**SL Unit 2** **– Computer Organization**  
Quiz 3

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| **Question 1** | | | |
| Objectives: | 2.1.2 | Exam Reference: | May-14 5 |

Distinguish between the use of **two** types of primary memory. [2]

*Award up to* ***[2 marks max]****.*

*Award* ***[1 mark]*** *for identifying* ***two*** *types of primary memory.*

*Award* ***[1 mark]*** *for the use of* ***each*** *type of the memory identified ×2.*

RAM stores data and instructions currently in use

ROM stores permanent instructions

Cache stores frequently used instructions

*(Award* ***[1 mark]*** *if only general scheme of CPU is given.)*

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| **Question 2** | | | |
| Objectives: | 2.1.7 | Exam Reference: | Nov-14 1 |

State **one** example of application software. [1]

*Award* ***[1 mark]*** *for a valid example.*

Word processor; spreadsheet; database management system; e-mail; web browser; CAD; graphic processing software;

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| **Question 3** | | | |
| Objectives: | 2.1.2, 2.1.4 | Exam Reference: | Nov-17 8a.b. |

The machine instruction cycle is the process by which a program instruction is fetched,  
decoded, executed and the results are stored.

1. State where all instructions and data are stored. [1]

Primary memory / RAM

1. Outline the role of the data bus and address bus in this process. [2]

*Award up to* ***[2 max]****.*

***Note****: there must be explicit reference to both address and data bus*

***Example 1***

Buses are used as physical connections to carry information to the CPU;

The data bus transports data from/to CPU, whereas the address bus the memory

address where the data is supposed to go/be.

***Example 2***

Data bus is a physical connection to transport data from-to CPU to be

processed;

Address bus is a physical connection to transport an address of memory storage where data

(transported in the data bus) should be read/written;

***Note:*** *Award* ***[1]*** *mark, for responses that show some understanding of use of*

*buses in CPU, for address location and data transport without using specialist*

*terminology*

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| **Question 4** | | | |
| Objectives: | 2.1.10 | Exam Reference: | Nov-14 5 |

The contents of a 12-bit register is represented in hexadecimal as A5F.

1. State its binary representation. [1]

*Award* ***[1 mark]*** *for right binary number. Accept any spaces.*

1010 0101 1111;

1. State how many different integers can be represented in this register. [1]

*Award* ***[1 mark]*** *for either answer.*

212 or 4096;