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Section: A

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Ans1):

Multimedia:

Multimedia is a form of communication that combines different content forms such as text, audio, images, animations, or video into a single presentation, in contrast to traditional mass media, such as printed material or audio recordings.

Common Media:

Common media for storage, access, and transmission of information.

- Text
- Graphics
- Animation
- Audio
- Video

- **Text.** This refers to written documents, the words seen in handouts, power point presentations, Web sites, and reports. One of the simplest types of media, text is also used to communicate the most information and appears in conjunction with visual aids.

- **Graphics:** Computer graphics deal with generation, representation and manipulation, and display of pictures with a computer.

- **Audio.** This is the sounds that often accompany visual presentations. Sound by itself can be used in radio broadcasts or online audio files, but in multimedia presentations audio is used as a complementary media. Sound effects can help make a presentation more memorable, while hearing the main points of information spoken can help listeners focus.
- **Animation.** Animations are graphics that move, accompanied by audio effects.
- **Video.** Video media is used to spread interviews, create movies, and post personal updates to communicate business messages. Currently, businesses can use videos online or create CDs to spread for instructional use within their company.

Ans2):

Software:

     Refers to a collection of programs.

Software Package:

     Is a group of programs that solve a specific problem or perform a specific type of job.

Relationship b/w software and hardware:

Both hardware and software are necessary for a computer to do a useful on

Same hardware can be loaded with different software to make a computer system perform different types of jobs.

Excepts for upgrades, hardware is normally a onetime expense, whereas software is a continuing expense.

Types of Software:

There are two types software which are :

System software is designed to control the operation and extend the processing capability of a computer system.

Application software is designed to solve a specific problem or to do a specific task.

Logical system architecture:

Hardware

Physical devices of the computer system

System Software

Software that constitute the operating and programming environment of the computer system

Application software

Software that do a specific task or solve a specific problem

Users

Normally interact with the system via the user interface provided by the application software

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Ans3) a: Modulation Techniques:

- **Amplitude Modulation(AM):**
  Two binary values (0 and 1) of digital data are represented by two different amplitudes of carrier signal keeping frequency and phase constant.
- **Frequency Modulation (FM):**
  Two binary values of digital data are represented by two different frequencies while amplitude and phase are kept constant.
- **Phase Modulation(PM):**
  Two binary values of digital data are represented by shift in phase of carrier signal.

B): Multiplexing:

In telecommunications and computer networks, multiplexing is a method by which multiple analog or digital signals are combined into one signal over a shared medium. The aim is to share a scarce resource. For example, in telecommunications, several telephone calls may be carried using one wire.

Demultiplexing:

Demultiplexing refers to the step in processing where **you'd** use the barcode information in order to know which sequences came from which samples after they had all be sequenced together.

C): Switching Techniques:

- **Message switching:**
  Sender appends receiver's destination address to the message and it is transmitted from source to destination node. Either by store-and-forward
  method or broadcast method.
- **Packet switching:**

Message is split up into fixed size source to destination node. All the packets of a message are re-assembled into original message at the destination node.

D): Optical Fiber Communication System:

Optical Fiber **Communication** is the method of communication in which signal is transmitted in the form of light and optical fiber is used as a medium of transmitting those light signal from one place to another. The signal transmitted in optical fiber is converted from the electrical signal into light and at the receiving end; it is converted back into the electrical signal from the light. The data sent can be in the form of audio, video or telemetry data that is to be sent over long distances or over Local Area Networks. Optical fiber communication having well results in long-distance data transfer at high speed, it has been used as an application for various communication purposes.

Ans4):

The OSI Model:

- The open system interconnection (OSI) model is a framework for defining standards for linking heterogeneous computer in a packet switched network.
- Standardized OSI protocol make it possible for any two heterogeneous computer systems, located anywhere in the world, to easily communicate with each other.

Layers interfaces, and protocols in the OSI model:

Node 1   **Node2**

Process (A)	Process (B)

(Layer 7(Application))   Application protocol (Layer 7 (application))
(Layer 6(Presentation)**)** Presentation protocol   (Layer 6 (presentation))
(Layer 5 (Session)**)**   Session protocol (Layer 5 (Session))
(Layer 4 (Transport)**)**   Transport protocol (Layer $ (Transport))
(Layer 3 (Network)**)**   Network protocol (Layer 3 (Network))
(Layer 2 (Data-link)**)**   Data-link protocol (Layer 2 (Data-link))
(Layer 1 (Physical))   Physical protocol (Layer 1 (Physical))
<   Network >

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The End

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