Victoria University of Bangladesh

Department of Computer Science & Engineering

Mid-term Examination

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Course Title: Computer Network.

Answer to the question no: 1 (a)

Network: A network is a group of two or more computers or others electronics devices that are interconnected for the purpose of exchanging data and sharing resources.

The network devices:

Hub.
Switch
Router.
Bridge.
Gateway.
Modem.
Access point.

Answer to the question no: 1(b)

Peer-to-Peer (P2P) Network: A peer-to-peer (P2P) network is a communications model in which each computing device on the network can function as either a server or a client.

In a (P2P) network, computing devices use software to connect with each other over a Private network, such as a home local area network (LAN) or a public network, such as the internet. This direct connection allows each device to share files without requiring the assistance of a remote server. The device that supplies the file plays the role of the server and the device that requests the file plays the role of the client. The roles simply reverse when necessary.

Answer to the question no: 3(c)

#Basic difference between "coaxial cable" and "Fiber Optics":—

Optical Fiber	Coaxial Cable
(1) Optical fiber transmits data/signals in the form of light.	(1) The coaxial cable transmits data/signals in the form of electrical signals.
(2) Optical fiber is made using plastic and glass.	(2) Coaxial cable is prepared using plastic and copper wires.
(3) Optical fiber is highly efficient and signal loss is negligible.	(3) Coaxial cable is less efficient.
(4) Optical fiber is costly and its installation is quite expensive.	(5) Coaxiable cable is cheap and its installation is less expensive.
(5) Optical fiber is quite light in weight.	(6) Coaxial cable is very heavy as compared to an optical fiber.
(6) Optical fiber bandwith is less than coaxial cable.	(6) Coaxial cable provides high bandwith.

Answer to the question no: 3(b)

TCP/IP Protocol:—

The TCP/IP model is an open standard networking model similar to the OSI model. The TCP/IP Protocol is the protocol suite for internet use. TCP stands for Transmission control protocol and IP stands for Internet Protocol. TCP is used for connection-oriented reliable transmission services, while IP used to assign addresses to each host on the network. Like the OSI model, the TCP/IP model is devided into several layers. The TCP/IP model consists of 4 layers.

Answer to the question no: 4(a)

#Network: A network consists of two or more computers that are linked in order to share resources exchange files, or allow eletronic communications. The computers on a network may be linked through, cables telephone lines, radio waves, satellites, or infrared light beams.

#Basic Components of Network:

Routers.
Bridges
Hubs.
Repeaters.
Gateways
Switchs.

START Receive address RA from CPU i.e block containing RA to access main memory for block containing RA in cache Yes fetch RA Word Allocate cache and deliver line for main deliver RA word memory block to CPU into cache line DONE.

Answer to the question no: 2 (a)

Memory address register:

The memory address register is used to handle the address transferred to the memory unit, and this can be handled either using a bus approach (Which we have used in this architecture) or direct input declaration for the memory. In this case we will use a bus setting for the memory, therefore, the MAR becomes a simple register which sets its output to the value of the required address form the IR or PC when its control signal mar_load is high. For Example, if the address requires 8 bits than the size of the register needs to be 8bits wide.

The "MAR" therefore, has clock and reset signals, and also the same interface to the internal processor bus (mar_bus) defined as a standard logic of direction in out, however only the first 8 bits are used.