**Module : 1**

**Understanding of hardware and its components**

1 which of the following is not a component of CPU?

* Ram

2 what is the function ram in a computer?

* The function of ram in computer to temporarily store data and instruction that the CPU needs while preforming task
* Ram allows a computer to run multiple programs at once without slowing down.

3 which of the following is primary storage device?

* Sd card, HDD

4 what is the purpose GPU?

* A GPU is specially used to enhance visual performance and speedup the complex computation specially those involving images and graphical content

**Section 2**

5 the motherboard is the main circuit bord of a computer where other components are attached?

* True

6 A ups is a hardware device that provides emergency power to a load when the input power source fails?

* True

7 A expansion card is a circuit board that enhance the functionality of a component?

* True

**Section 3**

8 Explain the difference between HDD and SSD?

|  |  |
| --- | --- |
| HDD | SSD |
| Uses spinning and magnetic disks to red and write data with mechanical arm | Uses flash memory with no moving parts |
| No much expensive compare to SSD | More expensive than HDD |
| Slower data access and bot time | faster data access and bot time |
| Consume more power | Consume less power |
| Longer life span | Performance durability |

9. describe the bios in a computer system ?

* Key function of bios system
* Post check whether ram CPU and keyboard are correct during startup
* Locate and starts OS from storage devices like HDD SSD
* Allow users to config hardware Settings Via boots start menu
* Provides the low-level control for system hardware components

10 list and briefly explain three input devices commonly usd with computer ?

* Keyboard mouse scanner this three are commonly input devices used with computers
* Keyboard: allows users to input text command number’s usings keys essential for typing documents coding and navigating system command

**Section 4**

11 identify and label the fowling comment’s on a diagram of a motherboard

* The CPU is typically located in the largest socket on the motherboard its often near the centre under a fen
* Ram slot: this long thine slot usually located near the CPU they are used to insert ram modules and typically coms in pairs
* Sata connecter: SATA connecter used for connecting storage device like SSD HDD

12 demonstrate how to install a ram module in to a computer

* Turnoff the computer and unplug it from the power source
* Open the computer case using the screw driver if necessary locate the rem slots on mother board
* Aline the notch on the ram module with the slot on the motherboard
* Insert the ram modules at an angel press down firmly until both clips on the sides snap into a place
* Close the case plug the system back in and power it on to ensure it detects new ram

**Section 5**

13 discus the impotence of proper cooling mechanism in a computer system include example of cooling method and their effectiveness.

* Impotence cooling mechanism over hitting which can damage internal components reduce Performance or even lead to system failure
* Example : air cooling fan most common uses fan to move air out and bring cool air in

Hit sinks passive colin g device that obsess and disperses hit often used with CPU and GPU

* Liquid cooling Circulates through pipes ideal for high Performance system like gaming pc

14 explain concept of bus width and signific in compute architecture.

* In computer architecture a bus is communication system that transfer data between component
* This are typically types of buses
* Data bus : cares the actual data being transferred the computer
* The width the of the data bus 32bit 64bit
* Address bus specifies the memory location I / o devices being access the address bus width
* Controle bus manages and coolness data transfer operation
* Bus width refer to the number of bits that can be transferred simultaneously over the bus
* Its is usually measured in bits
* A 32bit data bus can transfer 32bits of data in one cycle
* A 64bits address bus can access unique memory location.