

Con. 3057-08.

BB-4732

(3 Hours)

[Total Marks : 100

N.B. : (1) Question No. 1 is **compulsory**.(2) Attempt any **four** questions out of remaining questions.(3) Make assumptions if any, **clearly**.

1. (a) Clearly explain the architectural enhancement of the Pentium Processor. 10
- (b) Explain the memory map available to the Pentium processor just after it comes out of the RESET state. Explain the first opcode fetch cycle. 10
2. (a) Explain the process of USB device enumeration of any USB device of your choice. 10
- (b) Explain cache control signals available on Pentium processor. 10
3. Give some practical applications of RTOS. Explain how QNX satisfies the required features of RTOS. 20
4. (a) Explain the features offered by PCI for supporting PLUG and PLAY device design. 7
- (b) What do you understand by the term 'bus latency' over PCI ? 6
- (c) Explain interrupt chaining process in PCI Bus. 7
5. (a) Compare and contrast the Harvard and Von Neumann architecture with one example in each case. 6
- (b) Explain with suitable timing diagram, address pipe lining. 8
- (c) Explain instruction pairing rules for the Pentium pipe-lines. 6
6. (a) Explain what do you understand by 'Green Machine' Terminology. 8
- (b) Compare USB and RS 232 C interface and justify the choice in terms of speed and addressability for data transfers. 12
7. Write short notes on any **two** of the following :- 20
 - (a) Data transfer processes over USB
 - (b) Pentium State transitions
 - (c) Micro Kernel of RTUS.