Assignment:-

MODULE 1:- UNDERTAKING OF HARDWARE AND ITS COMPONENTS

SECTION 1: MULTIPLE CHOICE

1. WHICH OF THE FOLLOWING IS NOT A COMPONENT OF THE CPU?

1. ALU
2. RAM
3. CU
4. 1 AND 3

ANS- 2. RAM

2. WHAT IS THE FUNCTION OF RAM IN A COMPUTER ?

ANS:- RAM IS A TEMPORARY MEMORY USED BY THE COMPUTER TO STORING THE DATA AND MANY MORE OR PROGRAMS THAT ARE CURRENTLY USING

- **STORING DATA TEMPORARILY:-**

A.-> STORE THE DATA ONLY WHILE THE COMPUTER OR LAPTOP IS ON(EX. WE DOING WORK ON PC WE DON'T SAVE THE WORK WILL LOST)

- **BOOT SPEED:-**

B. ->IN WHICH THE MORE AND FASTER RAM HELPS OUR COMPUTER START QUICKER AND RUN SMOOTHER RIGHT

AFTER BOOTING ,RAM HELPS TO BOOT THE OPERATING SYSTEM FAST

- **HOLDS RUNNING PROGRAMS:-**

-> RAM CAN STORE APPLICATIONS (LIKE :- BROWSER,MS WORD)

- **IN SIMPLE WORDS RAM IS THE WORKING SPACE OF COMPUTER ITS HELP THE SYSTEM RUNS FAST,APP OPEN QUICKLY.**

3. WHICH OF THE FOLLOWING IS A PRIMARY STORAGE DEVICE?

1. HDD
2. SSD
3. SD CARD
4. 1 AND 2 BOTH

ANS:- 1 AND 2

4.WHAT IS THE PURPOSE OF GPU?

ANS:- GPU STANDS FOR GRAPHICAL PROCESSING UNIT (IT IS MOSTLY USE FOR TO SHOW COMPUTER BETTER GRAPHICS AND VEDIO FASTER AND SMOOTH(IN GAMING,VEDIO EDITING,GRAPHICS DESIGNING ETC…)

5. TRUE OR FALSE

THE MOTHERBOARD IS THE MAIN CIRCUIT BOARD OF A COMPUTER WHERE OTHER COMPONENTS ARE ATTACHED

ANS. TRUE

6. TRUE OR FALSE
A UPS(UNINTERRUPTIBLE POWER SUPPLY)IS HARDWARE DEVICE THAT PROVIDE EMERGENCY POWER TO LOAD WHEN THE INPUT POWER SOURCE FAILS.

ANS.TRUE

7. TRUE OR FALSE
AN EXPANSION CARD IS A CIRCUIT BOARD THAT ENHANCES THE FUNCTIONALITY OF A COMPONENT

ANS TRUE

8. EXPLAIN THE DIFFERENCE BETWEEN HDD AND SSD

ANS->

HDD	SDD
1. RANDOM ACCESS TIME 5-10MS	1.100MB/S TO 500MB/S
2. 50MB/S TO 100MB/S	2.HIGH REALIBILITY
3. LOW REALIBILITY	3. SSD HAVE NO MOVE PARTS TO FAIL
4. 6-12 WALT	4. SMALL & LIGHT WEIGHT
5. LARGE & HEAVY	5.POWER CONSUMPTION 2 WATT
6. FASTER DATA ACESS	
7. LESS POWER USAGE	

9.DESCRIBE THE FUNCTION OF BIOS IN COMPUTER SYSTEM?

ANS.BIOS STANDS FOR BASIC INPUT / OUTPUT SYSTEM.IT IS A SMALL PROGRAM STORED IN THE MOTHERBOARD OF THE COMPUTER.BIOS START WORKING AS SOON AS OUR TURN ON THE COMPUTER .IT CHECK IF ALL MAIN PART LIKE RAM,KEYBOARD,AND HARD DISK ARE WORKING,BIOS HELP US TO START OR BOOTING THE OPERATING SYSTEM(LIKE WINDOWS).WE OPEN THE BIOS MENU TO CHANGE SETTING LIKE TIME,DATE ETC.WITHOUT BIOS,THE SYSTEM CANNOT START PROPERLY.IT IS KNOWN AS BIOS IN THE COMPUTER SYSTEM.

