Sample Question Paper - I

Course Name	:- Computer Engineering	**9069**
Course Code	:- CO/CM/CD	
Semester	:- IV	
Title of Subject	:- Computer Architecture and Maintenance	
Marks	:- 80	**Time: 3 Hrs.**

Instructions:

1. All questions are compulsory
2. Illustrate your answers with neat sketches wherever necessary.
3. Figures to the right indicate full marks.
4. Assume suitable data if necessary.
5. Preferably, write the answers in sequential order.

Q.1A. Attempt any four of the following: **08 Marks**

a. Define formatting. What are its types?

b. Give four characteristics of a printer

c. State four features of firewire.

d. Define computer maintenance. What are its types?

e. Define Resolution and Dot Pitch with reference to Monitor.

Q.1B. Attempt any two: **08 Marks**

a. List eight features of PCI Bus.

b. List the specifications of a scanner and their meanings.

c. Draw the 9 pin RS 232 Connector and explain the function of any four signals.

Q.2 Attempt any three of the following.   **12 Marks**

a. For the bit pattern 11001110, draw the waveforms for FM and MFM recording techniques and state the number of pulses required for the above two methods.

b. Draw the block diagram of an internal modem and state the function of each block.

c. Sketch the construction of opto-mechanical mouse. Describe its working.

d. Compare stepper motor and voice coil actuator mechanism of a hard disk.(4 points)

e. State the meaning of following term with reference to hard disk drive:

i. Cluster   ii. MBR   iii. Write pre-compensation   iv. Landing zone

Q.3 Attempt any three of the following.   12 Marks

a. Describe the following processor modes: i. Real mode ii. Protected mode

b. With suitable diagram, state the meaning of Extended memory and Expanded memory.

c. List any eight specifications of a blu-ray disc with typical values.

d. Draw a diagram and explain the principle of working of LCD monitor.

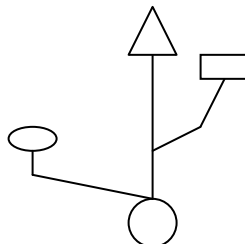## Q.4 Attempt any four of the following.   16 Marks

a. "There are junk characters displayed on the monitor". Troubleshoot the above problem.

b. Name the different types of key switches of a keyboard. With a neat diagram, describe the working of capacitive switch.

c. Draw the block diagram of a CRO and state the function of different blocks.

d. Draw the centronics interface and explain any four signals.

e. Draw the block diagram of on-line UPS. How it is different from off-line UPS?

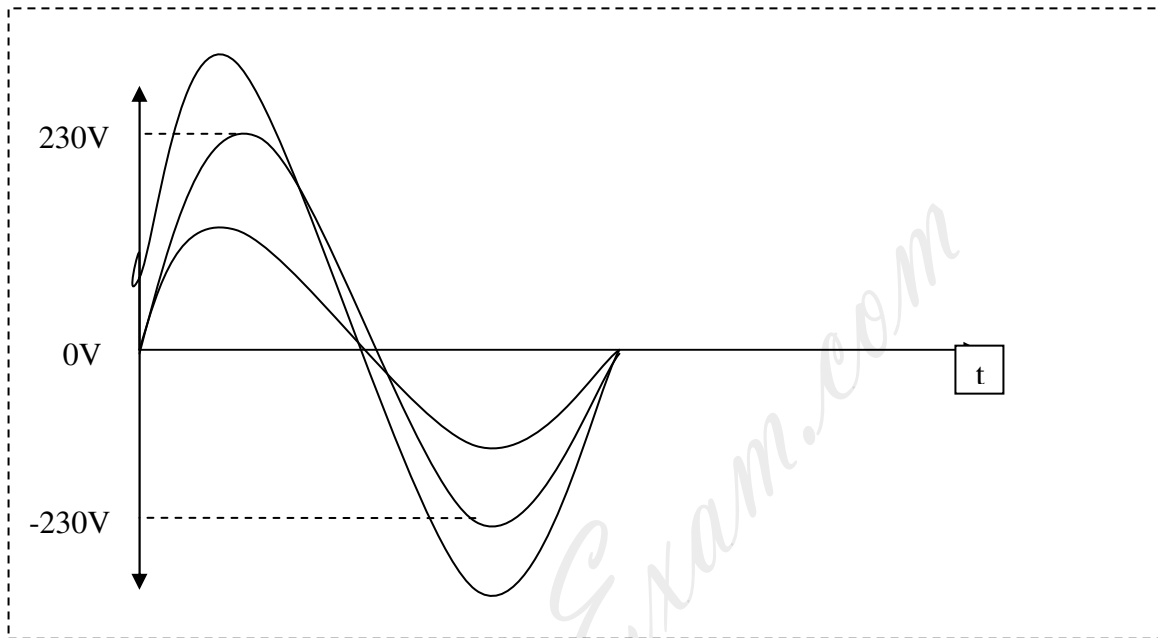f. Draw the 20 pin ATX power connector with color code.

Q.5 Attempt any three of the following.   12 Marks

a. Describe the terms ESD and RFI, and state the measures to prevent them.

b. With the help of a diagram, show how a logic probe and logic pulser can be used for troubleshooting.

c. Identify the following symbol. List eight features of the same.

d. List eight features of Pentium-D processor and give their meanings.
e. Observe the waveform and label i. Blackout ii. Brownout iii. Sag and iv. Surge and define them.

Q.6 Attempt any two of the following.   **12 Marks**

a. Draw the block diagram of a CRT color monitor and give the function of each block.
b. Sketch the construction of HDD. Label the different parts and state their functions.
c. Draw the block diagram of a laser printer and state the function of each block.