C–7680	Sub. Code
	83413

B.Sc. DEGREE EXAMINATION, APRIL 2026.

First Semester

Game Design and Development

PROFESSIONAL CONTEXT TECHNOLOGY AND COMMUNICATION METHODS

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. What is the primary goal of game mechanics?

   (a) To create engaging storylines

   (b) To define the rules and interactions within a game

   (c) To enhance audio-visual effects

   (d) To ensure monetization strategies

2. Which of the following is an example of a game genre?

   (a) Affordability

   (b) Taxonomy

   (c) Role-playing

   (d) Orthogonality

3. What is the significance of "The Loop of Interaction" in game design?

(a) It defines the interaction between hardware components

(b) It describes the feedback cycle between the player and the game

(c) It outlines the relationship between different game genres

(d) It refers to game monetization strategies

4. Which element contributes to game aesthetics?

(a) Network design

(b) Game balancing

(c) Visuals, audio, and overall experience

(d) Artificial intelligence

5. What is the role of probability in game design?

(a) It determines player interaction strategies

(b) It influences chance-based mechanics

(c) It defines the game world structure

(d) It manages ethical considerations

6. What defines a non-linear game structure?

(a) A single path that players must follow

(b) Multiple possible story outcomes

(c) Predefined player choices

(d) A game without any storyline

7. What does the term "player taxonomy" refer to?

(a) Categorization of players based on behavior and preferences

(b) Classification of game mechanics

(c) The economic value of a player

(d) The artificial intelligence within a game

8. What is an essential element of game world aesthetics?

(a) Strategic decision-making

(b) Texture, lighting, and environmental design

(c) Randomized player input

(d) Linear game progression

9. How does "game balancing" improve player experience?

(a) By adjusting difficulty levels dynamically

(b) By removing all challenges

(c) By limiting player interactions

(d) By simplifying game mechanics

10. Which of the following is a factor in game player experience?

(a) Empathy and motivation

(b) Network latency

(c) AI-driven automation

(d) Technical documentation

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Explain the fundamental elements that define game genres.

Or

(b) Discuss how game mechanics influence gameplay experiences.

12. (a) What role does probability play in strategy-based games?

Or

(b) Explain how emergent mechanics can enhance player engagement.

13. (a) Describe the key architectural elements in game world design.

Or

(b) Discuss the importance of world aesthetics in game development.

14. (a) Explain the concept of dynamic game balancing and its impact.

Or

(b) What are the primary factors of interest in game engagement?

15. (a) Analyze how player communities influence game development.

Or

(b) Explain ethical challenges in game design and how they can be addressed.

Part C (5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b).

16. (a) Discuss the MDA framework and its role in game development.

Or

(b) Explain how flow and player motivation impact game design.

17. (a) Compare and contrast linear, open-world and network-based game structure.

Or

(b) Analyze the significance of emergence and progression in modern gaming.

18. (a) Discuss the role of architecture in organizing game spaces effectively.

Or

(b) Explain the role of aesthetics in player immersion and engagement.

19. (a) What are the challenges of balancing player experiences in multiplayer games?

Or

(b) Describe the role of interest curves in designing engaging games.

20. (a) Analyze the ethical responsibilities of game developers in online gaming.

Or

(b) Explain how player demographics and psychographics influence game design.

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C–7681	Sub. Code 83415

B.Sc. DEGREE EXAMINATION, APRIL 2026.

First Semester

Game Design and Development

VISUALIZATION FOR GAMES

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. Which perspective view is commonly used in architectural drawing?

   (a) Aerial perspective

   (b) Linear perspective

   (c) One-point perspective

   (d) Two-point perspective

2. What is the main characteristic of aerial perspective?

   (a) It uses a vanishing point

   (b) It shows depth by fading colors with distance

   (c) It focuses on the horizon line

   (d) It is used only for lop-view drawings

3. Which of the following body parts is commonly simplified into basic shapes in figure drawing?

(a) Eyes (b) Limbs

(c) Fingers (d) Toes

4. Which is the purpose of contour drawing in figure sketching?

(a) To focus on proportions and gestures

(b) To create a 3D effect

(c) To outline the shape and form of the figure

(d) To add details like textures and patterns

5. Which design principle deals with the arrangement of elements to create visual harmony?

(a) Rhythm (b) Balance

(c) Movement (d) Contrast

6. In color theory, what is the term for colors that are next to each other on the color wheel?

(a) Complementary colors

(b) Split-complementary colors

(c) Analogous colors

(d) Triadic colors

7. What does "additive model" refer to in color blending?

(a) The use of cyan , magenta and yellow

(b) Mixing colors with light

(c) Mixing pigments for printing

(d) Using only primary colors

8. What is the main function of typography in design?

(a) To create color schemes

(b) To display information in a visually appealing way

(c) To add textures to the design

(d) To adjust the balance of elements

9. How can textures influence the realism of a virtual environment in games?

(a) By adding color contrast

(b) By using abstract shapes

(c) By mimicking the look and feel of real-world surfaces

(d) By reducing visual complexity

10. Which element is primarily used in concept art to depict the mood and environment of a game world?

(a) Storyboards (b) Typography

(c) Silhouettes (d) Color harmony

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

Answer **all** questions, choosing either (a) or (b).

11. (a) Discuss the various types of perspective views and their practical applications in drawing and design.

Or

(b) Explain how vanishing points and horizon lines are used in constructing perspective views.

12. (a) Explain the importance of gesture drawing in capturing the motion of the human body.

Or

(b) Describe how the construction of a figure using basic shapes simplifies the drawing process.

13. (a) What are the elements of color theory, and how do they influence design in visual media?

Or

(b) Discuss the role of color harmony in creating visually appealing graphics.

14. (a) Describe the process of creating texture for a game environment. What factors influence texture design?

Or

(b) Discuss the importance of scale and proportion in applying textures to a scene.

15. (a) How does concept art contribute to the development of game characters?

Or

(b) Explain how world-building in concept art helps create immersive environments in games.

Part C (5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b).

16. (a) Discuss the various types of perspective views and explain their significance in creating a sense of space and depth in design.

Or

(b) Explain how a linear perspective drawing is constructed using principles like vanishing points and horizon lines.

17. (a) Discuss how understanding proportions and balance in figure drawing contributes to creating dynamic and realistic character poses.

