

Duration: 2½ Hours

- N.B.
1. All questions are compulsory.
 2. Figures to the right indicate marks.
 3. Illustrations, in-depth answers and diagram will be appreciated.
 4. Mixing of sub-question is not allowed.

- Q. 1 Attempt ALL questions** 15
- a) Select the correct objective and rewrite the sentence in answer book.** 5
- 1 Identify the technique used to avoid flickering in animation

a Blending	b Swap chain
c z-Buffering	d None of the Mentioned
 - 2 Which one of the following is not a valid geometric transformation

a Scaling	b Revolution	c Rotation	d Reflection
-----------	--------------	------------	--------------
 - 3 The process of computing pixel color from projected 3D triangle is known as

a Blending	b Shading	c Rasterization	d positioning
------------	-----------	-----------------	---------------
 - 4 Which one of the following is not a directx11 library

a d3dll.lib	b dxerror.lib
c d3dx11d.lib	d dxgi.lib
 - 5 The basic building block in 3D object model is

a Rectangle	b triangle
c polygon	d cube
- b) Fill in the blanks :** 5
- [Controller, Swapping, Double, Presenting, Animation, Stencil, essellation, Translation, Rigidbody]
- 1 Interchanging the roles of back buffer and front buffer is called -----
 - 2 A 8 bit -----Buffer is always attached to depth buffer
 - 3 Subdividing the triangles of a mesh to add new triangles is called -----
 - 4 -----allow game objects to act under the control of Physics Engine.
 - 5 n Manipulating images and objects in dynamic medium as moving images is called-----
- c) Answer the following in one or two lines.** 5
- 1 Define Clipping
 - 2 What is the task of input assembler stage in rendering pipeline
 - 3 What are UI in Unity
 - 4 What is back buffer?
 - 5 List any four applications of augmented reality.
- Q. 2 Attempt the following. (Any 3) (Each of 5 marks)** 15
- a Write a difference between GPU and CPU.
 - b Explain Cartesian Graph System
 - c What is vector ? how to find out magnitude of Vector ?
 - d Write a Note on transformation.
 - e What are the Different types of Polygonal Shapes
 - f How to calculate Dot Product in Back-Face Detection

~ Page 2 ~

- Q. 3 Attempt the following. (Any 3) (Each of 5 marks) 15**
- a Write a Note on “COM”
 - b Explain Textures and Data Resource Formats in DirectX 11
 - c What is Depth Buffering ? Explain in Detail
 - d Explain The Swap Chain and Page Flipping Mechanism of DirectX
 - e Write a Note no 1. Sine Rule 2. Cosine Rule
 - f What is Interpolation ? What are the types of Interpolation
- Q. 4 Attempt the following. (Any 3) (Each of 5 marks) 15**
- a Explain the following Terms 1. XR 2.AR 3.MR 4.VR
 - b What are the Advantages and Disadvantages of AUGMENTED REALITY
 - c What is Depth Mapper ? What are its Types ? Explain in Detail
 - d What is UI Canvas ? Explain in Detail
 - e Explain Different Divided Sections of Unity Window
 - f How to Create and Modify Own Spite in Unity ?
- Q. 5 Attempt the following. (Any 3) (Each of 5 marks) 15**
- a List and Explain Types and Examples of GPU
 - b Differentiate 2D Transformation vs 3D Transformation
 - c Explain the concept “ Intersection of a line and circle”
 - d Write a Note on Geometry.
 - e Explain the concept of Multiplayer and Networking in Unity
 - f What options are available during Publishing the project ? Explain with its Purposes