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Internal Assessment Test 1– July. 2025

Sub:	Fundamentals of Game Design							Sub Code:	22MCA423
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Note : Answer FIVE FULL Questions, choosing ONE full question from each Module

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PART I		MARKS	OBE	
			CO	RBT
1	Explain Conventional games and Video games.	10	CO1	L3
2.	What do you mean by Serious games? Explain different kinds of serious games.	10	CO2	L2
PART II				
3	Explain Kaye Elling's Five Cs for designing a game inclusive for girls	10	CO2	L2
4.	Describe the Vanden Berghe's Five Domains of Play	10	CO2	L2

- PART III**
- 5 Describe the structure of a video game.
- OR**
- 6 What is Genre? Explain adventure and puzzle games.

- PART IV**
- 7 What are the stages of Design process

- OR**
- 8 Explain the dangers of binary thinking

- PART V**
- 9 Explain the anatomy of a Game Designer
- OR**

- 10 Explain the game design team roles

10	CO1	L2
10	CO3	L2
10	CO1	L2
10	CO2	L3
10	CO1	L2
10	CO2	L2

1. Explain Conventional games and video games.

Conventional games must have a thorough understanding of the essential elements play, rules, goals, and so on and should be able to design an enjoyable game with nothing but paper and pencil. Video games are a subset of the universe of all games. A video game is a game mediated by a computer, whether the computer is installed in a tiny keychain device such as a Tamagotchi or in a huge electronic play environment at a theme park

Hiding the Rules Unlike conventional games, video games ordinarily do not require written rules. The game still has rules, but the machine implements and enforces them for the players.

Setting the Pace In conventional games that don't use a timer, either the players or an independent referee sets the pace of the game—the rate at which the events required by the rules take place. In effect, it is up to the players to make the game go. In video games, the computer sets the pace and makes the game go. Unless specifically waiting for the player's input, the computer keeps the game moving forward at whatever pace the designer has set.

Presenting a Game World The players can think of themselves as make-believe characters in a make-believe place. With conventional games, this takes place primarily in the player's imagination, although printed boards, cards, and so on can help. Video games can go much further. By using a screen and speakers, video games present a fictional world the players can sense directly. Modern video games are full of pictures, animation, movies, music, dialog, sound effects, and so on that conventional games cannot possibly provide.

Creating Artificial Intelligence AI brings considerably more to video gaming than artificial opponents for traditional games. Game developers use AI techniques for the following: strategy, pathfinding, natural language parsing, natural language generation.

2.What do you mean by Serious games? Explain different kinds of Serious games.

Serious games are games that solve real-world problems. They are not designed purely for entertainment but to accomplish something meaningful in the real world. The best of them are entertaining, however, because they achieve their goals by means of enjoyable play. There are many kinds of serious games, and this book has room to discuss them only briefly.

Education and Training The oldest form of serious game is the educational game. Educational gaming has advanced considerably since its beginnings, as designers have found ways to inspire players to learn, or to teach them things without their even being aware that they are being taught—a trick called stealth learning. Educational games are not confined to children. Many vocations require training and use games as a teaching tool. For example, games can be used to train para-medics, hazardous materials response teams, and military personnel. I have consulted on the design of a game that trains laparoscopic surgeons to improve their motor skills

Simulation and Study Many games (such as flight and driving simulators) reproduce a real process of some kind, so the boundary between games and simulations is indistinct.

Generally speaking, a pure simulation makes no concessions to entertainment at all and tries to be as accurate as possible within the limitations of its hardware. Serious games for the purpose of simulation try to retain the accuracy but to incorporate more game-like qualities to provide player feedback and engagement. For example, the online puzzle game Foldit lets players search for proteins with shapes that can be useful in chemistry and medicine.

Persuasive Games Some people use games to convey a particular message or point of view, either to advertise a product or to promote a political or charitable cause. The web-based Virtual Pilot game by Lufthansa airline tests the players' knowledge of the names and locations of European cities... but it includes only the cities that Lufthansa flies to, so it subtly promotes awareness of their route map. If a game conveys its message primarily through its mechanics rather than through explicit narration, we say that it uses procedural rhetoric.

