



UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER II
SESSION 2022/2023**

COURSE NAME : 3D RENDERING AND COMPOSITION
COURSE CODE : DAG 22303
PROGRAMME CODE : DAG
EXAMINATION DATE : JULY / AUGUST 2023
DURATION : 2 HOURS 30 MINUTES
INSTRUCTIONS : 1. ANSWER ALL QUESTIONS
2. THIS FINAL EXAMINATION IS CONDUCTED VIA **CLOSED BOOK**.
3. STUDENTS ARE **PROHIBITED** TO CONSULT THEIR OWN MATERIAL OR ANY EXTERNAL RESOURCES DURING THE EXAMINATION CONDUCTED VIA CLOSED BOOK

THIS QUESTION PAPER CONSISTS OF **THREE (3)** PAGES

TERBUKA

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PART A

- Q1** (a) Briefly explain 3D rendering and composition in animation. (4 marks)
- (b) Explain the following 3D rendering platform and module: (6 marks)
- (c) (i) Briefly explain the important of *Eevee* 3D rendering in animation. (6 marks)
- (ii) The physically-based path tracer for production rendering in Blender is called *Cycles* in 3D animation. Explain what is the **TWO (2)** major guidelines for *Cycles* in 3D animation rendering. (4 marks)
- Q2** (a) Post-production is the final stage in the process of creating an animation. List **THREE (3)** elements involved in post-production process.: (3 marks)
- (b) Explain each of **THREE (3)** elements in post-production process (12 marks)
- (c) List **FIVE (5)** delivery method and file format of 3D rendering and composition for the end-user. (5 marks)

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Q3 (a) Rendering techniques can be divided into two broad categories according to the length of time required to render a single image. Briefly explain **TWO (2)** 3D rendering method in animation.

(12 marks)

(b) 3D rendering can be accomplished using a variety of computational techniques, each of which has pros and cons. Explain in detail what is 3D rendering techniques in 3D rendering animation.

(18 marks)

Q4 Ray tracing-based rendering techniques, such as ray casting, recursive ray tracing, distribution ray tracing, photon mapping, and route tracing, are typically slower and more accurate than scanline rendering approaches on a spectrum of computing cost and visual fidelity.

(a) Sketch the ray tracing-based rendering techniques that illustrate an accurate method.

(10 marks)

PART B

Q5 The process of producing a 3D animation with computer software is referred to as 3D rendering. However, the 3D rendering process seem a difficult process to begin with and publisher and 3D artist renderer may communicate back and forth to complete this phase and finalizing the product for end-user. Explain in detail **FIVE (5)** important steps in 3D animation rendering process.

(20 marks)

- END OF QUESTIONS -