Or

(b) Explain the significance of gesture drawing in conveying emotion and action in character design.

18. (a) Describe how the principles of design, including color theory and Gestalt principles, help in creating effective visual communication.

Or

(b) Discuss how color schemes and color contrast impact the overall aesthetic of a design.

19. (a) Examine the role of textures in game design, focusing on how they contribute to the immersion and believability of a virtual world.

Or

(b) Discuss the creative process behind texture design and how real-world references enhance the quality of textures in games.

20. (a) Explain the role of concept art in visual storytelling. How does it help in the development of characters, environments, and props?

Or

(b) Discuss the Importance of storyboarding and scriptwriting in creating a cohesive narrative and visual flow in games.

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C–7682	Sub. Code
	83423

B.Sc. DEGREE EXAMINATION, APRIL 2026.

Second Semester

Game Design and Development

INTERACTIVE MEDIA DEVELOPMENT

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. Which of the following is considered the first generation of computers?

   (a) Vacuum Tubes (b) Transistors

   (c) Microprocessors (d) Artificial Intelligence

2. Which component of a computer perform arithmetic and logic operations?

   (a) RAM (b) ALU

   (c) ROM (d) HDD

3. Which of the following is a valid data type in C++?

   (a) charnum (b) float32

   (c) boolean (d) int

4. What will be the output of the following statement: cout << “Hello” <<endl:?

   (a) Hello (b) Hello endl

   (c) cout Hello (d) <<Hello

5. What is a one-dimensional array?

(a) A list of functions

(b) A structure of characters

(c) A linear collection of elements of same data type

(d) A nested pointer

6. Which of the following correctly declares a pointer in C++?

(a) int, *ptr*; (b) *ptr, int*;

(c) *int ptr*; (d) pointer int;

7. What is die concept of binding data and functions into one unit?

(a) Inheritance (b) Polymorphism

(c) Encapsulation (d) Abstraction

8. Which of the following refers to a function having the same name but different arguments?

(a) Overloading (b) Overriding

(c) Virtualization (d) Inheritance

9. Which STL container supports random access efficiently?

(a) List (b) Queue

(c) Vector (d) Stack

10. What is the time complexity of binary search in a sorted array?

(a) O(n) (b) $O(n\text{^}2)$

(c) $O(\log n)$ (d) $O(1)$

Part B

$(5 \times 5 = 25)$

Answer **all** questions, choosing either (a) or (b).

11. (a) Explain the classification of computers with suitable examples.

Or

(b) Describe various types of software and their functions.

12. (a) Write a program to demonstrate the use of conditional and looping statements.

Or

(b) Explain how functions are defined and called in C++ with a suitable example.

13. (a) What are pointers? Illustrate how pointers are passed to functions.

Or

(b) Write short notes on structures and unions in C++ with examples.

14. (a) Explain the concept of inheritance with an example program.

Or

(b) Write a short note on function overloading and overriding.

15. (a) List the sequence containers in STL and explain any one with example.

Or

(b) What is a graph? Explain any one shortest path algorithm with an example.

Part C (5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b).

16. (a) Discuss the basic anatomy of a computer system and explain its input and output devices.

Or

(b) Explain the memory hierarchy and memory management in modern computer systems.

17. (a) Describe the process of writing a C++ program from problem definition to execution.

Or

(b) Discuss the role of recursive functions and inline functions with examples.

18. (a) Write a detailed note on dynamic arrays and their advantages.

Or

(b) Explain the concept of pointers to pointers with a sample code.

19. (a) Describe the various types of polymorphism with example code.

Or

(b) Write an essay on exception handling marketing in C++.

20. (a) Explain sorting algorithm used in STL and computer their performance.

Or

(b) Discuss the role and types of iterators in STL with appropriate examples.

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B.Sc. DEGREE EXAMINATION, APRIL 2026.

Second Semester

Game Design and Development

2D GAME ART

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. What type of graphics are made of paths defined by a start and end point?
   (a) Raster graphics (b) Vector graphics
   (c) Bitmap graphics (d) Pixel graphics

2. Which image operation is used to isolate an object from its background?
   (a) Filtering (b) Cropping
   (c) Silhouetting (d) Scaling

3. Which tool is used to select areas with similar colors in image editing software?
   (a) Lasso Tool (b) Crop Tool
   (c) Magic Wand Tool (d) Hand Tool

4. What is the function of the "Marquee" selection tool?
   (a) Apply blur
   (b) Make rectangular or elliptical selections
   (c) Erase objects
   (d) Create text

5. What feature allows the combination of two or more layers into one?

(a) Grouping (b) Blending

(c) Masking (d) Merging

6. Which layer property allows you to hide pans of the image without deleting it?

(a) Grouping (b) Masking

(c) Skewing (d) Thresholding

7. What is used in Illustrator to combine and divide objects?

(a) Layers Panel (b) Pencil Tool

(c) Pathfinder Tool (d) Gradient Tool

8. Which Illustrator tool allows mesh-based color blending?

(a) Pencil Tool (b) Mesh Tool

(c) Smudge Tool (d) Eraser Tool

9. What are pixel-based graphical elements for animation called in game art?

(a) Avatars (b) Characters

(c) Sprites (d) Vectors

10. What is the visual interface for game interaction called?

(a) Level Design

(b) GUI

(c) Narrative Board

(d) Motion Layout

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Explain the differences between raster and vector graphics with examples.

Or

(b) Describe the process of color manipulation and transparency adjustment in image editing.

12. (a) Describe the functions of any five basic tools in a typical image editing software.

Or

(b) Write short notes on the Magic Wand, Crop, Stamp and Smudge tools.

13. (a) Explain how blending modes and adjustment layers are used in layer management.

Or

(b) Write short notes on any four types of filters used in layer editing.

14. (a) Discuss the process of logo design and its key characteristics using Adobe Illustrator.

Or

(b) Explain the role of the pathfinder and attributes panel in object transformation.

15. (a) What is a sprite sheet? Describe the steps to create a sprite sheet for a game character.

Or

(b) Write a short note on GUI design and its role in 2D game development.

Part C

(5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b).

16. (a) Discuss various image operations such as crop, format conversion, silhouetting, and filtering with examples.

Or

(b) Illustrate the concept of vector and raster graphics and their applications in game art.

17. (a) Explain the interface of a popular image editing software and describe how tools are organized.

