Reg. No. :

Question Paper Code : 31288

87th - AN

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2013.

Seventh Semester

Electronics and Communication Engineering

080290063 – COMPUTER HARDWARE AND INTERFACING

(Common to Medical Electronics Engineering)

(Regulation 2008)

Time : Three hours   Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is the role of clock signal in computers? What is its unit of measure?

2. Write the hierarchy of memory ranging from CPU registers to Secondary Storage.

3. What are the interrupt request channels reserved for keyboard and mouse interfaces in a PC architecture?

4. What is display resolution? How is it specified?

5. Name any two standard recording formats for storage in hard disks.

6. What are pits and lands on CDROMs?

7. Are device drivers part of OS and BIOS? What do they perform?

8. What are the devices that usually communicate with CPU over north bridge in PC motherboards?

9. Does ISA bus support Plug and Play? Justify your answer.

10. What is the width of address and data buses in PCI bus?

PART B — (5 × 16 = 80 marks)

11. (a) (i) Write detailed notes on superscalar architecture of modern processors.   (8)

    (ii) How is over clocking done in PCs? What are the merits and demerits of doing so?   (8)

Or

(b) (i) Distinguish between physical and virtual memory organizations. (8)

(ii) Explain the cache memory organizations and the commonly used memory management techniques. (8)

12. (a) (i) Explain the interface signals between keyboard and system motherboard. Comment on the mode of communication between these two. (8)

(ii) Define raster. Explain the process of producing a static screen on a CRT. (8)

Or

(b) (i) Describe the working of a laser jet printer. (8)

(ii) Explain the Centronics parallel printer interface standard. (8)

13. (a) (i) Describe the internal organization of hard disks and explain the principles behind reading and writing of data. (8)

(ii) Compare and contrast between magnetic storage devices and optical storage mediums. (8)

Or

(b) (i) Explain the signals of IDE standard interface for hard disks/CD drives. (8)

(ii) What is RAID? Compare this with magnetic tapes. (8)

14. (a) (i) Compare and contrast between the services provided by the Operating Systems and the BIOS for application programs. (8)

(ii) Describe the functions of north and south bridge chipsets in PC motherboards. (8)

Or

(b) (i) With a neat sketch of block diagram, explain the organization of a Personal Computer. (8)

(ii) List and explain the services provided by the network computers. Give a short list of requirements to network computers. (8)

15. (a) (i) With a neat sketch, explain the signals associated with a 16-bit ISA bus. (8)

(ii) Write detailed notes on RS232C interface standard. (8)

Or

(b) (i) Compare and contrast between the features of PCI and ISA bus standards. (8)

(ii) Write detailed notes on the capabilities of wireless interfaces in modern PC architectures. (8)