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Question Paper Code : 31144

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

Fifth Semester

Computer Science and Engineering

080230018 — PC HARDWARE AND TROUBLE SHOOTING

(Regulation 2008)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is the difference between primary and secondary memory devices?
2. List any four sources of interrupts in a PC system.
3. What is the mode of communication in keyboard and FDC interfaces? Serial or Parallel?
4. What is the difference between the storage techniques in HDD and CD-ROMs?
5. Where do the following softwares reside? BIOS and DOS.
6. List the various voltages levels connected to a motherboard from SMPS.
7. What is the use of CMOS RAM in PC motherboards?
8. What is the effect of a VIRUS program in an Operating System?
9. Name any two standard diagnostic programs that are widely used in troubleshooting.
10. Compare the effects of short circuit and open circuit bus faults.

PART B — (5 × 16 = 80 marks)

11. (a) (i) Enumerate and explain the basic components of a Personal Computer System. (8)
- (ii) Write detailed notes on instruction pipelining and its use in improving the systems performance. (8)

Or

- (b) (i) Compare and contrast between the characteristics and requirements of multitasking and multiprogramming. (8)
- (ii) Explain the principles of Cache Memory Management. (8)
- 12. (a) (i) Describe the working principle of CRT display monitors. (8)
- (ii) Explain the organization of data on a floppy disk surface. (8)

Or

- (b) (i) With a neat sketch, explain the principles of reading data from a CD-ROM. (8)
- (ii) Differentiate between the Hard-disk drive and Floppy Disk Drive with respect to their reading and writing principles. (8)
- 13. (a) (i) Enumerate and explain the various signals present in the ISA bus of PC motherboard. (8)
- (ii) Describe the memory and I/O mapping in the IBM PC architecture. (8)

Or

- (b) (i) Explain the DMA logic present in a PC motherboard. (8)
- (ii) Draw the signals between FDC and FDD with associated directions and the signals names. (8)
- 14. (a) (i) Explain the various system specifications parameters with a suitable example. (8)
- (ii) Describe the pre installation planning to set up a network of PCs for an organization. (8)

Or

- (b) (i) What is the need for preventive maintenance? List some of such measures to be applied. (8)
- (ii) Describe the various threats for the data stored in a computer and explain the counter measures. (8)
- 15. (a) (i) What are the tools required to locate and troubleshoot faults in a computer? (8)
- (ii) What are the symptoms for a dead system? Give a systematic approach to locate faults in such system. (8)

Or

- (b) (i) Bring out the features of PC diagnostic software. (8)
- (ii) Explain the common faults that could occur in HDD and CD-ROMs and suggest solutions to fix them up. (8)