Games for Health and Growth It's now well known that mental exercise helps to prevent loss of brain function as humans age, and this accounts for the popularity of brain-training games. But games can be used in many other aspects of health care and personal growth as well. Wii Fit has become popular in care homes for the elderly and as a way of making physical therapy less boring. Games can also reduce the need for morphine during painful procedures by distracting the patient. The University of Washington's Medical Center created a game called Snow World, which—with the addition of virtual reality gear—helps people undergoing burn treatment.

3. Explain Kaye Elling's Five Cs for designing a game inclusive for girls.

Kaye Elling was creative manager at Blitz Games on the Bratz series, and in 2006, she gave an insightful lecture called "Inclusive Games Design" at the Animex festival in the UK (Elling, 2006). Elling proposed five characteristics of games, all beginning with the letter C, that designers should strive for to make them more inclusive and accessible to girls.

- **Characterization.** "Character Development," discusses, women (and girls) see avatars as someone who represents themselves rather than someone they simply control. Therefore, an avatar has to be someone girls can identify with, and to have no qualities they find distasteful.
- **Context.** Environments matter to girls, and they will be repulsed by environments that they find ugly or hostile. This advice concurs with Jesyca Durchin's thoughts in the sidebar "Jesyca Durchin's Advice."
- **Control.** Girls like to feel as if they are in control of the game, rather than that it is in control of them. The risk-and-reward style of gameplay appeals less to girls because they don't enjoy taking risks as much as boys do. They also dislike mechanics that harshly punish failure, because those mechanics discourage experimentation.
- **Customization.** Girls customize their mobile phones and other accessories more than boys do, so it makes sense that they would want to customize their games as well—especially their avatars. Bratz: Rock Angelz offered 686 different items of

clothing, makeup, jewelry, and so on. The more desirable ones are unlockable rewards the player can earn for completing mini-games.

- Creativity. Creative play is a big part of what makes The Sims successful with girls and women. Creativity gives players a chance to express themselves and show off what they made to others. It's not confined to girl games by any means; even in Halo 2 players can design unique clan badges.

4. Explain Vanden Berghe's five domains of play.

VandenBerghe's work is based on a well-known psychological model of human personality traits called the Five Factor Model. also known as "The Big Five," explains personality traits in terms of five non overlapping domains:

Openness to new experiences

Conscientiousness

Extraversion

Agreeableness and

Neuroticism

Novelty:

- Players who seek novelty like games that include a lot of variety and unexpected elements.
- People who don't like novelty seek familiarity instead: games that offer them a comforting sameness.
- These players might prefer Words with Friends to a science fiction extravaganza set in a strange world with strange rules

Challenge:

- VandenBerghe correlates a desire for challenge—and perhaps more specifically effort and control—with the trait of conscientiousness.
- High-challenge players prefer games that are difficult and require precision to win.
- Their conscientiousness drives them to act, to accomplish things, and perhaps to try to complete everything in a game.
- Low-challenge players like sandbox games and others in which the player is free to fool around without being required to achieve something.

Stimulation:

- Particularly via social engagement, this naturally correlates with extraversion.
- These players enjoy party games and others that involve interacting with other players.

- Those who prefer to avoid stimulation prefer games they can play alone, games that let them be the only real person in the game world.

Harmony:

- the feeling that all parts of the game belong to a single, coherent whole.
- VandenBerghe is referring to social harmony and correlates this motivation with the personality trait of agreeableness.

Threat:

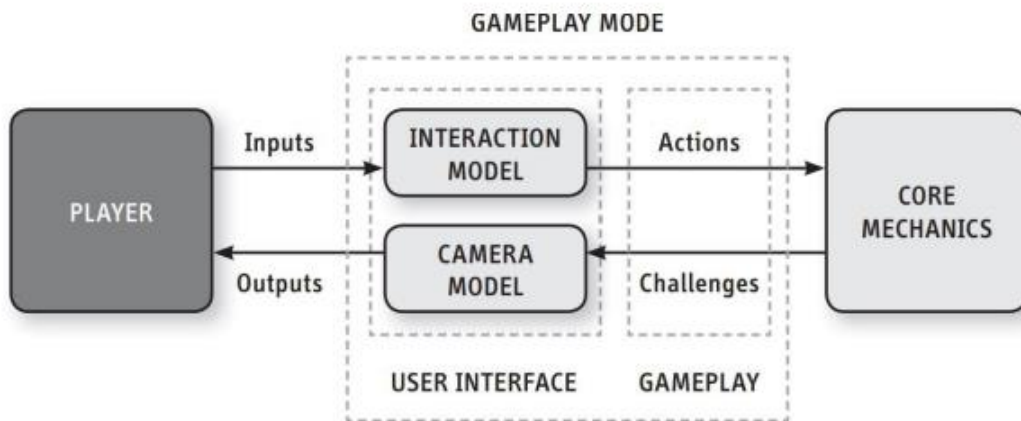
- This domain is the most peculiar one because players' reactions to it are the opposite of what you might expect.
- The game quality of threat (an element of danger, or frightening content—anything that is likely to generate unpleasant emotions) is popular with people who have high neuroticism scores in OCEAN tests.

