHNOLOGY

December 2021.   Time Allowed: 3 hours.

Answer any FIVE questions.   ALL questions carry equal marks.

QUESTION ONE
(a)   Discuss five factors to be considered before acquiring an appropriate software for an organisation   (10 marks)

(b)   Explain five benefits in the acquisition of a bespoke software to an organisation.   (10 marks)
(Total: 20 marks)

QUESTION TWO
(a)   Explain five reasons why a computer system may fail to boot.   (10 marks)

(b)   State five ways of ensuring safety of data stored on CD-RW.   (10 marks)
(Total: 20 marks)

QUESTION THREE
A private organisation has decided to acquire a customised/tailor made software for its business operations.

Required:
(a)   Explain the term "customized/tailor made" software.   (2 marks)

(b)   Summarize five advantages of acquiring the software in (3)(a) above.   (10 marks)

(c)   Explain four factors that an organisation should consider when acquiring tailor made software.   (8 marks)
(Total: 20 marks)

QUESTION FOUR
(a)   Identify four input devices that could be used in a supermarket.   (4 marks)

(b)   Explain three ways of classifying computers.   (6 marks)

(c)   Discuss five phases in the information technology infrastructure evolution.   (10 marks)
(Total: 20 marks)

QUESTION FIVE
(a)   Differentiate between "system software" and "application software".   (8 marks)

(b)   Discuss the functions of an operating software.   (8 marks)

(c)   Differentiate between "dynamic memory" and "static memory"   (4 marks)
(Total: 20 marks)

QUESTION SIX
(a)   Discuss four disadvantages of using the internet as a research tool.   (8 marks)

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

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

QUESTION SEVEN

(a) Explain five factors that could determine the processing power of a computer. (10 marks)

(b) List five external storage devices that could be used to transfer information from one computer to another.

(5 marks)

(c) State five household appliances that could use computer control system. (5 marks)

(Total: 20 marks)

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

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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ATD LEVEL I

DCM LEVEL I

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

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ATD LEVEL I

DCM LEVEL I

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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KASNEB

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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KASNEB

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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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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KASNEB

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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ATD LEVEL I

INFORMATION COMMUNICATION TECHNOLOGY

TUESDAY: 2 August 2022. Morning paper.   **Time Allowed: 3 hours.**

Answer any FIVE questions. ALL questions carry equal marks. Do NOT write anything on this paper.

QUESTION ONE
(a)   Differentiate between the terms "computer" and "computer system".   (4 marks)

(b)   In each case, draw a diagram to illustrate:

    (i)   The three stages of computer processing.   (3 marks)

    (ii)   The main components of a computer system.   (5 marks)

(c)   Explain the functions of each of the components in (b) (ii) above.   (8 marks)
                                                          (Total: 20 marks)

QUESTION TWO
(a)   Explain the difference between the following:

    (i)   A mainframe computer and a super computer.   (2 marks)

    (ii)   Application software and system software citing examples.   (4 marks)

(b)   Suggest two reasons why a bank might wish to buy a mainframe computer.   (2 marks)

(c)   State the technology used in each of the following generations of computers:

    (i)   First generation.   (1 mark)
    (ii)   Second generation.   (1 mark)
    (iii)   Third generation.   (1 mark)
    (iv)   Fourth generation.   (1 mark)

(d)   Discuss four factors that might affect the speed of the microprocessor.   (8 marks)
                                                          (Total: 20 marks)

QUESTION THREE
(a)   Highlight six safety rules for using computers.   (6 marks)

(b)   Citing the function in each case, state four types of special keys in a computer keyboard.   (8 marks)

(c)   Complete the table below by explaining the differences between a file and a folder in the context provided. An example is given below with regard to space.

	Context	File	Folder
	Space	A file takes up space in RAM	A folder cannot take up space in RAM
(i)	Container of files		
(ii)	Content (data)		
(iii)	Operations		
(iv)	Extensions		
(v)	Sharing on network		
(vi)	Copying data from one to another		

                                                          (6 marks)
                                                          (Total: 20 marks)

QUESTION FOUR

(a)   Describe the following types of optical storage devices:

      (i)   Compact disk-read only memory (CD-ROM).   (2 marks)

      (ii)   Compact disk-recordable (CD-R)   (2 marks)

      (iii)   Compact disk-rewritable (CD-RW).   (2 marks)

(b)   Describe the following types of graphics cards as used in computing:

      (i)   Hercules graphics card (HGC).   (2 marks)

      (ii)   Colour graphics adapter (CGA).   (2 marks)

      (iii)   Enhanced graphics adapter (EGA).   (2 marks)

(c)   Citing a reason in each case, describe the most appropriate type of printer for the output of:

      (i)   Customer invoices on multi-part stationery.   (2 marks)

      (ii)   Letters to customers.   (2 marks)

      (iii)   Detailed engineering designs.   (2 marks)

(d)   Highlight two advantages of mesh computer network topology.   (2 marks)

(Total: 20 marks)

QUESTION FIVE

(a)   Describe the following spreadsheet components:

      (i)   A worksheet.   (2 marks)

      (ii)   A database function.   (2 marks)

      (iii)   A chart.   (2 marks)

(b)   Evaluate four criteria to consider when choosing the type of local area network (LAN) to implement.   (8 marks)

(c)   Examine four advantages and two disadvantages of a computerised accounting system (CAS).   (6 marks)

(Total: 20 marks)

QUESTION SIX

(a)   In the context of presentation software, distinguish between the following:

      (i)   Slide layout and slide design.   (4 marks)

      (ii)   Transition and animation.   (4 marks)

(b)   Using an example, differentiate between on-line storage and off-line storage.   (4 marks)

(c)   Mathiu has created a word processing document containing ten pages. He wishes to print two copies of this document containing odd pages only.