Or

(b) Describe the use of at least six tools in image editing application with suitable scenarios.

18. (a) Elaborate the concept of smart objects and the different types of adjustments that can be made on image layers.

Or

(b) Explain making, blending, and liquify effects in image manipulation.

19. (a) Describe in detail how Adobe Illustrator is used for creating digital illustrations and logos.

Or

(b) Explain the use of symbols, mesh painting and clipping masks in digital artwork.

20. (a) Define pixel art and explain how sprites. backgrounds and GUI are created for 2D games.

Or

(b) Discuss the digital painting workflow for creating game characters and background illustrations.

C–7684	Sub. Code 83433

B.Sc. DEGREE EXAMINATION, APRIL 2026.

Third Semester

Game Design and development

GAME ENGINE – I

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. In Unity, what is the purpose of Input Settings?

   (a) To define how the game processes player inputs from devices like keyboards and controllers

   (b) To control the game's lighting

   (c) To adjust the physics of the game

   (d) To store 3D models

2. What is the main function of the Profiler Window in a game engine?

   (a) To track performance and optimize the game

   (b) To edit textures and materials

   (c) To create animations

   (d) To manager audio files

3. Which of the following is NOT a type of joint in Unity?

(a) Hinge Joint (b) Spring Joint

(c) Fixed Joint (d) Gravity joint

4. Which component is responsible for rendering a 3D object's appearance in Unity?

(a) Mesh Renderer

(b) Mesh Filter

(c) Rigidhody

(d) Collider

5. Which lighting technique simulates realistic indirect lighting by considering how light bounces off surfaces?

(a) Global illumination

(b) Ambient Occlusion

(c) Occlusion culling

(d) Depth Mapping

6. Which component is used to create in-game UI elements such as buttons and score displays?

(a) Camera

(b) GUI (Graphical User Interface)

(c) Render Texture

(d) Particle System

7. In multiplayer networking, what is the role of a "host"?

(a) To act as both the server and a player in the game

(b) To only manage physics calculations

(c) To store textures and animations

(d) To render UI elements

8. What is the primary purpose of cleaning up code in game development?

(a) To make the game run slower

(b) To improve readability, maintainability and performance

(c) To increase the number of bugs

(d) To add unnecessary complexity

9. Which function is used to play a sound effect in Unity?

(a) PlaySoundEffect ( )

(b) AudioSource.Play ( )

(c) TriggerSound ( )

(d) StartAudio ( )

10. In AI mechanics, what does a finite state machine FSM do?

(a) Controls an AI character's behavior based on different states

(b) Reduces the game's memory usage

(c) Handles rendering 2D sprites

(d) Generates random maps for the game world

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Apply the concept of prefabs to create reusable object in a 3D game.

Or

(b) Compare the functionalities of console debugging with Profiler Window analysis in game development.

12. (a) Differentiate between various input handling methods such as mouse, keyboard, and touch in Unity.

Or

(b) Analyze the role of namespaces and how they help in structuring unity scripts.

13. (a) Apply render passes to optimize shader performance in a 3D environment.

Or

(b) Compare the functionalities of real-time lighting vs. baked lighting in 3D rendering.

14. (a) Illustrate the significance of building a game for different platforms and the challenges involved.

Or

(b) Compare the roles of server and host in a multiplayer game setup.

15. (a) Compare the differences between rule-based AI and behavior tree-based AI in games.

Or

(b) Apply object pooling technique to optimize performance when spawning game objects.

Part C ($5 \times 8 = 40$)

Answer **all** questions, choosing either (a) or (b).

16. (a) Illustrate how level maps are designed and structured for effective game navigation.

Or

(b) Demonstrate how to set up a basic 3D game environment in a game engine like Unity.

17. (a) Assess the importance of using generic functions in Unity scripting and how they improve reusability.

Or

(b) Design a Unity script that moves a game object using physics-based forces and explains each component used.

18. (a) Analyze the impact of GUI elements on game performance and rendering efficiency.

Or

(b) Justify the importance of implementing render in complex game scenes.

19. (a) Assess the importance of optimizing UI performance to ensure smooth gameplay across different devices.

Or

(b) Analyze the impact of background music vs. sound effects on player immersion and game atmosphere.

20. (a) Justify the use of event-driven programming over a traditional update-loop approach in gameplay programming.

Or

(b) Assess the impact of build optimization techniques on game performance across different platforms.

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C–7685	Sub. Code 83435

B.Sc. DEGREE EXAMINATION, APRIL 2026

Third Semester

Game Design & Development

WEB GAME DEVELOPMENT

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. Which of the following is a semantic tag introduced in HTML5?

   (a) (b)

   (c) <section> (d) <font>

2. What is the purpose of the <header> tag in HTML5?

   (a) It defines the main navigation links of a webpage

   (b) It represents introductory content or navigational links at the beginning of a section or page

   (c) It is used to define the footer of a webpage

   (d) It is used to group footer related elements

3. How do you prevent a form from being submitted in JavaScript?

   (a) event.preventSubmit( );

   (b) return false;

   (c) event.stop( );

   (d) form.prevent( );

4. Which JavaScript function is commonly used for password validation?

(a) checkPassword (b) validatePassword

(c) testPassword (d) password.match

5. Which JavaScript framework is based on a virtual DOM and is widely used for building singlepage applications?

(a) Angular (b) React

(c) Vue (d) jQuery

6. Which JavaScript function is used to parse JSON data?

(a) JSON.parse() (b) parse.JSON()

(c) JSON.stringify() (d) convertToJSON()

7. What is the purpose of background scrolling in a game?

(a) To create the illusion of movement for the player

(b) To increase game difficulty

(c) To reduce memory usage

(d) To make collision detection easier

8. What is the key factor in implementing a jump in a platformer game?

(a) Increasing the player's X position

(b) Applying gravity and velocity changes to the player's Y position

(c) Using only event listeners for keyup events

(d) Changing the player's sprite image only

9. What happens when clearInterval() is called in JavaScript?

(a) It stops a running interval timer

(b) It pauses the entire game

(c) It resets all game variables

(d) It clears the game screen

10. Which function is commonly used in JavaScript to create a game timer?

(a) setInterval( ) (b) timerFunction( )

(c) runTimeLoop( ) (d) startTimer( )

Part B

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Illustrate the use of the <video> tag with atleast two attributes and an example.