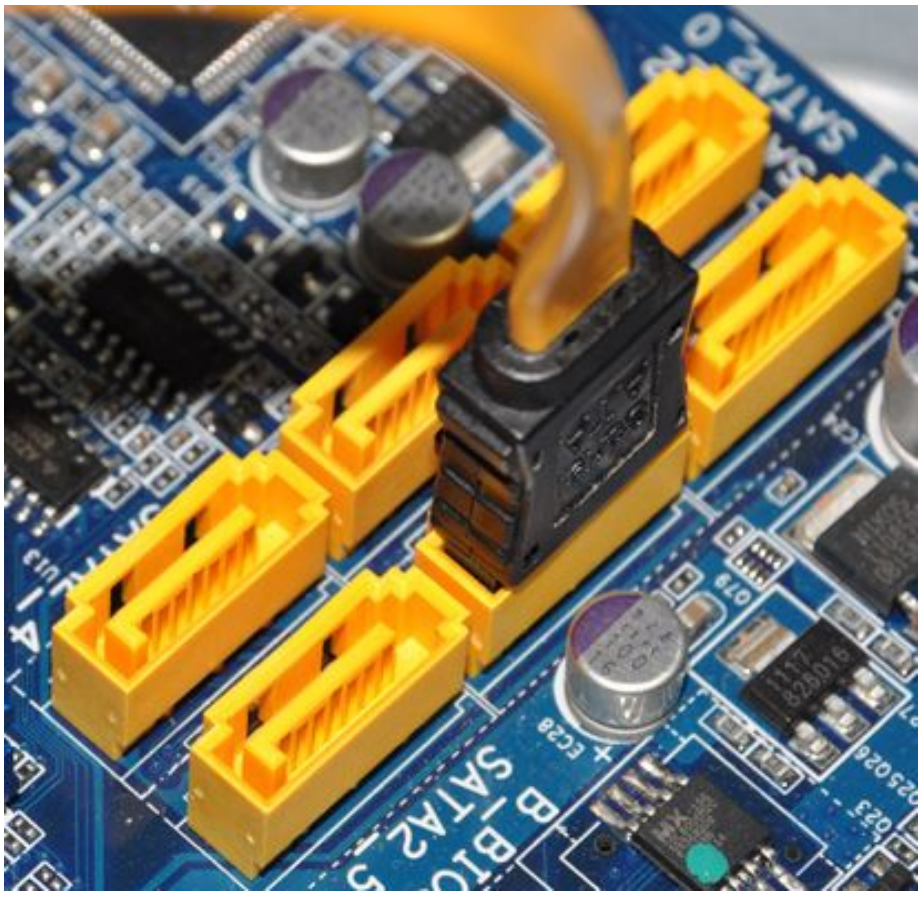
10.LIST AND BRIFELY EXPLAIN THREE INPUT DEVICE COMMONLY USED WITH COMPUTERS.
ANS-> KEYBOARD,MOUSE,MICROPHONE

