

[223]

SEAT No. \_\_\_\_\_

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80

**SARDAR PATEL UNIVERSITY**  
**M.Sc.(Electronics) III Semester Examination (CBCS)**  
**Saturday, 26<sup>th</sup> October, 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	<b>Multiple choice questions : One mark each</b>	[8]
a.	The _____ contains a CACHE and Main Memory Controller. 1. AGP Adapter 2. North Bridge 3. South Bridge 4. PCI Express	
b.	When the CPU performs a read operation, it first checks to see if the data or instruction it requests is in the _____. 1. Hard disk 2. Floppy Disk 3. System Memory 4. CACHE	
c.	A _____ topology is designed with each node (file server, workstations, and peripherals) connected directly to a central network hub/switch. 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. 1. Physical 2. Data-link 3. Network 4. Transport	
f.	The _____ utility simply sends out a short message to the specified IP address. Once received at its destination, the message is echoed back to the sending computer. 1. IPConfig 2. ARP 3. Ping 4. Non of Above	
g.	The _____ is a file system that enables an administrator to make shares that are stored on various servers on the network appear to users as though 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 processor mode because it does not have direct access to hardware. 1. User Mode 2. Kernel Mode 3. Both User and Kernel Mode 4. Non of above.	
Q.2	<b>Short questions : Attempt any seven (2 Marks each)</b>	[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 connector 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.	

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(PTO)

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. <b>OR</b>	[6]
(b)	Discuss functions of CACHE memory in Computer System .	[6]
Q.4(a)	What is called Topology? Discuss <b>any two</b> network topology with necessary diagrams.	[6]
(b)	Draw OSI Reference model and explain function of each layer to move data between computer systems. <b>OR</b>	[6]
(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 <b>IEEE 802.11</b> Ethernet Frame and explain it. Also discuss various type of antenna utilized in Wireless network. <b>OR</b>	[6]
(b)	Discuss Classification of TCP/IP Addressing. Also discuss how data packet moves if three computers are connected in <b>same segments</b> (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. <b>OR</b>	[6]
(b)	Discuss Distributed File Systems, Disk Quota and Clustering Services in Windows 2003 OS.	[6]

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