Or

(b) Use the <canvas> element to draw a simple rectangle using JavaScript.

12. (a) Compare how form validation is handled using JavaScript versus server-side validation.

Or

(b) Assess the impact of event-driven programming on user experience in modern web applications.

13. (a) Summarize the purpose of interactivity in web pages and its impact on user experience.

Or

(b) Identify different methods used for importing and exporting data in web applications.

14. (a) Demonstrate how to draw a filled rectangle and a circle using JavaScript and the Canvas API.

Or

(b) Use JavaScript to create a simple sprite animation using a sprite sheet.

15. (a) Define keyboard events in JavaScript and describe how they are used in game interaction.

Or

(b) Describe how system-controlled game elements, such as AI opponents, are implemented in a game.

Part C (5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b).

16. (a) Examine how HTML5 semantic tags improve accessibility and SEO compared to traditional -based layouts.

Or

(b) Critique the use of non-semantic elements in web development and justify why semantic elements should be preferred.

17. (a) Summarize the importance of form validation in JavaScript and how it enhances user experience.

Or

(b) Examine the advantages and disadvantages of using callback functions versus promises for asynchronous operations.

18. (a) Examine the advantages and challenges of maintaining score information in a web-based game.

Or

(b) Assess the impact of using JavaScript frameworks versus vanilla JavaScript for building web applications.

19. (a) Examine the impact of using event listeners (keydown and keyup) for controlling player movement in a game.

Or

(b) Assess the performance advantages of using sprite sheets instead of individual images for animations.

20. (a) Assess the effectiveness of using asynchronous requests (*fetch( ) or XMLHttpRequest*) for retrieving and updating game data.

Or

(b) Critique different approaches for implementing system-controlled game elements and their influence on player experience.

C–7686	Sub. Code 83436

B.Sc. DEGREE EXAMINATION, APRIL 2026.

Third Semester

Game Design and Development

DIGITAL MODELING – I

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. Which of the following is NOT a type of view available in Maya's workspace?

   (a) Perspective view

   (b) Orthographic view

   (c) Wireframe view

   (d) Shaded view

2. What is the purpose of the Perspective View in Maya?

   (a) To view objects from a fixed angle only

   (b) To provide a three-dimensional view with depth perception

   (c) To work only with wireframe models

   (d) To create 2D drawings

3. What does the "Loft" tool do in Maya when working with NURBS surface?

(a) Projects a curve onto a surface

(b) Connects multiple curves to create a smooth surface

(c) Trims a NURBS surface

(d) Closes an open curve

4. Which of the following tools is used to create a surface from a single curve by rotating it around an axis?

(a) Extrude (b) Bevel

(c) Revolve (d) Planar

5. What is the primary purpose of UV unwrapping in 3D modeling?

(a) To create a 3D model

(b) To apply textures correctly to a 3D surface

(c) To increase the polygon count of a model

(d) To animate a 3D object

6. What is Image-Based Lighting (IBL) used for in 3D rendering?

(a) To apply shadows to objects

(b) To generate realistic reflections and ambient lighting using an HDR image

(c) To replace all textures in a scene

(d) To manually adjust light sources in a scene

7. What is the first step in modeling a weapon like a sword or gun in 3D?

(a) Applying materials and textures

(b) Understanding the structure and aligning reference images

(c) Rendering the final model

(d) Using the EP Curve Tool

8. Which tool is commonly used to create smooth curved outlines when modeling a vehicle in Maya?

(a) Polygon tool (b) Boolean tool

(c) EP curve tool (d) Extrude tool

9. What is the primary goal of game environment modeling?

(a) To create realistic game characters

(b) To design immersive and interactive worlds for games

(c) To develop AI behavior for NPCs

(d) To improve game physics and collision detection

10. In game environment modeling, why is modular asset creation beneficial?

(a) It increases production time

(b) It limits the number of objects that can be placed in a scene

(c) It makes the environment look less realistic

(d) It allows assets to be reused efficiently across levels

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Assess the importance of using different curve tools when designing complex 3D models.

Or

(b) Critique the effectiveness of the 'Edit Curve" tool compared to manually adjusting control points.

12. (a) Define the purpose of the "Loft" and "Planar" tools in NURBS modeling.

Or

(b) Identify the main differences between the "Revolve" and "Extrude" tools.

13. (a) List the different types of UV mapping techniques used in 3D modeling.

Or

(b) Define what a normal map is and how it affects the appearance of a 3D model.

14. (a) Describe how the "Attach curve" and "Detach curve" tools are used in prop modeling.

Or

(b) Demonstrate how to use the "Insert Knot" tool to add detail to a vehicle's design.

15. (a) Identify different genres of games and describe how they influence environmental design.

Or

(b) List the essential components of a game environment and explain their roles.

Part C

(5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b).

16. (a) Examine how reversing the direction of a curve affects subsequent modeling operations.

Or

(b) Summarize the differences between the "Attach Curve" and "Detach Curve" tools in Maya.

17. (a) Examine how the "Stitch" tool is used to connect multiple NURBS patches and its importance in seamless modeling.

Or

(b) Assess the effectiveness of using Boolean operations on NURBS surfaces compared to polygonal modeling.

18. (a) Compare the effectiveness of automatic UV mapping vs. manual UV unwrapping in texturing accuracy.

Or

(b) Design a workflow for texturing a vehicle using UV unwrapping, normal maps, and image-based lighting.

19. (a) Differentiate between the "Extend Curve" and "Insert Knot" tools in refining weapon shapes.

Or

(b) Assess the effectiveness of using curves over polygons for designing complex weapon parts.

20. (a) Describe the role of the visor tool in game modeling and its new features.

Or

(b) Summarize the advantages of using sculpt polygon tools in creating realistic game environments.

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C–7687	Sub. Code 83443

B.Sc. DEGREE EXAMINATION, APRIL 2026.

Fourth Semester

Game Design and Development

DIGITAL MODELING – II

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. Which texture property affects how shiny a surface appears?

