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21314

3 Hours / 100 Marks

Seat No.

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- Instructions* – (1) All Questions are *Compulsory*.
- (2) Answer each next main Question on a new page.
- (3) Illustrate your answers with neat sketches wherever necessary.
- (4) Figures to the right indicate full marks.
- (5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. a) Attempt any **THREE** of the following: **12**
- i) State the meaning of following terms related to harddisk.
- 1) Track
 - 2) Sector
 - 3) Cylinder
 - 4) Cluster
- ii) List and explain the centronics signals from computer to printer (any four)
- iii) List out any four specifications of Dot-matrix printer.
- iv) Give the preventative maintenance of keyboard.

P.T.O.

- b) **Attempt any ONE of the following:** **6**
- i) Draw the block diagram of RS 232 communication system. Explain it with sequence of events with signals.
 - ii) Draw the block diagram and explain the working of on-line UPS.
- 2. Attempt any FOUR of the following:** **16**
- a) What is AGP? State any six features of AGP?
 - b) Draw neat labelled diagram of 915G Intel chipset.
 - c) Explain the following terms:
 - i) Zone bit recording.
 - ii) MBR.
 - d) Explain working of CD-ROM Drive.
 - e) Describe the following characteristics of CRT monitor:
 - i) Dot pitch (CRTs).
 - ii) Resolution.
 - iii) Video Bandwidth.
 - iv) Frame rate.
 - f) Draw and explain block diagram of video accelerator card.
- 3. Attempt any FOUR of the following:** **16**
- a) List and explain signals of keyboard connector. (D/N-5 and USB)
 - b) Sketch internal diagram of opto-mechanical mouse. Describe mouse operation.
 - c) Explain any four power supply characteristics.
 - d) List and explain power problems. (any four)
 - e) Describe any four USB features.

4. a) **Attempt any THREE of the following:** **12**
- i) List and explain any four functions of BIOS.
 - ii) How hard disk is formatted? What is partitioning of disk.
 - iii) Compare CD and DVD on the basis of:
 - 1) No. of sides.
 - 2) Number of layers.
 - 3) Capacity.
 - 4) Track pitch.
 - iv) Explain working principle of LCD monitor with neat diagram.
- b) **Attempt any ONE of the following:** **6**
- i) Sketch and label block diagram of SMPS. Describe the function of PWM of SMPS.
 - ii) What is preventive maintenance? Give its importance? Write periodic maintenance procedure.
5. **Attempt any FOUR of the following:** **16**
- a) Differentiate between internal modem and external modem. (Four points)
 - b) Draw FM and MFM waveforms for data pattern 10110010.
 - c) List out physical components of hard disk drive. Describe head actuator mechanism (any one)
 - d) Draw the functional block diagram of flat bed scanner.
 - e) State the diagnosis steps when PC user gives complaint that “Dead system, No Booting and No Display”.
 - f) What is SCSI? Which are different SCSI standards for SCSI? Compare SCSI cables on the basis of number of bits, number of pins, cable length and noise immunity.

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

- a) Explain passive matrix LCD display? Give its advantages.
 - b) Explain conventional memory with diagram.
 - c) Explain the following terms.
 - i) Electrostatic discharge.
 - ii) RFI protection.
 - d) Compare inkjet and laser printer any four points.
 - e) Define cache memory? Explain different levels of cache memory.
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