UTHM
Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
SEMESTER I
SESSION 2022/2023

COURSE NAME	: COMPUTER TECHNOLOGY AND MULTIMEDIA
COURSE CODE	: DAE 10403
PROGRAMME CODE	: DAE
EXAMINATION DATE	: FEBRUARY 2023
DURATION	: 3 HOURS
INSTRUCTION	: 1. ANSWER **ALL** QUESTIONS.
	2. THIS FINAL EXAMINATION IS CONDUCTED VIA **CLOSED BOOK**.
	3. STUDENTS ARE **PROHIBITED** TO CONSULT THEIR OWN MATERIAL OR ANY EXTERNAL RESOURCES DURING THE EXAMINATION CONDUCTED VIA CLOSED BOOK

THIS QUESTION PAPER CONSISTS OF **ELEVEN (11)** PAGES

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SECTION A (50 MARKS)

Q1. Which of the following storage systems is volatile?
   A. Random Access Memory (RAM)
   B. Read Only Memory (ROM)
   C. Hard Disk Drive (HDD)
   D. Transistor

Q2. What is the number of bits in ONE (1) byte?
   A. 4
   B. 8
   C. 16
   D. 10

Q3. Which of the following does NOT qualify as a magnetic storage device?
   A. Diskette
   B. Thumbdrive/flash drive
   C. Hard Disk
   D. Tape recorder

Q4. A "trojan" is a reference to:
   A. Virus
   B. Worm
   C. Malware
   D. Spyware

Q5. Which of these is not a browser?
   A. Internet Explorer
   B. Opera
   C. Mozilla Firefox
   D. Google

Q6. TCP/IP is a type of:
   A. Network Hardware
   B. Network Software
   C. Network Protocol
   D. None above

Q7. Which of these protocols allows us to connect to the internet?
   A. TCP
   B. ISP
   C. FTP
   D. HTTP

Q8. Fundamentally, a video consists of a series of:
    A. Frames
    B. Signals
    C. Packets
    D. Slots

Q9. _____ is a unique number that is used to identify a computer on a network.
    A. Username
    B. IP address
    C. Login
    D. Password

Q10. Which disk read the data by reflecting pulses of laser beams on the surface?
    A. Magnetic disk
    B. Hard disk
    C. Floppy disk
    D. Optical disk

Q11. Which parameter defines number of times electron beam scans screen in a second?
    A. Refresh rate
    B. Data transfer rate
    C. Pitch rate
    D. All of above

Q12. Which operations are performed by RAM?
    A. Write only
    B. Both read and write
    C. Read only
    D. None above

Q13. What kinds of tasks does ROM carry out?
    A. Write only
    B. Both read and write
    C. Read only
    D. None above

Q14. Which of the following does not relate to the operating system's functions?
    A. Memory management
    B. Job scheduling
    C. Input/output management
    D. Database management

Q15. Input and Output devices such as monitors, and keyboards are classified as:
    A. Arithmetic units
    B. Control unit devices
    C. Peripheral devices
    D. Main store devices

Q16. Magnetic tape unit is classic example of:
   A. Storage devices
   B. Backup storage devices
   C. Online devices
   D. Offline devices

Q17. The display card's resolution is defined as:
   A. The number of pixels
   B. The number of colours
   C. The number of dots per inch
   D. The amount of memory

Q18. All statements below are TRUE regarding utility programs **EXCEPT** :
   A. Using certain utility program, user are able to restore operating system back to default installation
   B. Utility programs enable user to manage and maintain file in the computer
   C. Utility program is only stand alone software and built in program with operating system.
   D. Search tool is one of the utility program.

Q19. Cache memory in a computer can perform operations much more quickly than
   A. RAM
   B. SSD
   C. ROM
   D. All above

Q20. Typically located in the toolbar at the top of the screen, a _____ is responsible for displaying a list of available commands.
   A. view
   B. menu
   C. kit
   D. list

Q21. What parameter specifies how many times an electron beam scans a screen each second?
   A. Refresh rate
   B. Data transfer rate
   C. Pitch rate
   D. All of above

Q22. This invention started the 4th generation of modern computer.
   A. Microprocessor
   B. Solid State Drive (SSD)
   C. Integrated Circuit (IC)
   D. Central Processing Unit (CPU)

Q23. What kind of material is typically used in the manufacturing of microprocessors?
   A. Silicon
   B. Copper
   C. Aluminium
   D. Quartz

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Q24. Unit for decoding and execution of instructions rapidly, one after another is called
    A. ALU unit
    B. Backup device
    C. Keyboard
    D. Control unit

