May 2009

Bachelor of Computer Application (BCA) Examination

IV Semester (Autonomous)

Digital Computer Organisation

Time : 3 Hours] [Max. Marks : 50

Note- All questions are compulsory.

1. (a) Which microprocessor is used in PC/XT, PC/AT and Super micro computer also explain them.

   (b) Show that the memory addressing capability of a CPU is equal to 2^n bytes. Where n is the number of address lines of the CPU.

   (c) Explain the terms : MIPS, MFLOPS, LIPS, Dhrystone and Whetstone.

   OR

   (a) Explain Primary memory, Secondary memory and cache memory. What type of memory devices are used in each of these categories of memory.

   (b) Discuss the important features of micro, mini, mainframe and super computers.

2. (a) Discuss the Operating Principle of a raster scan CRT.

   (b) What is scanner? What are different types of scanner? Discuss working principle of a scanner.

   OR

   (a) Differentiate between Impact Printer and Non-impact Printers with examples.

   (b) What is the function of a hard disk controller, floppy disk controller and dot matrix printer controllers? Explain.

3. (a) Describe the construction and working principle of hard disks. What do you understand by head crash? What is Parking Zone?

   (b) Explain the architecture and working principle of CD-ROM.

   OR

   Write short notes on the following-

   (i) Memory management unit.

   (ii) Working Principle of floppy disk.

4. (a) What is computer network? Discuss the main components of a Computer Network.

   (b) If a binary signal is sent OVER a 3-KHz channel, Whose signal-to-noise ratio is 20 dB, determine the maximum achievable data rate.

OR

   (a) Distinguish among Distributed systems, Network and parallel systems.

   (b) What is spooling? What are the main advantages of spooling?

5. (a) Distinguish between programs controlled and interrupt controlled information transfer.

   (b) What is the difference between isolated I/O and memory mapped? I/O? What are the advantages and disadvantages of each ?

OR

Write short notes on-

(i) Virtual addressing schemes.

(ii) Cycle stealing and Burst mode of data transfer.

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