   (a) Roughness

   (b) Color

   (c) Translucency

   (d) Luminance

2. Lossy compression is best described as

   (a) No data is lost

   (b) Compression without color changes

   (c) Data is discarded permanently to reduce size

   (d) Reversible compression

3. What is the purpose of a normal map?

(a) To reflect light

(b) To add surface detail without extra geometry

(c) To compress textures

(d) To blend colors

4. The U/V Texture Editor is used primarily to

(a) Animate characters

(b) Apply lighting effects

(c) Map 2D textures onto 3D models

(d) Create motion blur

5. In Maya direct light sources refer to

(a) Reflected light only

(b) Light that conies indirectly

(c) Manually placed lights like spotlights

(d) Environmental lighting

6. What does batch rendering allow?

(a) Real-time modeling

(b) Multiple frames to render sequentially

(c) Compress file sizes

(d) Reduce texture resolution

7. What is a primitive rig used for?

(a) Texturing environments

(b) Creating game props

(c) Adding basic movement to a model

(d) Color balancing

8. In rigid rigging, bones are

(a) Used for soft mesh blending

(b) Animated dynamically

(c) Connected to hard surfaces without deformation

(d) Hidden by default

9. What is the first step in character modeling?

(a) Texturing the mesh

(b) Creating hands and feet

(c) Defining proportions and layout

(d) Rigging the face

10. Baking detail to a low poly model means

(a) Creating UVs

(b) Reducing render time

(c) Transferring high-poly detail to textures

(d) Coloring the model manually

Part B

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Explain the difference between roughness and translucency in texture creation.

Or

(b) Describe how photographs can he used in creating tileable textures.

12. (a) Write a note on ambient maps and their significance in texturing.

Or

(b) Explain how to use the UV Texture Editor in unwrapping a character model.

13. (a) Discuss the concept of 3-point lighting with a neat diagram.

Or

(b) Write a short note on baking maps and their applications in rendering.

14. (a) Describe the process of vehicle modeling and assigning basic color maps.

Or

(b) Explain the concept of rigid rigging with appropriate examples.

15. (a) Write briefly about handling face mesh in character creation.

Or

(b) What are the steps in assigning material allocation after unwrapping a character?

Part C (5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b).

16. (a) Explain in detail the role of reflectivity and surface luminance in textures.

Or

(b) Describe various types of image compression and list the essential graphic file formats.

17. (a) How are material and texture nodes used in shading surfaces? Illustrate with examples.

Or

(b) Explain the complete workflow of unwrapping and texturing a 3D prop.

18. (a) Describe the types of lighting used in Maya. Explain their attributes and uses.

Or

(b) Write in detail about render layers and passes. How are they used in compositing?

19. (a) Outline the steps in vehicle animation cycles including primitive rigging.

Or

(b) Discuss the steps in creating and baking texture maps for a game vehicle.

20. (a) Elaborate on the process of modeling hands, feet, and hair for a game character.

Or

(b) Write a detailed workflow for character topology and its role in efficient animation.

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C–7688

Sub. Code
83444

B.Sc. DEGREE EXAMINATION, APRIL 2026

Fourth Semester

Game Design and Development

GAME NETWORKING TECHNIQUES

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. Which of the following devices operates at the Data Link layer of the OSI model?
   (a) Router (b) Switch
   (c) Modem (d) Hub

2. What is the primary purpose of a routing algorithm'?
   (a) Data compression
   (b) Encrypting messages
   (c) Determining the best path
   (d) Allocating IP addresses

3. Which of the following protocols is connection-oriented?
   (a) UDP (b) TCP
   (c) ICMP (d) HTTP

4. Which method is used to detect errors in transmitted data?
   (a) Multiplexing (b) Parity Checking
   (c) Decryption (d) Switching

5. In a client-server model, who initiates the communication?

(a) Server (b) Network

(c) Client (d) Host

6. What is the role of a player object in a network game?

(a) Handles server encryption

(b) Stores global configurations

(c) Represents a user's in-game presence

(d) Assigns IP addresses

7. What does 'spawning' refer to in a multiplayer game project?

(a) Encrypting messages

(b) Creating a new player object

(c) Starting matchmaking

(d) Hosting a server

8. Which function is used to send commands from the client to the server?

(a) ClientRPC() (b) Command()

(c) Update() (d) lnvoke()

9. What is a multiplayer lobby used for?

(a) Monitoring server load

(b) Loading game assets

(c) Connecting and grouping players before the game

(d) Encrypting chat messages

10. Host migration ensures:

(a) Automatic encryption of user data

(b) Seamless transition when host leaves

(c) Increase in bandwidth

(d) Blocking unauthorized users

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Explain the functions of a Hub, Switch, and Router in a network.

Or

(b) Write short notes on data encoding and decoding with suitable examples.

12. (a) Describe the working of TCP and UDP protocols.

Or

(b) Explain the error detection techniques and their importance in network communication.

13. (a) Discuss the roles of Local Client, Remote Client, and Player Object in multiplayer games.

Or

(b) Explain the concept of authority in the context of player and non-player objects.

14. (a) What are Remote Procedure Calls (RPC)? Describe with examples how RPC is used in multiplayer setup.

Or

(b) Write a note on Game State Management and Spawning in multiplayer games.

15. (a) Describe the structure and working of Network Clients and Servers in a multiplayer environment.

Or

(b) Explain the concept of Host Migration and the use of Migration Manager Callbacks.

Part C (5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b).

16. (a) Elaborate on different types of network topologies with examples. Discuss how routers and bridges support communication in these networks.

Or

(b) Explain in detail the concept of network security and authentication mechanisms used to ensure data integrity.

17. (a) Compare and contrast OSI and TCP/IP models. Discuss their relevance in modern wireless and mobile networks.

Or

(b) Write an essay on public and private key encryption. How do they work in combination to secure communication?

18. (a) Describe in detail the architecture of a typical multiplayer network game. Explain the roles of client-server and hosting models.

Or

(b) Write an essay on non-player characters and network context in multiplayer games.

19. (a) Explain the step-by-step process to set up a network player in a Unity multiplayer project.

Or

(b) Discuss matchmaking and scene management with remote actions in a game networking environment.

20. (a) What are network manager callbacks and how do they support multiplayer communication? Provide examples.

Or

(b) Explain multiplayer lobby creation and local player discovery in a real-time networked game.

C–7689

Sub. Code
83446

B.Sc. DEGREE EXAMINATION, APRIL 2026

Fourth Semester

Game Design and Development

MOBILE GAME DEVELOPMENT

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. Which OOPS concept is used to hide internal details of an object?

