NATIONAL SENIOR CERTIFICATE EXAMINATION
MAY 2025

COMPUTER APPLICATIONS TECHNOLOGY: PAPER II

MARKING GUIDELINES

Time: 3 hours 150 marks

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SECTION A

QUESTION 1

1.1 1.1.1 A

1.1.2 D

1.1.3 B

1.1.4 D

1.1.5 C

1.1.6 A

1.1.7 D

1.1.8 B

1.1.9 B

1.1.10 C

1.2 1.2.1 D

1.2.2 F

1.2.3 B

1.2.4 L

1.2.5 K

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QUESTION 2

2.1 2.1.1 GIF

2.1.2 Intranet

2.1.3 format

2.1.4 STP

2.1.5 <>

2.2 Expanding the following acronyms. (Correct wording **MUST** be given.)

2.2.1 **OSS** – Open-Source Software

2.2.2 **DDR** – Double Data Rate

2.2.3 **GPS** – Global Positioning System

2.2.4 **Mbps** – Megabits per second

2.2.5 **AR** – Augmented Reality

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SECTION B

QUESTION 3 SYSTEM TECHNOLOGIES

3.1

Question number	Name of hardware/software
3.1.1	SATA **Power** Cable **or** Hard Drive/Disk **Power** Cable **or** **Power** Supply Integrated Cable **or** **Power** Conversion Cable **or** HDD **Power** Adapter Cable
3.1.2	Graphics Card / GPU / Video card
3.1.3	Headset (Gaming) / Headphones
3.1.4	MS Excel Macro enabled file icon **or** Microsoft Excel Macro-Enabled Spreadsheet Template **or** XLTM file

3.2

Question number	Name of hardware/software
3.2.1 Tab Key	Tab Key allows you organise data clearly and switch columns in document / move the insertion point to the next tab stop in a table / adds a new row to a table / align text with indent
3.2.2 MS Outlook	Program that allows user to send and receive email messages, manage calendar and store contacts and tasks.
3.2.3 Recycle Bin	Keeps deleted items and allows user to recover deleted items should you realise you deleted important item by mistake
3.2.4 Airplane mode	It turns off all wireless communications on your device such as Wi-Fi, cellular, Bluetooth, GPS and NFC

3.3 Any 2
Example 1: Date format
Example 2: Currency format
Time format

3.4 3.4.1 Motherboard

3.4.2 4

3.4.3 Label A: CMOS (Complementary Metal-Oxide-Semiconductor) / CMOS backup battery
Label B: CPU socket / CPU slot (Not CPU only)

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3.5 RAM: (Any fact about RAM)

- Data stored on this chip is volatile.
- DIMM slots hold the RAM chips.
- RAM capacity is measured in GB.
- RAM speed measured in Mega Hertz (MHz).
- All programs working on are kept on RAM.

ROM: (Any fact about ROM)

- Contain instructions computer uses to boot up before OS is loaded.
- Data stored on this chip is non-volatile.
- Data stored on this chip is unchangeable.

(***Duplicate information is not acceptable, only one mark if candidate mentioned same fact in both answers)*

3.6 Any fact:

- Removes stress of processing from CPU and RAM as it has its own processing unit and RAM.
- Better GPU provides higher quality of graphics (e.g., graphic designer/video editor etc.)
- Gamers prefer GPU for better reaction and performance in games.
- GPUs are used to verify transactions on a blockchain network and earn cryptocurrency.

3.7 PSU converts electricity alternating AC power into low-voltage DC power for components to work.

3.8 Any ONE answer:

- Disk Cleanup
- Removing temporary files downloaded from the Internet.
- Removing temporary files created by Windows.
- Empty the Recycle Bin
- Removing installed programs that you no longer or seldom use
- Compress of files

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QUESTION 4 INTERNET AND NETWORK TECHNOLOGIES

4.1 4.1.1 A network topology is the physical and logical arrangement of nodes and connections in a network

4.1.2 Any one ADVANTAGE
- Easy to manage due to its simplicity in functionality.
- Easy to troubleshoot and locate problems in network.
- Easy to understand and expand the network.
- There is central management of the network.

Any one DISADVANTAGE
- Network requires and depends on central switch which requires more cabling and makes it more expensive.
- Central network device determines the speed and performance of the network.
- If a central device on the network fails, the network fails, and all nodes are disconnected.

