

Paper / Subject Code: 82907 / Game Programming

Duration 2^{1/2} Hours

Marks:75

N.B 1) All questions are compulsory

2) Figures to the right indicate marks

3) Mix-up of questions not allowed

Q1 a Choose the correct answer from the given options

5

1 Identify the technique used to avoid flickering in animation

a)Blending b) Swap chain c) z-Buffering d) None

2 Which one of the following is not a directx11 library

a)d3dll.lib b) d3dx11d.lib c) dxerror.lib d) dxgi.lib

3 Light bulb is a typical example of

a) Point light b) Parallel light c) Spot light d) None of the above

4 Which is the color that controls colour transparency

a)Green b)Alpha c)Blue d)Red

5 Using right hand rule ,the angle of rotation about the x axis is called

a)Roll b)yaw c) pitch d) None

Q1 b Answer in one or two sentences

5

1 Define 2D reflection

2 What is the task of input assembler stage in rendering pipeline

3 Define Clipping

4 Centre of gravity of a triangle

5 What are colliders in Unity

Q1 c Fill in the blanks taking value from the pool
5

(Blending, Network manager, Gravity, Start, AR, VR)

1 The _____ method will be called if a GameObject is active

2 All rigid bodies are associated with _____ feature

3 _____ is a technique used to identify pixels of an object in front of another

4 Pokemon Go is a typical example of _____ experience

5 The features of Multi player game is managed by _____

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Q2 Answer any Three from the following
15

1 Explain in detail the different 2D transformations

2 Describe the use of Lambert's law in lighting calculation

3 Write a short note on direction cosines

4 Define the term swap chain and explain how it is implemented

5 Describe the stages in rendering pipeline

6 Define a Shader and explain any two GPU shaders

Q3 Answer any Three from the following
15

- 1 Describe the process of interpolating two vectors
- 2 Explain cubic interpolation
- 3 Obtain the intersection points of two straight lines and two line segments
- 4 Describe the use of hessian normal form
- 5 Obtain the point of intersection of a circle with straight line
- 6 Write a short note on uniform B-Spline

Q4 Answer any Three from the following
15

- 1 What are smart Glasses? State their application
- 2 Define HMD and explain any two such devices
- 3 Describe the management of multiple players in game development
- 4 Define AR and give its applications
- 5 Explain Prefab in Unity
- 6 Discuss start() and update() methods in unity C# script

Q5 Answer any Three from the following
15

- 1 Describe the features of GPU
- 2 Explain the multisampling antialiasing technique
- 3 Write a short note on interpolating quaternions
- 4 Explain the terms Hierarchy, asset, and scene in relation to unity
- 5 Define Components and explain how they are used with game

objects

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