      Specifying the word processing packages used, suggest the steps he would follow to achieve this objective.   (4 marks)

(d)   Using an example in each case, explain the following terms as used in a spreadsheet software:

      (i)   Absolute reference.   (2 marks)

      (ii)   Conditional formatting.   (2 marks)

(Total: 20 marks)

QUESTION SEVEN

(a)   Describe each of the following devices as used in computer networking:

     (i)   Switch.   (2 marks)

     (ii)   Router.   (2 marks)

     (iii)   Gateway.   (2 marks)

(b)   Miriam Sawe has the following files saved in her computer:

Miri.docx, Miri.rtf, Miri.xls, Miri.accdb

Required:
Identify the application software that she used to create each of the files above.   (4 marks)

(c)   Describe three advantages of Graphical User Interface (GUI) operating system.   (6 marks)

(d)   The market is flooded with emerging technologies in 3D printers.

Explain four challenges of coping with this trend.   (4 marks)
(Total: 20 marks)

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ATD LEVEL I

INFORMATION COMMUNICATION TECHNOLOGY

TUESDAY: 5 April 2022. Morning paper.   Time Allowed: 3 hours.

Answer any FIVE questions. ALL questions carry equal marks. Do NOT write anything on this paper.

QUESTION ONE
(a) File attributes are the conditions that a user can attach to a file to prevent unauthorised access or to protect the file from accidental erasure.

Describe three file attributes.   (6 marks)

(b) Describe each of the following primary memories in a computer system:
   (i)   RAM.   (2 marks)

   (ii)   ROM.   (2 marks)

(c) Explain four ways of identifying an illegal copy of an operating system.   (4 marks)

(d) Highlight two reasons for storing files into directories and sub-directories.   (2 marks)

(e) Differentiate between a "word wrap" and "text wrap" as used in word processing.   (4 marks)
                                                                   (Total: 20 marks)

QUESTION TWO
(a) Using a well labelled diagram, demonstrate the flow of data, instructions and commands/controls within a computer system.   (10 marks)

(b) An operating system is the most important software that runs on a computer.

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

(c) Accounting software is an essential tool for any business organisation.
Describe five features of an accounting software.   (5 marks)
                                                                   (Total: 20 marks)

QUESTION THREE
(a) Enumerate four advantages of command-line interface type of operating system.   (4 marks)

(b) Highlight four limitations of computers.   (4 marks)

(c) Outline four benefits of using digital computers.   (4 marks)

(d) Describe four advantages of impact printers.   (4 marks)

(e) Explain four reasons why the Cathode Ray Tube (CRT) computer monitor has been replaced by the Liquid Crystal Display (LCD) monitor.   (4 marks)
                                                                   (Total: 20 marks)

QUESTION FOUR
(a) Distinguish between an "uninterruptible power supply" and a "surge protector".   (4 marks)

(b) State two benefits of installing a computer network.   (4 marks)

(c) Outline six features of fourth generation computers.   (6 marks)

(d) A lecturer found a student using a computer which had a monitor partially covered with a dust cover.
   (i)   Explain two risks posed by use of a partially covered monitor.   (4 marks)

   (ii)   State two factors that determine the processing speed of a computer.   (2 marks)
                                                                   (Total: 20 marks)

QUESTION FIVE

(a)   (i)   Kinda, a middle level manager, would like to represent the trend of sales using a spreadsheet.

              Justifying your answer, explain four appropriate types of charts the manager could use.   (8 marks)

     (iii)   Outline three advantages of integrated software to a user in an organisation.   (3 marks)

(b)   The following errors were noted in a worksheet.
        (i)   DIV!.
        (ii)   #####.
        (iii)   #N/A.
        Identify the possible cause for each of the errors above.   (3 marks)

(c)   Citing an example in each case, describe each of the following application software.
        (i)   Presentation software.   (2 marks)

        (ii)   CAD Software.   (2 marks)

        (iii)   DTP software.   (2 marks)
                                              (Total: 20 marks)

QUESTION SIX

(a)   Explain four elements of a graphical user interface operating system.   (8 marks)

(b)   Describe three types of networks based on geographical scope.   (6 marks)

(c)   Explain the function of the following network devices:

        (i)   Front end processor (FEP).   (2 marks)

        (ii)   Hub.   (2 marks)

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

QUESTION SEVEN

(a)   Explain the purpose of the following software.

        (i)   Device driver.   (2 marks)

        (ii)   Antivirus software.   (2 marks)

        (iii)   Backup software.   (2 marks)

(b)   Outline two uses of pointing devices.   (2 marks)

(c)   Highlight six differences between Hard Disk Drive (HDD) and Solid-State Drive (SSD).   (6 marks)

(d)   Distinguish between a "shareware software" and a "software suite".   (4 marks)

(e)   The diagram below shows coded data that could be input into a computer.

761430724973

Required:
        (i)   State the name of the above method of input.   (1 mark)

        (ii)   Suggest a business entity in which the above method of input could be applied.   (1 mark)
                                              (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

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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