[223]

SEAT No.

SARDAR PATEL UNIVERSITY

M.Sc.(Electronics) III Semester Examination (CBCS) Saturday, 26thOctober, 2018, Time: 2.00 PM to 5.00 PM PS03CELE23 – Computer Hardware & Networking

TOTAL MARKS: 70

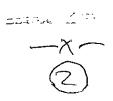
Note: 1. Answer of all the questions including multiple choice questions should be written in the provided answer book only.

2. Figure to the right indicates maximum marks for the question.

| Q.1 | Multiple choice questions: One mark each | [8] |
|------|--|--------|
| a. | The contains a CACHE and Main Memory Controller. | |
| 1 | 1. AGP Adapter 2. North Bridge 3. South Bridge 4. PCI Express | oto or |
| b. | When the CPU performs a read operation, it first checks to see if the di | ata Oi |
| | instruction it requests is in the | ļ |
| | 1.Hard disk 2. Floppy Disk 3. System Memory 4. CACHE A topology is designed with each node (file server, workstations) | a and |
| c. | | s, and |
| | peripherals) connected directly to a central network hub/switch. | |
| 1 | 1.Linear Bus 2. Star 3. Ring 4. None of above | |
| d. | IN PCI Express Bus, the bandwidth per lane in dual direction is | |
| | 1.5 Gbps 2. 20 Gbps 3. 40 Gbps 4. 80 Gbps | |
| e. | Network Router is located at layer of OSI reference model. | |
| f. | 1.Physical 2. Data-link 3. Network 4. Transport The utility simply sends out a short message to the specific | ed ID |
| I. | The utility simply sends out a short message to the specific address. Once received at its destination, the message is echoed back | |
| | · · | io mo |
| | sending computer. 1. IPConfig 2. ARP 3. Ping 4. Non of Above | |
| | The is a file system that enables an administrator to make s | shares |
| g. | that are stored on various servers on the network appear to users as the | |
| | that are stored on various servers on the network appear to users as a they are stored within a single share on a single server. | |
| | 1. FAT32 2. DFS 3. NTFS 4. CDFS | |
| h. | in Windows 2003 is referred to as a less-privileged pro- | cessor |
| 111. | mode because it does not have direct access to hardware. | |
| | 1. User Mode 2. Kernal Mode 3. Both User and Kernal Mode 4. N | lon of |
| | above. | |
| Q.2 | Short questions: Attempt any seven (2 Marks each) | [14] |
| | | |
| i. | What is the function of POST in BIOS? | |
| ii. | List drawback of Network Hub. | |
| iii. | Draw Straight through connection of STP/UTP cable with RJ-45 con | nector |
| | with necessary electrical signals. | |
| iv. | What is the function of Point-to Point Antenna in Wireless Network? | |
| v. | What is called Active directory? | |
| vi. | Draw the structure of IEEE 802.3 Ethernet Frame. | |
| vii | What is the function of UDP (User Datagram Protocol)? | |
| viii | Mention the name of Windows 2003 Server OS Family members. | |



| Q.3(a) | With the help of necessary diagram discuss North Bridge and South Bridge components of Computer Motherboard | [6] |
|-----------|--|-----|
| (b) · | Discuss various components of Hard-disk drive and the type of interface available in computers. | [6] |
| <u>OR</u> | | |
| (b) | Discuss functions of CACHE memory in Computer System. | [6] |
| Q.4(a) | What is called Topology? Discuss <u>any two</u> network topology with necessary diagrams. | [6] |
| (b) | Draw OSI Reference model and explain function of each layer to move data between computer systems. | [6] |
| | <u>OR</u> | |
| (b) | Discuss the various functions network adaptor/interface card (NIC) perform while sending and receiving data. | [6] |
| Q.5(a) | Discuss TCP/IP Protocol in terms of addressing, interoperability, naming and routing. | [6] |
| (b) | Distinguish Wired and Wireless network. Draw the structure of IEEE 802.11 Ethernet Frame and explain it. Also discuss various type of antenna utilized in Wireless network. | [6] |
| (b) | Discuss Classification of TCP/IP Addressing. Also discuss how data packet moves if three computers are connected in same segments (With necessary diagram). | [6] |
| Q.6(a) | Discuss Symmetric Multiprocessing, Multithreading and Preempting Multitasking in Windows 2003 Server OS. | [6] |
| (b) | With necessary diagrams, discuss Workgroup and Domain concept in Server Operating System. OR | [6] |
| (b) | Discuss Distributed File Systems, Disk Quota and Clustering Services in Windows 2003 OS. | [6] |



- 4