

M.Sc. - I (Electronics) (NEP Pattern) Semester-II  
**PSCELT201 - Paper-I : Computer Organization and Interfacing**

P. Pages : 2

Time : Three Hours



**GUG/S/25/15369**

Max. Marks : 80

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- Notes : 1. All questions are compulsory and carry equal marks.  
2. Draw neat and labelled diagrams wherever necessary.

**Either:**

1. a) Explain the structure of a cache/main memory with a suitable diagram. 8
- b) Explain the salient features of PCI bus. 8

**OR**

- c) What is External Interface? Explain the firewire configuration. 8
- d) Explain the bus interconnection structure of the computer modules. 8

**Either:**

2. a) Write a note on Super Scalar and Super Pipelined Architectures. 8
- b) Compare the RISC and CISC machines architecture with suitable examples. 8

**OR**

- c) Explain how pipelining takes care of branch of instructions. 8
- d) Explain the techniques used to minimize register-memory operation on RISC machines. 8

**Either:**

3. a) Explain basic components of the DAQ system. 8
- b) Explain the USB interface. 8

**OR**

- c) Explain the importance of networking in data acquisition. 8
- d) List and explain different network topologies used in LAN. 8

**Either:**

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|-----------|----|--|----------|
| <b>4.</b> | a) | Explain the salient features of the USB.                           | <b>8</b> |
|           | b) | Explain the I/O READ and I/O WRITE bus cycles of an 8-bit ISA bus. | <b>8</b> |

**OR**

- |           |    |  |          |
|-----------|----|--|----------|
|           | c) | What are DMA channels? Explain.                  | <b>8</b> |
|           | d) | Explain the parallel port & second port.         | <b>8</b> |
| <b>5.</b> |    | Attempt the followings-                          |          |
|           | a) | Explain the external interface 'fire wire'.      | <b>4</b> |
|           | b) | Explain the salient features of RISC pipelining. | <b>4</b> |
|           | c) | Write a note on GBIB (IEEE-488) interface.       | <b>4</b> |
|           | d) | State the limitation of 8 bit ISA bus.           | <b>4</b> |

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