C–8773

Sub. Code
83711

M.Sc. DEGREE EXAMINATION, APRIL 2023

First Semester

Game Technology

GAME DEVELOPMENT PROCESS

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define game architecture.
2. What is the purpose of interactive design?
3. How does gaming help with social skills?
4. What is Alea in category of play?
5. What is transmedia approach?
6. Show the relationship between art and technology.
7. Define game modelling.
8. Mention the importance of game design document.
9. Classify gamers.
10. Extend the functions of code in game architecture.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Differentiate between game mechanics and game dynamics.

Or

(b) Explain tension maps in game design.

12. (a) Describe about Linear plot in game design.

Or

(b) Write notes on dramatic elements of game.

13. (a) What is space while developing a game? Explain.

Or

(b) What are the factors to be consider while designing a game level?

14. (a) What are attributes in a game?

Or

(b) Outline the importance of aesthetic value.

15. (a) Write notes on ergodic.

Or

(b) Write notes on ethical instances.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Summarize about various game play design with suitable example.

Or

(b) Explain the process of creating game design document with suitable example.

17. (a) Extend the history of gaming and its development process.

Or

(b) Why game balancing is crucial in game development? Explain about level design and game balancing.

18. (a) Explain the tools used for Game level design with suitable example.

Or

(b) Write notes on :

(i) Taxonomy of players

(ii) Structuring a game.

———————

C–8774	Sub. Code 83712

M.Sc. DEGREE EXAMINATION, APRIL 2023

First Semester

Game Technology

GAME DESIGN CHALLENGES

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Name any two examples of an avatar.

2. What is Game Design? What are the different types of Game Design?

3. What makes a good game design?

4. What are the different ways for pooling Game Ideas?

5. Define story arcs.

6. What is magic circle in gaming terms?

7. Define griefing.

8. What is 3-act Story?

9. Write short notes on alpha stage of game testing.

10. What is Synchronous real-time games?

Part B (5 × 5 = 25)

Answer **all** questions

11. (a) Define and explain game design atoms.

Or

(b) What is Game Mechanics? Explain the common classes of mechanics.

12. (a) Why do we need decision? Explain its types.

Or

(b) Briefly explain about randomness and different implementing.

13. (a) What is IP? Explain its types.

Or

(b) What is Sequel in Games? Briefly explain its types

14. (a) Give a note on future of social networks and games.

Or

(b) Explain the consideration for multiplayer, multipurpose and multiplatform games.

15. (a) Define serious games. Explain its types with examples.

Or

(b) Explain the difference between Serious and Casual games with examples.

Part C

$(3 \times 10 = 30)$

Answer **all** questions.

16. (a) Discuss the role, skill and elements of chance with suitable examples.

Or

(b) What is Puzzle Designing? How to design a new kind of puzzle in your game? Explain different types of puzzles.

17. (a) Compare and contrast the concepts of target market, mass market and focus group.

Or

(b) What is Intellectual Property in Games? Explain its classifications in detail.

18. (a) What is UI? Discuss the process of UI designing with suitable examples.

Or

(b) What is User Interface? Explain the process of UI Designing with suitable example.

———————

C–8775	Sub. Code 83713

M.Sc. DEGREE EXAMINATION, APRIL 2023

First Semester

Game Technology

VISUALIZATION

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What are perspective views?

2. Define aerial perspective.

3. What are the basics of figure drawing?

4. Why balancing of figure is important in drawing?

5. What do you understand by visual composition?

6. Define typography.

7. Highlight the importance of texture.

8. Define scale.

9. Write short notes on concept art.

10. What so you mean by silhouettes?

Part B $(5 \times 5 = 25)$

Answer **all** questions

11. (a) Explain different types of shadows with the help of examples.

Or

(b) What is good typography? Explain.

12. (a) Show the basic light setup for rendering a sphere in three dimensions.

Or

(b) What is color blending?

13. (a) Design a character and demonstrate the effect of foreshortening.

Or

(b) Write a short note on dynamic poses

14. (a) Write a short note on basic illumination, RGB and CMYK color models with the help of diagram.

Or

(b) Explain color psychology.

