



# BRAINWARE UNIVERSITY

Term End Examination 2023-2024  
Programme – M.Sc.(ANCS)-2023  
Course Name – Core Hardware  
Course Code - MNCS101  
( Semester I )

Library  
Brainware University  
388, Ramkrishnapur Road, Barasat  
Kolkata, West Bengal-700125

Full Marks : 60

Time : 2:30 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

## Group-A

(Multiple Choice Type Question)

1 x 15=15

1. Choose the correct alternative from the following :

- (i) Name the primary mechanism in a mechanical mouse.
- a) Ball and rollers  
b) Optical sensor  
c) Capacitive touch  
d) Laser technology
- (ii) Select primary function of the North Bridge chipset on a computer's motherboard
- a) Memory control and communication with RAM  
b) Handling I/O devices and peripherals  
c) Managing power distribution  
d) None of the above
- (iii) State the legacy keyboard interface with a round connector.
- a) PS/2  
b) USB  
c) Bluetooth  
d) VGA
- (iv) State the primary function of a computer's power supply unit (PSU).
- a) Converts AC to DC power  
b) Regulates CPU temperature  
c) Manages software installations  
d) Controls peripheral devices
- (v) Specify the computer component typically reliant on standby power from the ATX power supply.
- a) Wake-on-LAN feature  
b) CPU cooling fan  
c) Hard drive  
d) Optical drive
- (vi) Identify the main function of the BIOS POST (Power-On Self-Test) during booting.
- a) To increase CPU speed  
b) To improve device performance  
c) To handle interrupt conflicts  
d) To enhance system security
- (vii) Name the three primary types of printers used in computing.
- a) Dot Matrix, Inkjet, Laser  
b) Keyboard, Mouse, Monitor  
c) RAM, CPU, GPU  
d) USB, HDMI, VGA
- (viii) Identify the USB interface that provides a faster data transfer rate.
- a) USB 2.0  
b) USB 1.1  
c) USB 3.0  
d) USB 3.1

- (ix) Determine the primary role of RAM in a computer system,  
 a) permanent data storage  
 b) Temporary data storage for fast access by the CPU  
 c) Video processing  
 d) Secondary storage for long term data
- (x) Choose the type of RAM that needs a power source for data retention,  
 a) Static RAM (SRAM)  
 b) Dynamic RAM (DRAM)  
 c) Flash RAM  
 d) Volatile RA
- (xi) Identify the type of volume that amalgamates several physical disks into a unified logical volume.  
 a) RAID 0  
 b) RAID 1  
 c) RAID 5  
 d) RAID 10
- (xii) In terms of storage capacity, how do DVD-R and DVD+R formats compare?  
 a) DVD-R typically has a higher storage capacity.  
 b) DVD+R typically has a higher storage capacity.  
 c) Both formats have the same storage capacity.  
 d) Storage capacity depends on the brand of the disc.
- (xiii) Select the Full form of MPIIO  
 a) Multi-Protocol Input/Output  
 b) Multiple Paths Input/Output  
 c) Microsoft Performance Input/Output  
 d) Multi-Path Integrated Operation
- (xiv) Identify the primary function of RAM.  
 a) Stores data temporarily  
 b) Stores permanent data  
 c) Manages peripheral devices  
 d) Controls the CPU
- (xv) Select the primary function of ROM in a computing device.  
 a) Stores permanent firmware or software instructions  
 b) Provides temporary data storage  
 c) Manages data transfer between devices  
 d) Enhances CPU performance

### Group-B

(Short Answer Type Questions)

3 x 5=15

2. Describe the relationship between the Master Boot Record (MBR) and the Disk Boot Record (DBR) in storage devices. (3)
3. Write the general booting process of an OS (3)
4. Explain the concept of CCTV camera resolution. (3)
5. Explain the purpose of a keyboard matrix and its role in registering keypresses. (3)
6. Distinguish between AT and ATX SMPS standards (3)

OR

Summarize the purpose of the Power Good (PG) signal in ATX power supplies. (3)

### Group-C

(Long Answer Type Questions)

5 x 6=30

7. Explain the concept of cache memory in a CPU and its importance in enhancing processor performance. (5)
8. Explain the concept of processor packaging, including different types and their impact on CPU design and compatibility. (5)
9. Explain the various printer interfaces used to connect printers to computers or networks. (5)
10. Discuss the differences between static RAM (SRAM) and Dynamic RAM (DRAM). (5)
11. Discuss the differences between a Front-Side Bus (FSB) and a Back-Side Bus (BSB) in the context of computer architecture. (5)
12. Describe how to assemble a system with various types of hardware peripherals. (5)

OR

Explain the color coding used in wires for ATX power supply connectors and describe the significance of these color codes.

(5)

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