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16172

3 Hours / 100 Marks

Seat No.

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- Instructions* – (1) All Questions are *Compulsory*.
(2) Illustrate your answers with neat sketches wherever necessary.
(3) Figures to the right indicate full marks.
(4) Assume suitable data, if necessary.
(5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. a) **Attempt any SIX of the following:** **12**
- (i) Write two features of PCI bus.
 - (ii) Write function of R/W heads in HDD.
 - (iii) Write any two advantages of LCD over CRT display.
 - (iv) Enlist four types of key switches of keyboard.
 - (v) Write two advantages of laser printer.
 - (vi) Write any two symptoms of power problem in PC.
 - (vii) Write two features of FIREWIRE.
 - (viii) Explain two signals of RS-232 interface.
- b) **Attempt any TWO of the following:** **8**
- (i) Write four functions of BIOS.
 - (ii) Compare Active and Passive matrix LCD (any four points).
 - (iii) Draw block diagram of video accelerator card and explain its blocks.

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2. Attempt any FOUR of the following:**16**

- a) State any four features of H67 or P67 chipset.
- b) Describe in brief following terms related to HDD:
 - (i) Track
 - (ii) Sector
 - (iii) Cylinder
 - (iv) Cluster
- c) Draw block diagram of CD-ROM and explain its blocks.
- d) Describe procedure of partitioning of HDD.
- e) Define following characteristics of CRT monitor:
 - (i) Dot pitch
 - (ii) Resolution
 - (iii) Aspect ratio
 - (iv) Horizontal scanning frequency
- f) Describe working of membrane keyswitch with diagram.

3. Attempt any FOUR of the following:**16**

- a) Draw North/South bridge architecture block diagram.
- b) List four disadvantages of CRT.
- c) List four features of USB.
- d) State any four beep codes with their meaning in troubleshooting.
- e) Give POST sequence of PC.
- f) Explain reballing of North bridge and South bridge.

- 4. Attempt any FOUR of the following:** **16**
- a) Draw block diagram of Flat-bed scanner and describe its blocks.
 - b) Draw block diagram of Dot matrix printer and explain its working.
 - c) Explain four power supply problems.
 - d) Draw block diagram of SMPS and explain its blocks.
 - e) State any four features of USB.
 - f) Draw centronics interface. Also list and write functions of signals from PC to printer.
- 5. Attempt any TWO of the following:** **16**
- a) Explain any eight motherboard selection criteria.
 - b) Explain extended and expanded memory.
 - c) Draw block diagram of internal MODEM and explain its blocks. Also state its two disadvantages.
- 6. Attempt any TWO of the following:** **16**
- a) Give eight specifications of bluray disc with typical values.
 - b) Draw waveform and calculate number of pulses for data pattern 10011100 by encoding it using FM, MFM and RLL recording techniques.
 - c) Draw block diagram of On-line and Off-line UPS and explain their working when main supply ON and OFF. Also state their two advantages.
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