11. IDENTIFY AND LABEL THE FOLLOWING COMPONENT ON DIAGARM OF A MOTHERBOARD:

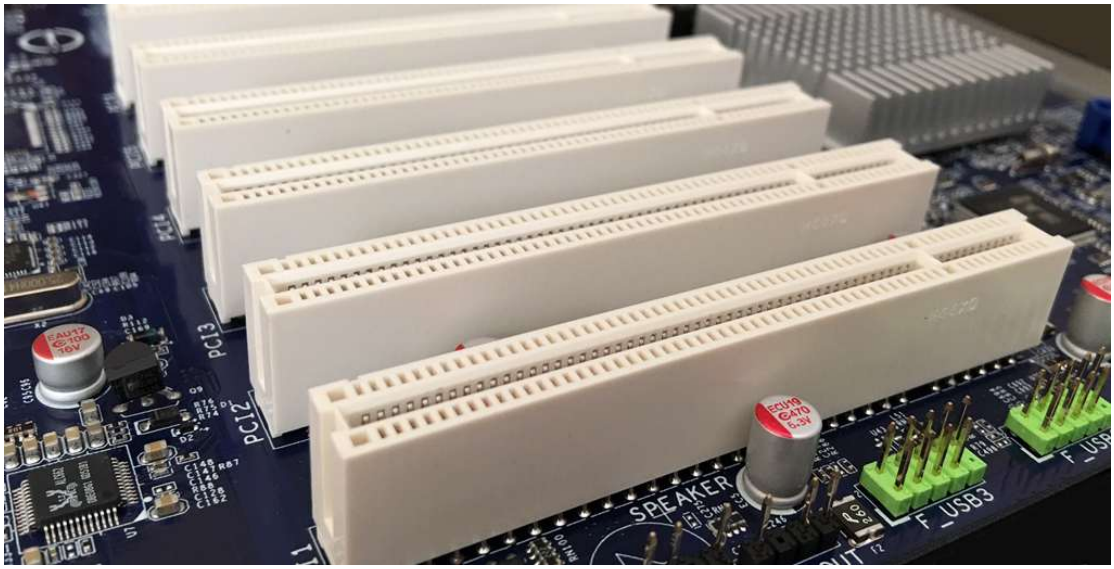
- **CPU**

- **RAM SLOTS**

- **SATA CONNECTORS SECTION SATA CONNECTORE SECTION**



- **PCI-E-SLOTS**



12. DEMONSTRATE HOW TO INSTALL A RAM MODULE INTO A COMPUTER.

ANS->

- **POWER OFF THE SYSTEM AND UNPLUG**
- **FIRST SHUTDOWN OUR SYSTEM IN PROPERLY.**
- **REMOVE ALL CABLE,SPECIALLY REMOVE THE POWER CORD**
- **REMOVE SIDE PANEL SCREWS AND SLIDE THE PANNEL OF OUR SYSTEM CASE**
- **INSIDE LOCATED THE RAM SLOTS ON THE MOTHERBOARD,WHICHARE LONG AND NARROW AND USUALLY PLACED NEAR THE CPU.**
- **HOLD THE RAM STICK CAREFULL BY ITS EDGE,WITHOUT TOUCHING THE METALPIN,**
- **ALIGN THE NOTCH ON THE RAM MODULE WITH SLOT,MAKING,FIRST CHECK THAT IT FIT PROPERLY OR NOT**
- **PRESS DOWN FIRMLY AND EVENLY ON BOTH ENDS UNTIL YOU HEAR A CLICK AND SIDE CLIP LOCK IT INTO PLACE**
- **IF INSTALLED AND CLOSE THE COVER/CASE,AND PLUG IN TO THE COMPUTER BACK IN AND TURN IT ON**
- **IF INSTALLED PROPERLY,THE SYSTEM WILL DETECT THE NEW RAM AUTOMATICALLY**

13. DISCUSS THE IMPORTANCE OF PROPER COOLING MECHANISMS IN A COMPUTER SYSTEM.INCLUDE EXAMPLE OF COOLING METHODS AND THEIR EFFECTIVENESS.

ANS-> IN THE COMPUTER SYSTEM PROPER COOLING IS VERY IMPORTANT FROM OVERHEATING.WHEN PARTS LIKE CPU,GPU, ETC. ITS PARTS GET OVER HEAT,THE SYSTEM CAN BECOME SLOW AND SUDDENLY SHUTDOWN,OVER HEAT CAN DAMGE HARDWARE PARTS FOR PERMANENTLY

- ✓ **AIR COOLING**
- ✧ **MOST COMMON METHOD**
- ✧ **KEEP THE CPU AND OTHER PARTS OF SYSTEM COOL BY USING FANS**
- ✓ **LIQUID COOLING**
- ✧ **USED LIQUID TO REDUCE HEAT AND GET COOL THE PARTS**
- ✧ **FOR BETTER RESULT THEN AIR COOLING FOR POWERFUL SYSTEM LIKE GRAPHICS ETCC…**
- ✓ **THERMAL PASTE**
- ✧ **HELP TO TRANSFER HEAT FROM THE CPU TO THE HEAT SINK**
- ● **FOR EXTERNAL FANS FOR LAPTOP USING LONG TIME DURABLE USE.**

14. EXPLAIN THE CONCEPT OF BUS WIDTH AND ITS SIGNIFICANCE IN COMPUTER ARCHITECTURE.
15. ANS-> IT IS THE PROCESS OF THE NUMBER OF BITS TRANSFER AT THE ONE TIME THROUGH THE BUSES

- ✧ **EX. A 32BIT BUS CAN TRANSFER 32 BIT OF DATA AT A TIME ONLY**
- ✧ **IN WHICH THE 64 BIT BUS CAN TRANSFER 64 BIT OF DATA AT A TIME**

*** SIGNIFICANCE**

1. SPEED & PERFORMANCE

-> A WIDE BUS CAN CARRY OR TRANSFER DATA AT ONCE AT TIME

->ITS IMPROVED SPEED AND PERFORMANCE OF THE COMPUTER

2. DATA TRANSFER RATE:

-> BUS WIDTH COMBINED WITH CLOCK SPEED

->EX A 32BIT ADDRESS CAN ACCESS ONLY 4GB OF RAM

->EX A 64BIT ADDRESS CAN ACCESS OVER 18 EXABYTES.

IN THE BUS CPU AND RAM COMMUNICATED WITH THE HELP OF WIDER BUS,CPU AND RAM EXCHANGE DATA MORE EFFICENTLY ,REDUCE DEALY AND INCREASE PERFORMANCE IN HEAVY TASK LIKE GAMING,VEDIO EDITING AND MANY MORE.