5. Describe the structure of a video game.

How and why the changes occur are determined by the game's structure. The structure is made up of gameplay modes and shell menus.

GamePlay Modes:

- The combination of related items available gameplay and supporting user interface at a given point in the game—collectively describe something called a gameplay mode.
- A gameplay mode consists of the particular subset of a game's total gameplay that is available at any one time in the game, plus the user interface that presents that subset of the gameplay to the player.
- The concept of the gameplay mode is central to the process of designing video games.
- A game can be in only one gameplay mode at a time.
- Many of the earliest arcade games have only one gameplay mode. In Asteroids, for example, you fly a spaceship around a field of asteroids, trying to avoid being hit by one and shooting at them to break them up and disintegrate them. The camera model and the interaction model never change, nor does the function of the controls.



Shell Menus and Screens:

- modes in which the player cannot affect the game world but can make other changes is called shell menus.
- Non interactive sequences such as title screens or credits screens are called shell screens.

The Game Structure:

- The gameplay modes and shell menus of the game, and the relationships among them, collectively make up the structure of the game.
- To document the structure, you can begin by making a list of all the modes and menus in the game.
- You must also include a description of when and why the game switches from one mode or menu to another: what event, or menu selection, causes it to change.
- Each mode or menu description should include a list of other modes and menus it can switch to and, for each possible switch, a notation about what causes it
- A better approach is to document the structure of a game with a flowboard, a combination of flowchart and storyboard.

6. What is Genre? Explain adventure and puzzle games.

- A genre is a category of games characterized by a particular set of challenges, regardless of setting or game-world content.

Adventure Games:

- Adventure games chiefly provide exploration and puzzle-solving.
- They sometimes contain conceptual challenges as well.

- Adventure games may include a physical challenge also, but only rarely.
- An adventure game is an interactive story about a character whom the player controls
- This character is the player's avatar, but he's more than merely a representative of the player.
- He is a fictional person in his own right, a protagonist, the hero of the story.
- Although both adventure games and role-playing games possess this quality, RPGs normally offer a heavily numbers-based character-growth system (levels, weapons, skills, and so on), while adventure games do not—their character growth is dramatic, not numeric.

Puzzle Games:

- Puzzle games offer logic challenges and conceptual challenges exclusively and even there's time pressure or an action element.
- In puzzle games, puzzle solving is the primary activity, though puzzles may occur within a story line or lead up to some larger goal
- puzzle games usually provide a series of related challenges, variations on a theme.
- The types of puzzles offered include recognizing patterns, making logical deductions, or understanding a process.
- In most cases, the puzzles give the player clues that have to be unraveled or solved somehow to meet the victory condition.
- Physics-based puzzle games like Angry Birds or Cut the Rope are exceptions; they generally have to be solved by trial and error.
- A hidden-object game also qualifies as a sort of puzzle game, although its challenge is purely to look closely at a complicated scene.

7. What are the stages of Design process.

- The concept stage, which you perform first and whose results do not change
- The elaboration stage, in which you add most of the design details and refine your decisions through prototyping and playtesting
- The tuning stage, at which point no new features may be added, but you can make small adjustments to polish the game.

The Concept Stage:

- It establishes things about the game that are so fundamental, changing them later would

wreak havoc on the development process because a great deal of the work done to implement the game would have to be thrown away

Getting a concept: a general idea of how you intend to entertain someone through gameplay and, at a deeper level, why you believe it will be a compelling experience. If your game resembles others that are already on the market, you would normally playtest several to see how they did things and how you can improve on them.

Defining an audience: Once you know what kind of experience you want to present, you have to think about who would enjoy that experience. , in player-centric design, you test every design decision against your hypothetical representative player to be sure that the decision helps to entertain your target audience.