15. (a) What are the characteristics of a good design?

Or

(b) What is live drawing? How is it important for an artist?

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Explain

(i) The importance of typography in game.

(ii) What are the principles of typography?

Or

(b) Explain in detail on the different types of perspectives. Explain one point perspective with suitable illustrations.

17. (a) Explain

(i) The different eye levels in perspectives.

(ii) One point perspective with examples.

Or

(b) Explain in detail on the principles of design.

18. (a) What are the different types of lettering? Explain briefly.

Or

(b) Explain in detail the importance of textures in drawing with suitable illustrations.

———————

C–8776	Sub. Code 83714

M.Sc. DEGREE EXAMINATION, APRIL 2023.

First Semester

Game Technology

PROGRAMMING FOR GAMES

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A $(10 \times 2 = 20)$

Answer **all** questions.

1. What are the functions of a computer system?

2. What are the different types of computer based on processing capabilities?

3. Call by value vs. call by reference. Explain.

4. What are manipulators?

5. What is static binding or early binding?

6. List out the operators that cannot be overloaded.

7. Differentiate tellp ( ) and tellg ( ).

8. Differentiate seekp ( ) and seekg ( ).

9. What is vector in C++?

10. Explain iterator in C++?

Part B $(5 \times 5 = 25)$

Answer **all** questions

11. (a) Explain the basic anatomy of the computer system.

Or

(b) What are the different units of computer? Explain in detail.

12. (a) Differentiate array vs list.

Or

(b) Explain structures with example

13. (a) Define a virtual function. Explain the need of a virtual function with an example.

Or

(b) With an example, explain encapsulation.

14. (a) Explain namespace with an example.

Or

(b) How to write a file using C++ with example?

15. (a) How to generate a random number within limits (say 30 -50) with example.

Or

(b) Explain container adaptors in stl C++.

Part C

$(3 \times 10 = 30)$

Answer **all** questions.

16. (a) Write a program to find the factorial of a number using functions.

Or

(b) Explain shallow copy constructor with example

17. (a) Explain abstract class with example.

Or

(b) Explain operator increment (pre-decrement and post-decrement) overloading with an example

18. (a) List and explain five member functions from stack and queue in STL.

Or

(b) Explain the types of operators with suitable example.

———————

C–8777	Sub. Code 83721

M.Sc. DEGREE EXAMINATION, APRIL 2023

Second Semester

Game Technology

2D GAME ART

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define graphics.

2. What is called visual identity?

3. Mention the purpose of crop tool.

4. What is the use of a search bar in photoshop?

5. Define hue.

6. What is the use of guides in photoshop?

7. Write note on story writing.

8. Explain scene graph.

9. What is pixel art?

10. Define Media Repository.

Part B (5 × 5 = 25)

Answer **all** questions

11. (a) Mention the importance of graphics.

Or

(b) What are the methods of graphic design?

12. (a) How to manage layers in photoshop?

Or

(b) Write about panels and menus in photoshop.

13. (a) How to customise the workspace in vector graphics?

Or

(b) How Photoshop artistic filters work, with examples of our favorites?

14. (a) Write note on Matte painting.

Or

(b) Write about graphic novel designing

15. (a) Highlight the features of animation.

Or

(b) What are the differences between 2D commercial and free games asset markets?

Part C

$(3 \times 10 = 30)$

Answer **all** questions.

16. (a) Explain in detail about digital art and design.

Or

(b) List out the advantages and disadvantages of raster graphic and explain.

17. (a) Explain various types of selection tools used in photoshop with suitable example.

Or

(b) Write an essay on Photoshop smart filters, how to apply, edit, hide, reorder, duplicate, delete, mask, invert and disable.

18. (a) Distinguish between vector and raster graphics with suitable example.

Or

(b) What are the principles to be followed to create a puppet in character animator?

———————

C–8778	Sub. Code 83722

M.Sc. DEGREE EXAMINATION, APRIL 2023

Second Semester

Game Technology

GAME DEVELOPMENT USING ENGINE - I

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A $(10 \times 2 = 20)$

Answer **all** questions.

