

N.B. : (1) Question No. 1 is compulsory.

(2) Attempt any four questions out of remaining six questions.

1. (a) What are the various phases in game development ? State the process, people involved and the out-come of each phase. 10
(b) What are the two methods of drawing text on screen and what are its advantages and disadvantages ? 10
2. (a) What are the research goals and explain Blue-Sky Research. 10
(b) Explain Tokenization with Pong game. 10
3. (a) What are the three stages of running a game ? Explain in detail. 10
(b) What are the different methods of compression in use ? 10
4. (a) Work short note on 3D graphics pipeline. 10
(b) Write in brief, how Direct-X can be used to develop games. 10
5. (a) What are smart pointers ? Write a short note on the different ways in which they can be implemented. 10
(b) Describe the game build process. 10
6. (a) Define Middleware ? Describe the popular 3D engines currently in use. 10
(b) What are the core groups in software factory and their interactions ? 10
7. Write short note on (any four) :- 20
 - (a) Lua
 - (b) Hard and Softs Architectures
 - (c) Scene Nodes
 - (d) Open GL
 - (e) Python
 - (f) Audio formats.