Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 52843

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2019.

Seventh Semester

Computer Science and Engineering

CS 6006 — GAME PROGRAMMING

(Regulation 2013)

Time : Three hours | Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. State the requirements for image texturing in gaming.
2. Distinguish between culling and clipping in game programming.
3. Game engines are event driven. Justify the statement with an example.
4. Define profiling. Write a profiler to measure the performance of a simple game.
5. What is game logic? List the data structures used by game logic.
6. Define cooperative multitasking. Why is it called so?
7. Write a python code snippet to draw a triangle.
8. State reasons for the development of numerous game engines to design 2D and 3D games.
9. Specify a simple tile based game.
10. What are puzzle games? Give examples.

PART B — (5 × 13 = 65 marks)

11. (a) Describe the phases in the 3D rendering pipeline used for the production of games. (13)

Or

(b) (i) What is character animation? Explain with an example. (6)

(ii) Explain the fundamentals of physics employed in designing games. (7)

12. (a) Sketch the architecture of a game engine and explain the functions of its components in detail. (13)

Or

(b) What is meant by collision in a game? Describe the two forms of collision detection. (13)

13. (a) With a neat sketch explain the components of application layer present in the game architecture. (13)

Or

(b) Describe the three basic parts of a game event system with their class definitions. (13)

14. (a) (i) Explain the design philosophy of DX studio and summarize its limitations. (7)

(ii) Describe the use of Flash in animated games. (6)

Or

(b) Elaborate on the utilities available in Java supporting game programming. (13)

15. (a) (i) Explain isometric video games in detail. (7)

(ii) Write the issues to be addressed in the development of 3D games. (6)

Or

(b) Explain the types of Multi-Player Game models with examples. (13)

PART C — (1 × 15 = 15 marks)

16. (a) (i) Identify and summarize the quaternion operations to rotate a vertical object by some angle. (8)

(ii) Write a python program to draw the shape of an ellipse and rectangle (7)

Or

(b) (i) Demonstrate the steps to draw a polygon and a circle using Unity. (7)

(ii) Describe the procedure to develop a simple 3D interactive game using DirectX. (8)