Q25. Which of the following are types of application software?
    I . Disk Management
    II . Spreadsheet
    III. Presentation Graphic
    IV . Word Processing

    A. I, II & III
    B. I, III & IV
    C. II, III & IV
    D. All of the above

Q26. Which frequency band is used by Wi-Fi networks?
    A. 1.2GHz and 2.4 GHz
    B. 3.6 GHz and 4.7 GHz
    C. 0.9 GHz and 2.3 GHz
    D. 2.4 GHz and 5 GHz

Q27. Data communication system within a building or campus is_____.
    A. Wide area network
    B. Local Area Network
    C. Integrated Circuit (IC)
    D. Internet

Q28. Audio and video files are compressed and stored on a _____ so that they can be streamed online.
    A. IP
    B. Server
    C. Domain
    D. Internet

Q29. A smaller version of an image is called a:
    A. Clipart
    B. Bitmap
    C. Portable network graphic
    D. Thumbnail

Q30. Who provides the internet connection?
    A. TCP
    B. ISP
    C. FTP
    D. HTTP

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Q31. What do you call a computer that is connected to a network and makes a request to obtain files from another computer?
A. A client
B. A host
C. Router
D. A web server

Q32. What does the acronym EPROM refer to?
A. Electric Programmable Read Only Memory
B. Erasable Programmable Read Only Memory
C. Evaluable Philotic Random Optic Memory
D. Every Person Requires One Mind

Q33. What is the difference between the Internet and an intranet?
A. One is public, the other is private
B. One is safer than the other
C. One can be monitored, the other can't
D. None of the above

Q34. What kinds of pictures do you save as a lossy format?
A. GIF
B. MPEG
C. JPEG
D. PNG

Q35. Which of the following is an example of a technique that can be used to combine two or more photos to create a new image?
A. Modelling
B. Morphing
C. Animating
D. Warping

Q36. To select text by shading while dragging the mouse over the text is referred to as:
A. Clip art
B. To highlight
C. To fetch
D. To decode

Q37. Which files allow for an exact reproduction of the original photos to be constructed together with animation?
A. Shockwave
B. Nx View
C. GIF
D. JPG

Q38. The delivery of text, visual art, sound, animation, and video through computer or other electronic devices are known as:
A. Multimedia
B. Hyper media
C. Visual media
D. Raw Media

Q39. The part of the computer where various peripherals can be connected is referred to as:
A. Terminal
B. Bus
C. Port
D. Socket

Q40. One Terabyte (1 TB) is equal to:
A. 1028 GB
B. 1024 GB
C. 1026 GB
D. 1000 GB

Q41. How would you explain the meaning of wi-fi to someone who has never heard the phrase before?
A. When two or more LANs are connected together over a wide area.
B. A form of Internet access that uses the facilities of the public switched telephone network (PSTN) to establish a connection to an Internet service provider (ISP) by dialling a telephone number on a conventional telephone line.
C. The name of a popular wireless networking technology that uses radio waves to provide wireless high-speed Internet and network connections.
D. A local or restricted communications network, especially a private network created using World Wide Web software.

Q42. The "bit rate" quantifies the number of bits per second to measure _____.
A. the server speed
B. the cable speed
C. the network speed
D. the bus speed

Q43. When everyone in your home uses a Wi-Fi-enabled device, what happens to your wireless network?
A. The network becomes faster.
B. The performance is not affected.
C. The network becomes slower.
D. The router will stop working.

Q44. In what kinds of network topologies would a switch or hub be useful?
A. Mesh
B. Ring
C. Star
D. Bus

Q45. The system software known as _____ ensures that all connected hardware operates as intended.
   A. Device driver
   B. Database software
   C. System utilities
   D. Backup software

Q46. Software can be categorized as:
   A. Firmware and Hardware
   B. Application software and hardware
   C. System software and Firmware
   D. System software and application software

Q47. How do you define a network?
   A. A group of 1 or more devices which communicate
   B. A group of 2 or more devices which communicate
   C. When 2 or more computers that are linked in order to share resources.
   D. A group of 3 or more devices which communicate

Q48. One particular set up to handle all communication going between that LAN and other networks
   A. Bandwidth
   B. WAN
   C. MAN
   D. Gateway

Q49. Which type of network topology is most common in residential networks today?
   A. Star
   B. Bus
   C. Mesh
   D. WiFi

Q50. Which of these is the collection of programmes that allows the hardware device and application software on your computer to communicate with one another?
   A. Operating System
   B. System software
   C. Utilities software
   D. Application software

SECTION B (50 MARKS)

Q1　(a) Define about Application Software and System Software with example.