1. Compare 2D and 3D game.

2. What is tag?

3. What is mesh?

4. What is 3D physics?

5. What is lens flare?

6. What is game UI?

7. List the types of joints.

8. What is GUI?

9. How to optimize the memory?

10. What is particle effect?

Part B (5 × 5 = 25)

Answer **all** questions

11. (a) Describe how to set up game environment.

Or

(b) Elaborate the 3D game development.

12. (a) Explain the various types of meshes.

Or

(b) Explain the collision detection.

13. (a) Explain the camera types.

Or

(b) Discuss the various illuminations.

14. (a) Discuss the properties of UI.

Or

(b) Explain the importance of networking concepts.

15. (a) Explain the basics of event and action.

Or

(b) Highlight the path finding.

Part C

$(3 \times 10 = 30)$

Answer **all** questions.

16. (a) Describe in detail the 3D game development concept with a suitable example.

Or

(b) Describe in detail the terrain design with example.

17. (a) Discuss the behavior of controlled game animation in detail.

Or

(b) Explain the importance of lighting in game development.

18. (a) Explain the importance of camera and shading in game.

Or

(b) Explain the various platform to build a game.

———————

C–8779	Sub. Code
	83723

M.Sc. DEGREE EXAMINATION, APRIL 2023

Second Semester

Game Technology

3D GAME ART

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A $(10 \times 2 = 20)$

Answer **all** questions.

1. What is 3D art?

2. List the parameters used to evaluate user interface.

3. What is NURB?

4. What are the examples of 3D model?

5. Compare topology and retopology.

6. What is UV rapping?

7. List the elements involved in weapon design.

8. What is insert knot?

9. What is game environment modelling?

10. What is visor?

Part B (5 × 5 = 25)

Answer **all** questions

11. (a) Write short note on perspective and orthographic windows.

Or

(b) Describe the characteristics of 3D game art.

12. (a) Briefly describe the game bevel-bevel plus.

Or

(b) Write short note on trim tool.

13. (a) Describe UV unwrapping.

Or

(b) Describe the character blocking.

14. (a) Write short note on basic prop modelling.

Or

(b) Compare the curves and polygons usage in vehicle design.

15. (a) Describe the role of expert system in game.

Or

(b) Write short note on futures of set design.

Part C

$(3 \times 10 = 30)$

Answer **all** questions.

16. (a) Explain the different models of 3D workspace.

Or

(b) Explain the various tools involved to create 3D moving object.

17. (a) Explain NURB functions.

Or

(b) Explain the modelling of 3D object with proper lighting.

18. (a) Explain Weapon design modelling with photoshop.

Or

(b) Explain the application of set design in game development.

———————

C–8780	Sub. Code
	83724

M.Sc. DEGREE EXAMINATION, APRIL 2023

Second Semester

Game Technology

GAME DEVELOPMENT FOR WEB

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is HTML5?

2. List the tag.

3. What is 2D array?

4. How to validate number?

5. What is image slider?

6. What is JSON parsing?

7. List the drawing text.

8. What is sprite animation?

9. What is game UI?

10. What are interactive elements?

Part B (5 × 5 = 25)

Answer **all** questions

11. (a) Describe the header and footer application.

Or

(b) Compare HTML4 and HTML5.

12. (a) Explain the HTML event.

Or

(b) Describe the document object model.

13. (a) Describe java script framework.

Or

(b) Describe the image manipulation.

14. (a) Write short note on drawing shapes and text.

Or

(b) Compare the circle and square Collison detection.

15. (a) Describe the role of interactive elements.

Or

(b) Explain the futures of user interface in game.

Part C

$(3 \times 10 = 30)$

Answer **all** questions.

16. (a) Explain the properties of audio tag and video tag.

Or

(b) Discuss the application of canvas in web construction.

17. (a) Explain the exploring web framework in detail.

Or

(b) Explain the form handling and form validation in detail.

18. (a) Explain the importance of player movement and animation in game development.

Or

(b) Explain in detail the controlled game elements.

———————

C–8781	Sub. Code
	83743

M.Sc. DEGREE EXAMINATION, APRIL 2023

Fourth Semester

Game Technology

ARTIFICIAL INTELLIGENCE

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is Artificial Intelligence?