   (a) Inheritance (b) Encapsulation

   (c) Polymorphism (d) Association

2. Which OOPS concept allows a subclass to acquire properties of a superclass?

   (a) Abstraction

   (b) Inheritance

   (c) Encapsulation

   (d) Interface

3. Which keyword is used in Java to achieve inheritance?

   (a) extend (b) inherit

   (c) implement (d) extends

4. What type of inheritance allows a class to inherit from only one superclass in Java?

(a) Multiple (b) Hierarchical

(c) Single (d) Multilevel

5. Which of the following is a key benefit of mobile platforms?

(a) Expensive (b) Portability

(c) Complexity (d) Restriction

6. Which element of a mobile OS manages user interactions with screens?

(a) Activity (b) Service

(c) Kernel (d) Emulator

7. Which library type is essential for visual representation in game development?

(a) Math (b) Graphics

(c) Audio (d) Network

8. Which term describes the structured environment used to develop games efficiently?

(a) Framework (b) Database

(c) Compiler (d) Emulator

9. Which visual effect is used in games to simulate fire, smoke, or explosions?

(a) Animation (b) Particles

(c) Gravity (d) Sprite

10. Which technique creates depth by moving background layers at different speeds?

(a) Static (b) Sprite

(c) Transition (d) Parallax

Part B

$(5 \times 5 = 25)$

Answer **all** questions, choosing either (a) or (b).

11. (a) Explain the OOPS concept in Java with examples.

Or

(b) Describe data abstraction and encapsulation in Java.

12. (a) Discuss how multi-threading can be implemented using the runnable interface and its advantages.

Or

(b) Explain method overloading and method overriding in Java.

13. (a) Explain the role and benefits of mobile platforms in application development.

Or

(b) Describe the key elements of a mobile operating system with examples.

14. (a) Explain the basics of graphics libraries used in game development.

Or

(b) Describe the role of a game development framework in creating games.

15. (a) Explain the implementation and use of particle effects in game development.

Or

(b) Describe the concept and purpose of parallax scrolling in games.

Part C

$(5 \times 8 = 40)$

Answer **all** questions, choosing either (a) or (b).

16. (a) Explain inheritance and its types in Java with examples.

Or

(b) Discuss polymorphism and dynamic binding in Java.

17. (a) Explain collections and generic classes in Java with examples.

Or

(b) Describe ArrayList and Vectors in Java and their uses.

18. (a) Describe the development environment and the IDE interface used in mobile app development.

Or

(b) Explain the build system and the use of build tools in mobile app development.

19. (a) Explain the steps involved in creating a project and importing it into an IDE.

Or

(b) Describe the purpose and structure of the Game class in game development.

20. (a) Explain the process involved in designing levels in a game.

Or

(b) Describe the methods of event handling in game development.

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C–7697

Sub. Code
83461

B.Sc. DEGREE EXAMINATION, APRIL 2026

Sixth Semester

Game Design and Development

GAME DESIGN CHALLENGES

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. Which of the following best defines Iterative Design in game development?

   (a) Designing the entire game in a single step

   (b) Repeating cycles of prototyping, testing, and refining

   (c) Using only visual design for gameplay

   (d) Writing the game story before coding

2. What does 'Game Design Atom' primarily refer to?

   (a) The art style of the game

   (b) The marketing strategy of a game

   (c) The smallest indivisible unit of gameplay

   (d) The player's motivation to play

3. Which of the following is NOT a type of decision in game design?

(a) Tactical decisions

(b) Narrative decisions

(c) Cosmetic decisions

(d) Strategic decisions

4. In game design, 'tuning' refers to :

(a) Adjusting the game's audio

(b) Adjusting difficulty, challenge and balance to enhance player experience

(c) Changing the narrative flow

(d) Loading the game assets

5. Which term refers to designing games for the largest possible audience with broad appeal?

(a) Niche targeting

(b) Exclusive targeting

(c) Mass market targeting

(d) Genre skipping

6. Which of the following is NOT a common storytelling method in games?

(a) Environmental storytelling

(b) Procedural generation

(c) Linear narrative

(d) Cutscenes

7. Making a game multiplayer primarily aims to :

(a) Increase loading time

(b) Allow multiple players to interact and play together

(c) Remove player choice

(d) Increase battery consumption

8. A game that is available and playable across PC, consoles and mobile is an example of

(a) Multiplayer gaming

(b) Retro gaming

(c) Multiplatform gaming

(d) Single-player gaming

9. Which of the following is NOT a step in the process of UI design?

(a) Prototyping

(b) Testing

(c) Ignoring feedback

(d) Refining

10. Games with reduced complexity, easy controls, and short sessions are often categorized as what games?

(a) Hardcore

(b) Casual

(c) Serious

(d) Strategy

Part B

$(5 \times 5 = 25)$

Answer **all** questions, choosing either (a) or (b).

11. (a) Compare and contrast mechanics and dynamics within the MDA framework of game design.

Or

(b) What is puzzle design in the context of game development? Explain the process of designing a puzzle that is challenging yet enjoyable for players.

12. (a) Differentiate between the types of decisions players make during gameplay.

Or

(b) What are the mechanics of skill in game design?

13. (a) Describe the importance of targeting a market while designing a game.

Or

(b) Explain how developers learn about their target market in game design.

14. (a) Describe the types of multiplayer games with relevant examples.

Or

(b) Discuss the common issues faced in multiplayer game design.

15. (a) Explain what constitutes a bad user interface in games with examples.

Or

(b) Discuss the concept of games as art and its significance.

Part C (5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b).

16. (a) What are design constraints in game design? Explain their significance and how constraints can influence creativity during the design process.

Or

(b) Describe the iterative design approach in game development. How does it contribute to refining gameplay and enhancing user experience? Provide examples to support your answer.

17. (a) Write an essay on balancing chance and skill in game design.

Or

(b) What is tuning in game design, and why is it crucial? Discuss how tuning has improved gameplay in known games.

18. (a) Discuss the role and benefits of using focus groups in game development.

Or

(b) Explain the concept of designing games for the mass market.

19. (a) Explain the role of social networks in the promotion and growth of games.

Or

(b) Explain the purpose of the leaderboards in games and discuss their impact on player engagement.

20. (a) Explain the use of games as teaching tool in educational contexts.

Or

(b) Describe the purpose and process of conducting a focus test in game design.