(4 marks)

(b) Discuss the properties of installed and cloud software in term of accessibility, users and security.

(6 marks)

Q2　Based on figure **Figure Q2** as a guide. As a competent technician, draw a network connection for a Local Area Network in order to provide each device in a three-story home with a high-speed internet connection. Telekom Malaysia (Streamyx) provides the Internet connection through a fixed telephone line. All devices on the second and third floors are required to have a high-speed Wi-Fi connection, while all devices on the first floor require only a wired connection. The equipment in **Table Q2** are supplied and must applied in the proposed network connection.

(10 marks)

Q3　Web development is the process of creating a website for the World Wide Web (World Wide Web). Explain each of the web development requirements listed below in brief detail.

(a) Web Page

(2 marks)

(b) Web Site

(2 marks)

(c) Web Site Hosting

(2 marks)

(d) Web browser

(2 marks)

(e) HTML

(2 marks)

Q4 (a) A video stream with 24 frames per second playback. If each frame consists of 1280 X 720 pixels of 24 bit colours depth. Calculate the total storage required to store the above video file for FIVE (5) minutes.

(6 marks)

(b) A typical uncompressed high-quality audio file has a sample rate of 44,100 samples per second, a bit depth of 8 bits per sample and 2 channels of stereo audio. Calculate the bitrate and file size if the file is played for FIVE (5) minutes.

(4 marks)

Q5 (a) What does network topology mean?

(2 marks)

(b) Brief the characteristics of the network topologies listed below.

     i.   Bus topologies

(2 marks)

     ii.   Mesh Topologies

(2 marks)

     iii.   Star Topologies
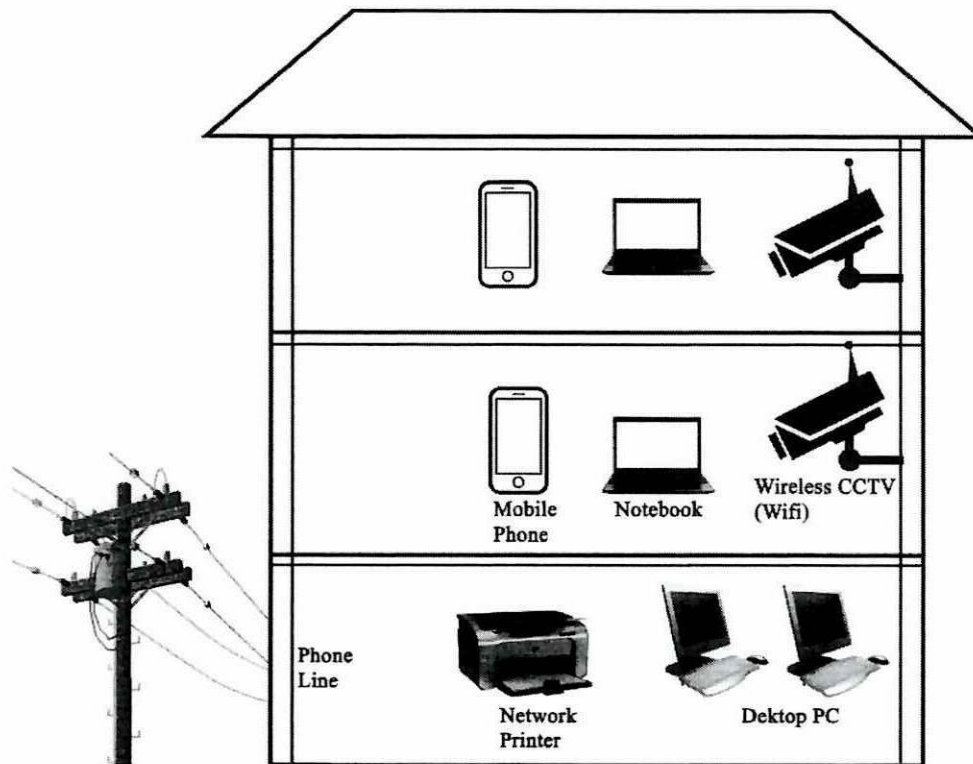
(2 marks)

     iv.   Ring topologies

(2 marks)

- END OF QUESTIONS –

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Figure Q2

Table Q2

No.	Items	Quantity
1.	Wireless Router	2
2.	8 Port Switch Network	1
3.	Modem Router	1
4.	Ethernet Cable RJ45	6
5.	Ethernet Cable RJ11	1

List of network components

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