MODULE A SYSTEMS ARCHITECTURE · A1

What a computer system is and what the CPU does

Original practice questions · ~25 minutes · 20 marks · OCR J277 spec 1.1.1

Name _____ Date _____

Instructions. Answer all questions in the spaces provided. The marks for each part are shown in brackets [ ]. The total for this worksheet is **20 marks**.

1

Total: 6 marks

A car park has a pay station. A driver types their car registration on a keypad, the pay station works out the charge, prints a ticket and keeps a record of each visit on a solid state drive.

(a) State what the letters CPU stand for. **[1]**

(b) State the purpose of the CPU in the pay station. **[1]**

(c) Tick (✓) **one** box in each row to show the job each part of the pay station does. **[4]**

Part	Input	Processing	Output	Storage
Keypad				
CPU				
Ticket printer				
Solid state drive				

2 **Total: 5 marks**

The pay station runs a program to work out the charge.

(a) Tick (✓) **one** box to show where the CPU fetches the program's instructions from while the program is running. **[1]**

Location	Tick (✓)
Keypad	
Main memory (RAM)	
Ticket printer	

(b) Complete the description of the fetch-execute cycle. Use words from the list. Not all words are used. **[4]**

instruction · memory · carried out · repeats · printer · deleted · stops · keypad

The CPU fetches an ..... from main ..... . The CPU decodes it to work out what it means. The instruction is then executed, which means it is ..... . The cycle then ..... for the next instruction.

3 **Total: 3 marks**

Describe what happens during the fetch-execute cycle. **[3]**

4 **Total: 3 marks**

Tick (✓) **one** box in each row to show whether each statement is true or false. **[3]**

Statement	True	False
A hard disk drive is part of the CPU.		
The fetch-execute cycle is repeated continuously while a program runs.		
The CPU processes data and instructions to run programs.		

5 **Total: 3 marks**

A delivery driver opens a route-planning app on a tablet. The app is stored on the tablet's secondary storage.

Explain how the CPU and main memory (RAM) are used while the app runs. **[3]**

Total for this worksheet: 20 marks