4.2 4.2.1 Any one
- The cost to produce/install optic fibre cabling is higher than that of copper.
- Can easily be broken, more fragile as it is made of glass.
- Attenuation is still a factor even though it is less than with copper cables.

4.2.2 When the signals traveling along copper cables can be intercepted by outsiders

4.3 4.3.1
- Dish antenna
- Satellite modem (specific)

Any two

4.3.2 Latency is the delay in transfer speed due to the long distances (the signals must travel between earth and the orbiting stations as well as the bad weather.)

4.4 Downloading is when a user takes any type of file and copies it from the internet to your computer/device/phone.
Streaming is when a device receives data constantly (in real time) that is provided by websites like YouTube, Netflix, Showmax, etc.

4.5 Removing the list of sites you have previously visited / Clear browsing data in browser's history

4.6 Facebook / WhatsApp / LinkedIn / Telegram / WeChat / TikTok / Tumbler Twitch / Reddit / Pinterest / Threads / Mastodon / QQ / Snapchat / Bluesky / Youtube
(Any **TWO** excluding X/Twitter and Instagram) (any other correct option)

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4.7
- Lights that turn off automatically when the person goes to sleep / Manages temperature in house
- Doors open automatically when guests arrive.
- Security is called if an intruder is detected / Biometric access to house
- Dishes and clothes are washed at predetermined times etc.

(Any **TWO** answer that explains clearly that the house and devices are connected to the internet)

QUESTION 5 INFORMATION MANAGEMENT

5.1 5.1.1
- Is Michael diagnosed with an illness?
- What medicine does he take to treat it?
- What did he eat today? Etc.

Any fact/s about food / intake / consumption is one mark.
Any fact/s about medical history is one mark.
Any fact/s about activities done is one mark.
(Any **THREE** questions related to helping diagnose Michael)

5.1.2
- Parent's contact number
- Parent's name
- Medical condition
- Medical aid name and number
- Medical history / allergies, etc

(Any **FOUR** questions related contact info)

5.2 **INPUT:**
Information is gathered from the sensor about the glucose/insulin levels, **or** the amount of insulin released by the insulin pump.

PROCESSING:
If the insulin level is too low the sensor will release more insulin **or** if the sensor needs to be changed to be charged the sensor will communicate with the app to indicate it **or** the release of the insulin

OUPUT:
Correct level of insulin is maintained **or** sounds notification/an alarm if levels are not correct

5.3 It will allow him to share the data on other platforms.

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QUESTION 6 SOCIAL IMPLICATIONS

6.1 6.1.1 Is a type of malware which can be distributed. It prevents or limits the user from accessing their computer system until they have paid a ransom through an online payment system e.g. crypto currency.

6.1.2 **Dark web**: Is part of internet only accessible my means of special software, allowing users to remain anonymous and untraceable.

Example: Government agencies, anything from illegal actions, pornography, buying selling of illegal drugs, weapons, passwords, stolen identities, etc.

Deep web: Is part of internet that is not discoverable my standard search engines and are password protected / encrypted.

Example: chat messages, email messages, electronic health records, banking websites, cloud storage, subscription based streaming service (like Netflix) etc.

6.2 6.2.1
- Use firewall to prevent unauthorised access to the network.
- Install anti-malware software on all network devices.
- Block spam producing email addresses.
- Inform network users about the risks associated with social engineering.
- Change passwords frequently and use complex passwords.
- Restrict user's access to resources on the network.

(Any **TWO** precautions)

6.2.2 Output: monitor, speaker, smartphone
Input: microphone, touch screen
(Touch screen/smartphone is input and output – can only be mentioned once)

6.3
- Denial-of-services (DOS/DDOS). Use of compromised computers to flood the server with requests for information, until server becomes overwhelmed and other users cannot connect to the server.
- Cyberterrorism: usually attack a country's IT infrastructure to disrupt communication.
- Spoofing attacks: attacker provides false data to a network, that seems legitimate to a user.
- Sniffer attacks: checks data packets sent over a network and hackers use sniffer apps to analyse the network and access unencrypted data being transmitted.

(Any **TWO** instances with definition)

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QUESTION 7 SOLUTION DEVELOPMENT

7.1 7.1.1 Refers to cell on another worksheet

7.1.2 (a) 10:00/10h00/10am (time between 10:05–10:20 also accepted) or 12pm/12:00/12h00

(b) 15 + 5 + 8 + 10 + 8 + 10 + 30 = 86g.