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C–7698	Sub. Code 83462

B.Sc. DEGREE EXAMINATION, APRIL 2026.

Sixth Semester

Game Design & Development

GAME TESTING

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. Which document describes the approach and scope of testing?
   (a) Test script (b) Test plan
   (c) Bug report (d) Code log

2. Which testing ensures that new updates do not break existing features?
   (a) Load (b) Regression
   (c) Compatibility (d) Alpha

3. Which platform requires battery consumption and gesture control testing?
   (a) Console (b) PC
   (c) Mobile (d) VR

4. _____ platform requires testing for head tracking and immersion
   (a) AR (b) Console
   (c) Mobile (d) VR

5. Testing camera integration and environment interaction is essential in which platform?

(a) AR (b) Console

(c) Mobile (d) PC

6. Which aspect is vital for ensuring players enjoy the game and controls easily?

(a) Code (b) Player

(c) Graphics (d) Feedback

7. Which aspect is crucial in preventing cheating and hacking in games?

(a) Usability (b) Graphics

(c) Security (d) Feedback

8. Which testing identifies vulnerabilities that attackers may exploit in games?

(a) Load (b) Security

(c) Functional (d) Usability

9. A collection of documented test cases and projects is known as a

(a) Resume (b) Portfolio

(c) Report (d) Script

10. Joining game testing communities and groups helps in _____.

(a) Debugging (b) Animation

(c) Networking (d) Coding

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Describe non-functional testing in games with suitable examples.

Or

(b) Explain the purpose and process of compatibility testing in game testing.

12. (a) Describe the testing considerations for mobile game platforms.

Or

(b) Explain the key challenges and methods in testing Virtual Reality (VR) games.

13. (a) Describe the methods to collect player feedback during game testing.

Or

(b) Discuss the role of player experience in game testing.

14. (a) Describe the overview of security concerns in games.

Or

(b) Explain how game developers can protect games from security vulnerabilities.

15. (a) Explain the concept of cloud gaming testing and its challenges.

Or

(b) Describe the role of AI in automating game testing processes.

Part C (5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b).

16. (a) Explain how to document and communicate issues effectively during bug reporting.

Or

(b) Describe regression testing and its significance in the game development process.

17. (a) Discuss the approach to testing Augmented Reality (AR) games.

Or

(b) Describe how automation helps in improving the efficiency of game testing.

18. (a) Explain the impact of device variability on mobile game testing.

Or

(b) Describe how motion sickness issues are handled during VR game testing.

19. (a) Discuss tools and techniques used for testing game security vulnerabilities.

Or

(b) Discuss the relationship between load testing and ensuring stable multiplayer gameplay.

20. (a) Explain the steps involved in building a game testing portfolio.

Or

(b) Describe the importance of maintaining a game testing portfolio for career development.

C–7699	Sub. Code
	83464A

B.Sc. DEGREE EXAMINATION, APRIL 2026.

Sixth Semester

Game Design & Development

ADVANCED GAME PROGRAMMING

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. Who is known as the "Gang of Four" in Design Patterns?

   (a) Erich Gamma (b) James Gosling

   (c) Bjarne Stroustrup (d) Dennis Ritchie

2. Which type of design pattern deals with object creation?

   (a) Structural (b) Creational

   (c) Behavioral (d) Abstract

3. Which creational design pattern ensures that a class has only one instance?

   (a) Prototype (b) Singleton

   (c) Builder (d) Factory

4. _____ structural design pattern allows objects with incompatible interfaces to work together

   (a) Bridge (b) Adapter

   (c) Facade (d) Proxy

5. _____ behavioral pattern helps in implementing undo/redo operations in games

(a) Observer (b) Strategy

(c) Command (d) Mediator

6. Which pattern allows defining a skeleton of an algorithm in a base class while letting subclasses override specific steps in games

(a) Strategy (b) Template

(c) Observer (d) Mediator

7. _____ sequencing pattern helps in smooth rendering by alternately drawing to hidden and visible buffers

(a) Game Loop (b) Double Buffer

(c) Update Method (d) Service Locator

8. _____ pattern is used to manage the continuous cycle of updating and rendering in games

(a) GameLoop (b) DirtyFlag

(c) ObjectPool (d) EventQueue

9. In Breakout, which system manages different brick types and their behaviors?

(a) Paddle (b) Weapon

(c) Bricks (d) Upgrade

10. Which system in Breakout controls the generation and collection of special abilities during gameplay?

(a) Enemy (b) Powerup

(c) Paddle (d) Weapon

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Describe the steps involved in using a design pattern effectively in your projects.

Or

(b) Explain the concept of abstraction and its importance in object-oriented programming.

12. (a) Explain the working and use cases of the Abstract Factory design pattern.

Or

(b) Describe the Builder design pattern with examples and its advantages in object construction.

13. (a) Explain the use of the Builder pattern in games with suitable examples.

Or

(b) Describe how the Factory Method pattern is applied in game development.

14. (a) Explain the Double Buffer pattern and its significance in game rendering.

Or

(b) Describe the Game Loop pattern and its role in managing game updates and rendering cycles.

15. (a) Explain the design and functionality of the bricks system in Breakout.

Or

(b) Describe how power-up management is handled in Breakout with examples.

Part C (5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b).

16. (a) Describe inheritance and its role in achieving code reusability in OOP.

Or

(b) Discuss polymorphism with examples and explain its role in object-oriented design.

17. (a) Discuss the Factory Method pattern and how it promotes loose coupling in software design.

Or

(b) Explain the Singleton pattern and its role in managing global states in applications.

18. (a) Discuss the Prototype pattern in games and its advantages in object cloning.

Or

(b) Explain the Singleton pattern with an example of its application in game management.

19. (a) Explain the Update Method pattern with its application in frame-wise game object updates.

Or

(b) Discuss the importance of behavioural patterns in structuring game logic.

20. (a) Explain the simple collision system used in Breakout and its importance.

Or

(b) Discuss the role of the paddle in Breakout and its impact on gameplay.

C–7700	Sub. Code
	83464B

B.Sc. DEGREE EXAMINATION, APRIL 2026.

