1. Basic of Computer Graphics.

1) Define:
   i] Pixel
   ii] Frame buffer

→

i] → Pixel is the smallest controllable element of a picture represented on Screen.

ii] → A frame buffer is a portion of RAM containing a bitmap that drives a video display.

2] Give Characteristics of display Adapter.

→

i] Maximum Resolution:
   It is total number of pixels that can be displayed without overlapping screen. e.g : 640×480, 1280×1024.

ii] Color depth:
   Color depth is defined by number of bits used to represent that Color. System using n bit per pixel can support Maximum 2^n different color.

iii] Refresh Rate:
   Refresh rate defines how many number of time screen can be painted in 1 second. Normal refresh rate is 60 hz.

iv] TV Tuner:

A Card with build-in TV Tuner can turn PC into TV.

v] Acclerator:

A graphics Acclerator is a special type of video adapter that contain its own processor to boost performance.

3] Explain Raster Scan.

→

i] Raster Scan is the reetangular pattern of image capture and reconstruction in television.

ii] This is used for Raster graphics, the pattern of image storage and transmition used in most computer bitmap image System.

4] Differentiate between random Scan and raster scan.

→

Basis	Raster	Random
Electron Beam	Swept across the Screen and handle one row at a time.	Directed to the portion of screen where picture is rendered.

| Resolution | Poor | Good |

| Picture Rendering | Using Pixels | with help of mathematical function |

| Realistic Display | Effective | Unable to display. |

5] Compare Bitmap Graphics and Vector graphics.

→

Bitmap	Vector
A Type of graphics that represents a grid of pixels, viewable via a monitor.	A type of graphics defined in terms of 2D points that are connected by line
Uses Pixel	Uses basic geometric Shapes
File Size is more	File size is less
Possible to edit images to some extent	Possible to edit image without reducing quality.
Suitable for photographs	Suitable for logos, icons, Clipart.

6] Define Aspeet Ratio. Give one example of Aspeet Ratio.

→

Aspeel Ratio:
It is the ratio of the width to the height of an image or screen.
ex: 16:9,
here 16 is x units wide
9 is y units high.

7] List any four applications of Computer Graphics.

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1] Computer Art.
2] Computer Aided drawing
3] Presentation Graphics
4] Visualisation.

8] Define Virtual Reality. List any two advantages of Virtual Reality.

→

Virtual Reality :

It is the Computer-generated Simulation of a 3D image or environment that can be interacted with in a seemingly real or physical way. by a person.

Advantages :

1] It increases user's Knowledge and information.
2] It is Innovative and enjoyable.

9] Describe the vector scan display techniques with neat diagram.

→

i] In vector Scan, the electron beam is directed only to the part of the screen where the picture is to be drawn rather than scanning from left to right and top to bottom as in Raster Scan

ii] Also called as Random-Scan.

iii] It is also called vector display, stroke-writing display, or calligraphic display
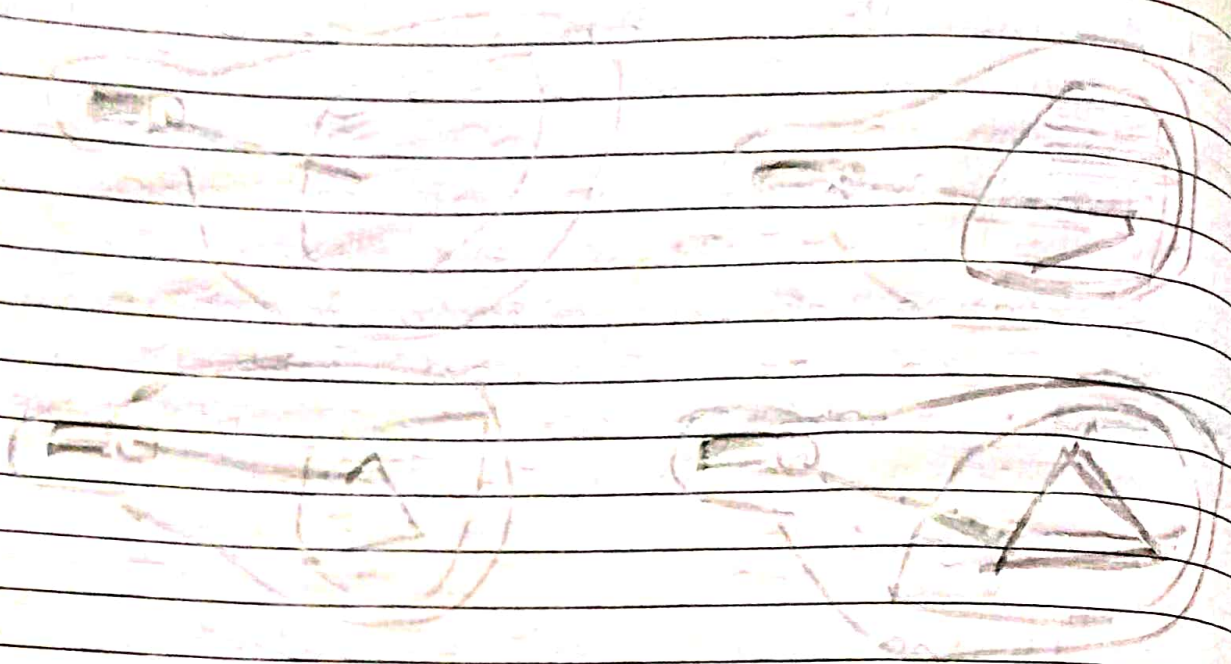
10] Difference between Virtual and Augmented Reality.

→

Virtual Reality	Augmented Reality
1] Virtual Reality creates an entire Virtual World	It is mix of Virtual and Real World
2] User are transported to new world	User remains in real world.
3] It incorportes heavy graphics to create a Virtual environment	It adds relevant info. to real world view.
4] User cannot physically move in environment	User can physically move in environment

17] Define display devices and explain types of display devices in detail

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Display devices:
        The display device is an output device used to represent the information in the form of images. They are mostly called a video monitor.

i] Cathode - Ray Tube (CRT)
ii] Liquid Crystal display (LCD)
iii] Light Emitting Diode (LED)
iv] Plasma Display
v] 3D Display.

i] Cathode - Ray Tube (CRT):
                It is technology which is used in tradition Computer monitor and telivision.

Cathode ray tube is a particular type of Vacuum tube that display Image when an electron beam collides on the radient surface.

ii] Liquid Crystal Display (LCD):

1] The LCD depends upon the light modul properties of liquid crystal.

2] It generally works on flat panel display technology. LCD consumes less power than LED.

3] The LCD screen uses the liquid crystal to term on or off.

iii] Light Emitting Diode (LED):

1] LED is a device which emits when curre passes through it.

2] The size of LED is small, so we can easily make any display unit by arranging a large number of LED's

3] LED consumer more power compared to LCD.

iv] Plasma display:

1] It is a type of flat panel display which uses ting plasma cells.

2] It is also known the Gas-Discharge displa

v] 3D display:

1] It is also called Stereoscope display technology. The technology is capable of bringing depth perception to viewer.

2] It is used for 3D gaming & 3D TV's.

12] List various graphics Standard.

1] GKS - Graphical Kernal System
2] PHIGS
3] CORE - ACM - SIGGRAPH
4] GKS - 3D
5] IGES
6] DxF
7] STEP
8] DMIS
9] VDI
10] VDM

15] List attribute of line segment and text.

Basic attribute of line segment are:
i] Type
ii] Width
iii] Color

There are many text options that can be available to graphic programmer.

ex:
1] New York
2] Courier
3] Time Roman
4] London, etc.