7.2 7.2.1 Allergies

7.2.2 Yes, as a student's age is not more than 2 digits

7.2.3 **Long** text (for medical history and medicine info – can be more than 255 characters)

7.2.4 Query

7.2.5 Label

7.3 7.3.1 Select A2:A5 and change format to Date

7.3.2 Conditional formatting

7.3.3 =SUM (E7:E10)

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SECTION C

QUESTION 8 INTEGRATED SCENARIO

8.1 8.1.1 (a) DDR4 Memory
(b) 1 TB

8.1.2 Image 1: Computer A
Image 2: Computer B

8.1.3 (a) Cache is used to temporarily store information often data, in a computer system.

(b) Yes, as it improves the system's performance by reducing the time it takes for the CPU to access frequently used data and instructions, resulting in faster processing speeds.

8.1.4 Optical drive

8.2 8.2.1
- Keyboards
- Gaming mouse/mouse
- VR headsets
- Controllers
- Larger monitors/Monitors

(Any **TWO** excluding speakers/headsets/headphones)

8.2.2 (a) USB hub / Hub / USB docking station / USB extender

(b) Wireless devices are, by default, slower than wired devices since these devices transmit information wirelessly. (This lag is especially important for gamers.)

8.3 8.3.1 204.74Mbps (first value) is the download speed and the 502.10Mbps (second value) is the upload speed

8.3.2 Ping is used to test (diagnostic test) the connection between two network points or computers

8.3.3 Transmission of wide bandwidth data over a high-speed internet connection/High data-rate connection that allows the user to send data faster.

8.4 8.4.1 LAN Event must be between the title tags OR Text moved from head to title tags / <title> LAN Event </title>
Move the forward slash in the closing or end tag to before the word </title>

8.4.2 <ul> above list and at the end of list
 before each school name and after each school name

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QUESTION 9 INTEGRATED SCENARIO (continued)

9.1 9.1.1 Paste: used to copy text/graphics and place it from one area to another.
Format painter: used to copy all the formatting from one object and apply it to another one.

9.1.2 Predictive text is an input technology that facilitates typing on a device by suggesting words the user may wish to insert in a text field. / Predictions are based on the context of other words in the message and the first letters typed.

9.1.3
- Allows user to type faster.
- Reduce the number of keystrokes or key presses – helping people who have difficulties typing / prevent spelling mistakes.

(Any one)

9.1.4 Find and Replace

9.2 9.2.1 Driver

9.2.2 A drone is any aerial vehicle that receives remote commands from a pilot or relies on software for autonomous flight

9.2.3 Live stream the LAN party from different angles, giving viewers an immersive experience. **OR**
Use the drone to capture aerial shots or videos of the LAN party, providing a unique perspective and documenting the event from above **OR**
Keep an eye on the surroundings and monitor the event area for security purposes. This could be especially useful for larger LAN parties or events held in open spaces.
(Any one that is relevant to capturing images/video)

9.3
- Check the computer's power cord to ensure that it is plugged into the device and the power plug / loose cable / incorrectly plugged in / check if the power has tripped / Check for a power failure by turning on a light in venue / loadshedding / Hardware is damaged and giving off a burning smell.
- Check for faulty/damaged cable.
- Check for hardware damage e.g. CPU fan is not working.

(Any **TWO** of the above)

9.4
- Minimum requirements are specifications your computer system must have otherwise the software/games will not work/run
- Recommended requirements are specifications that will make the software/games run better on your computer system but they are not essential

9.5 9.5.1 (a) Label D
(b) Label A
(c) Label F

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9.6 9.6.1 Subtotal

9.6.2 Sorted according to Age in ascending order (smallest to biggest)

9.6.3 A hyperlink creates a shortcut that jumps to another location in the current workbook, or opens a document stored on a network server, an intranet, or the Internet.

9.6.4 Selects all

9.7 9.7.1 NFC/Near Field Communication

9.7.2
- Timekeeping
- Notifications from calls, texts, and apps
- Fitness tracking
- GPS
- Customizable watch faces
- Water resistance
- Wireless connectivity (Bluetooth, Wi-Fi)
- Altimeter & barometer
- Always on display
- Playing music

(Any one except health monitoring and payments)

9.8 9.8.1 Add cable locks to the notebooks

9.8.2 Windows Key + L

Total: 150 marks

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