Sixth Semester

Game Design & Development

ADVANCED GAME DESIGN

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. Which element is essential when conceptualizing a game character?
   (a) Font style (b) Frame rate
   (c) Backstory (d) Audio effect

2. What is typically the first step in character ideation?
   (a) Coding the behavior
   (b) Modeling in 3D
   (c) Sketching the concept
   (d) Adding color palette

3. Which aspect is most critical when analyzing an existing games art style?
   (a) Player controls (b) Color grading
   (c) Visual consistency (d) Audio sync

4. What ensures modified assets remain compatible with gameplay?
   (a) Changing physics engine
   (b) Matching frame rate
   (c) Adhering to visual constraints
   (d) Increasing polygon count

5. What does a "sprite sheet" usually contain?

(a) Level data

(b) Sound effects

(c) Character animations

(d) Background music

6. What is the correct sequence in animating a character's movement?

(a) Slide – Snap – Stretch

(b) Sit– Stand – Jump

(c) Walk– Run – Jump

(d) Walk cycle – Run cycle – Export

7. Which principle is crucial in designing an effective game menu?

(a) Jump cuts (b) Interactivity

(c) Sound mixing (d) Asset exporting

8. What is a typical component of a level selection screen?

(a) Audio mixer (b) Title animation

(c) Level icons (d) Dialogue editor

9. What is the main purpose of playtesting?

(a) Compress game size

(b) Finalize publishing rights

(c) Detect gameplay issues

(d) Improve lighting effects

10. What tool is commonly used for prototyping a game?

(a) Photoshop (b) Unity

(c) Excel (d) Blender

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Describe the process of developing a character back story and its importance in game design.

Or

(b) Explain how to sketch character concepts for different genres (e.g.. fantasy vs. sci-fi).

12. (a) How would you evaluate and adapt an existing games visual art style for a redesign?

Or

(b) Explain the steps involved in asset modification to maintain gameplay compatibility.

13. (a) Discuss the procedure to create a walk and run cycle using a sprite sheet.

Or

(b) Describe the file formats commonly used for exporting sprite sheets and their relevance.

14. (a) Explain the importance of UI/UX principles when designing a level selection screen.

Or

(b) Discuss the key elements of a responsive and intuitive game menu.

15. (a) Outline the major steps in developing a playable game prototype using a game engine.

Or

(b) Discuss how to collect and utilize feedback effectively during the playtesting phase.

Part C (5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b).

16. (a) Explain the entire process of character development from ideation to final 2D/3D modeling with suitable examples.

Or

(b) Discuss various methods used to create visually compelling characters for mobile games.

17. (a) Analyze how applying a new visual style to an existing game can impact player perception.

Or

(b) Describe a step-by-step approach for creating a cohesive art direction for a game project.

18. (a) Compare and contrast walk and run cycles. Illustrate how these animations are integrated into sprite sheets.

Or

(b) Design a simple animation sequence for a 2D plat former character and explain the sprite layout.

19. (a) Describe the process of designing a complete game interface focusing on user-centered design.

Or

(b) Explain the principles involved in interactive UI/UX and how they enhance gameplay experience.

20. (a) Explain the workflow of developing a basic prototype using Unity. Include steps from ideation to testing.

Or

(b) Discuss challenges and strategies in iterating game designs based on player feedback.

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C–7701	Sub. Code
	83464C

B.Sc. DEGREE EXAMINATION, APRIL 2026

Sixth Semester

Game Design & Development

GAME ANALYSIS AND MONETIZATION

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. Which of the following is a common monetization model in mobile games?

   (a) Free trial

   (b) Pay-per-use

   (c) Premium

   (d) Subscription only

2. What does game market analysis primarily help identify?

   (a) Game coding tools

   (b) Target audience and trends

   (c) Texture packs

   (d) Graphic rendering speed

3. What is a key method for collecting market research data?

(a) Video reviews

(b) Game tutorials

(c) Surveys and analytics

(d) Screenshot capture

4. What does a player persona typically include?

(a) Color schemes

(b) Player's age, preferences, motivations

(c) Audio settings

(d) Login time logs

5. Which monetization model is based on players accessing a game for free but paying for extras?

(a) Premium

(b) Retail

(c) In-app purchases

(d) Adware

6. What is a primary objective of a business plan in game monetization?

(a) Game art development

(b) Budgeting and revenue forecasting

(c) Texture optimization

(d) Coding tutorials

7. What is a rewarded video ad?

(a) A video that gives tips

(b) An ad that gives the player a reward after watching

(c) A bonus level

(d) A trailer for the next level

8. What is considered unethical in monetization?

(a) Providing free upgrades

(b) Misleading in-app purchases

(c) Cosmetic item sales

(d) Ad-free experiences

9. What is an example of a Key Performance Indicator (KPI)?

(a) File size

(b) Number of developer commits

(c) Daily Active Users (DAU)

(d) Resolution

10. What is A/B testing used for in game monetization?

(a) Testing new levels

(b) Comparing two game art styles

(c) Testing two versions of monetization strategies

(d) Optimizing background music

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b)

11. (a) Explain the significance of understanding the target audience in game monetization.

Or

(b) Write a short note on the importance of analyzing game genres before launching.

12. (a) How can market research help in improving player retention?

Or

(b) Describe how player personas are created and used in game development.

13. (a) Discuss the benefits and challenges of premium and premium models.

Or

(b) Explain how pricing strategy affects the revenue model of a game.

14. (a) How can ethical concerns arise in the use of in-game purchases?

Or

(b) Describe different types of in-game advertisements and their player impact.

15. (a) Write a short note on the importance of KPIs and list any four common KPIs used in gaming.

Or

(b) How can feedback loops help optimize a game's monetization strategy?

Part C (5 × 8 = 40)

Answer **all** questions, choosing either (a) or (b)

16. (a) Describe the current trends in the game industry and their influence on monetization strategies.

Or

(b) Explain the different monetization approaches with relevant case studies.

17. (a) Discuss a step-by-step approach for conducting market research for a new mobile game.

Or

(b) Create and describe a player persona for a strategy game.

18. (a) Analyze the pros and cons of ad-supported monetization in casual games.

Or

(b) Design a monetization plan for a premium puzzle game including in-app purchases and ad placements.

19. (a) Explain how ethical design choices impact long-term player engagement.

Or

(b) Discuss different methods of integrating ads into gameplay without disrupting player experience.

20. (a) Describe how analytics and A/B testing are used to refine monetization strategies in live games.

Or

(b) Explain a real-world scenario where metrics helped improve monetization and player engagement.

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