2. How to evaluate search algorithm performance?

3. Why patterned roaming required?

4. Give the examples of nonparametric model.

5. What is game AI?

6. What are fuzzy state machines?

7. State shafer theory.

8. Define K strip.

9. Highlight the maximum-likelihood learning.

10. Define AES.

Part B $(5 \times 5 = 25)$

Answer **all** questions

11. (a) Write short note on AI problem space and search.

Or

(b) Describe the characteristics of production system.

12. (a) Briefly describe the game artificial intelligence.

Or

(b) Write short note on importance of good game AI.

13. (a) Describe A* algorithm for game development.

Or

(b) Describe the ANN.

14. (a) Write short note on shafer theory.

Or

(b) Compare the basic plan and advanced plan generation system.

15. (a) Describe the role of expert system.

Or

(b) Write short note on strategical AI in gaming.

Part C

$(3 \times 10 = 30)$

Answer **all** questions.

16. (a) Describe various models of Artificial Intelligence.

Or

(b) Explain production system characteristics in detail.

17. (a) Describe Bayesian network with neat diagram.

Or

(b) Explain various algorithm for game development.

18. (a) Describe in detail the artificial expert system.

Or

(b) Describe the application of AI in game development.

———————

C–8782	Sub. Code
	83744

M.Sc. DEGREE EXAMINATION, APRIL 2023

Fourth Semester

Game Technology

LEVEL DESIGN

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define level design.

2. Why user analysis needed?

3. What is terrain painting?

4. List the types of maps.

5. Define SDC.

6. What is difficulty curve?

7. What is light?

8. What is shader?

9. What is SLD?

10. What is map?

Part B $(5 \times 5 = 25)$

Answer **all** questions

11. (a) Describe the pictorial performance in level design.

Or

(b) Describe the layout of design level.

12. (a) Write note on bumps and fits.

Or

(b) Describe the placing tree and grass.

13. (a) Discuss the object placement in level design.

Or

(b) How to draw the difficulty curve in the level.

14. (a) How to create a natural light?

Or

(b) Describe the shadow.

15. (a) Describe the importance of multiplayer map.

Or

(b) Discuss the importance of LDD.

Part C

$(3 \times 10 = 30)$

Answer **all** questions.

16. (a) Describe the level design analysis with an example.

Or

(b) Design a level imitation with an example.

17. (a) Discuss in detail the wind flow creation.

Or

(b) Explain in detail the development of difficulty curve.

18. (a) Discuss the types and reputation of lighting in detail.

Or

(b) Explain the format of level design content in detail.

———————

C–8783

Sub. Code
83745

M.Sc. DEGREE EXAMINATION, APRIL 2023

Fourth Semester

Game Technology

RESEARCH METHODOLOGY

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A $(10 \times 2 = 20)$

Answer **all** questions.

1. What are research objectives?

2. What is research approach?

3. What is the purpose of literature study?

4. What is CCD?

5. What do you mean by controlled observation?

6. What is nominal scale?

7. What is alternate hypothesis?

8. What do you mean by two tailed tests in hypothesis testing?

9. What is interpretation?

10. What is report writing?

Part B $(5 \times 5 = 25)$

Answer **all** questions.

11. (a) Briefly discuss the criteria of good research.

Or

(b) Differentiate research methods with methodology.

12. (a) Discuss the theoretical framework.

Or

(b) Pen down the research problem with example.

13. (a) Describe the types of hypotheses.

Or

(b) Discuss the steps in sample design.

14. (a) Describe the application of statistics in research.

Or

(b) Describe the data collection methods.

15. (a) Describe the feature the interpretation technique.

Or

(b) Describe the evaluation forms in research.

Part C

$(3 \times 10 = 30)$

Answer **all** questions.

16. (a) Briefly explain the research characteristics and approaches with example.

Or

(b) Explain the review of literature in detail with a suitable game study.

17. (a) Describe the principles of selecting a sampling procedure.

Or

(b) Explain in detail the different methods of collecting data.

18. (a) Illustrate the components of a game report and specify the format for each.

Or

(b) Explain in detail the computer ethics and player game interaction.

———————