Determining the players role: In a representational game, the player does a lot more pretending. Sometimes the roles in a game are multifaceted

Fulfilling the dream: Representational games are about fulfilling dreams—dreams of achievement, of power, of creation, or simply of doing certain things and having certain experiences.

Once you have a game concept, a role, and an audience in mind, it's time to begin thinking about how you will fulfill your player's dream. What is the essence of the experience that you are going to offer? What kinds of challenges does the player expect to face, and what kinds of actions does she expect to perform? Deciding what it means to fulfill the dream is the first step on the road to defining the gameplay itself.

The Elaboration Stage:

In the elaboration stage, you normally begin working with a small development team to construct a prototype of the game. If you are planning to incorporate radically new ideas or new technology, your team may also build a test bed or technical demonstration to try them out.

Prototyping:

Prototyping A prototype is a simplified, but testable, version of your game. Designers make prototypes to try out game features before they spend the time and money to implement them in the actual game; they also use them for play-testing with their audience to see if the game is enjoyable.

To build a software prototype, you create software that isn't as complete as your full game in order to try out some aspect of it. Tools such as Game Maker can make this much easier than doing it from scratch.

• Defining the primary gameplay mode:

The first task after deciding your concept is to define the primary gameplay mode of the game, the mode in which the player spends the majority of his time. Most games have one gameplay mode that is clearly the primary one. In a car racing game, it's driving the car. Tuning up the car in the shop is a secondary mode. In war games, the primary gameplay

mode is usually tactical—fighting battles. War games often have a strategic mode as well, in which the player plans battles or chooses areas to conquer on a map, but he generally spends much less time doing that than he does fighting.

- **Designing the protagonist:** If your game is to have a single main character who is the protagonist (whether or not the interaction model is avatar-based), it is essential that you design this character early on. You want the player to like and to identify with the protagonist, to care about what happens to her.
- **Defining the game world:** The game world is where your game takes place, and defining it can be an enormous task. There are many dimensions to a game world: physical, temporal, environmental, emotional, and ethical. All these qualities exist to serve and support the gameplay of your game, but they also entertain in their own right.
- **Designing the core mechanics:** If we have a sense of the kinds of challenges and actions that need to be included in the primary gameplay mode, you can begin thinking about how the core mechanics create those challenges and implement the actions.
- **Creating additional modes:** As we decide upon our game concept, you may realize that you need more than one gameplay mode. In the elaboration stage, design the additional modes: their perspective, interaction model, and gameplay. You must also document what causes your game to move from mode to mode—the structure of your game.
- **Designing levels:** Level design is the process of constructing the experience that the game offers directly to the player, using the components provided by the game design: the characters, challenges, actions, game world, core mechanics, and storyline if there is one. Creating a working playable level is an important milestone in the development of a game because it means that testers can begin play-testing it.
- **Writing the story:** A story may be integrated with the gameplay in a number of different ways. The story may be embedded, with prewritten narrative chunks, or emergent, arising out of the core mechanics. It may be linear and independent of the player's actions, or it may go in different directions based on the player's choices.
- **Build, test and iterate** Video games must be prototyped before they can be built for real, and they must be tested at every step along the way. Each new idea must be constructed and tried out, preferably in a quick-and-dirty fashion first, before it is incorporated into the completed product.

The Tuning Stage:

- **Feature lock**—No more features can be added.
- The features are defined and executed in elaboration stage. In tuning stage we can add some changes to the features.

8. Explain the dangers of Binary Thinking.

We can't make a game for everyone, so your target audience is necessarily a subset of all possible players, a subset determined by your answers to the questions "Who will enjoy

this game?” and “What kinds of challenges do they like?” This is binary thinking: We assume that if group A likes a thing, everyone outside that group won’t like it. It’s unsound reasoning and may actually cause you to lose part of your potential customer base

Reasoning Statistically about Player Groups Suppose you ask a group of players to rate their level of interest in a particular game on a scale of 0 to 10, with 0 representing no interest at all and 10 being fanatical enthusiasm. A few people will be at the extremes and the majority somewhere in the middle. If you graph the responses of men and women separately, you may find for a given game that the two groups have different arithmetic means; that is, the centers of their bell-shaped curves fall at different places on the graph.

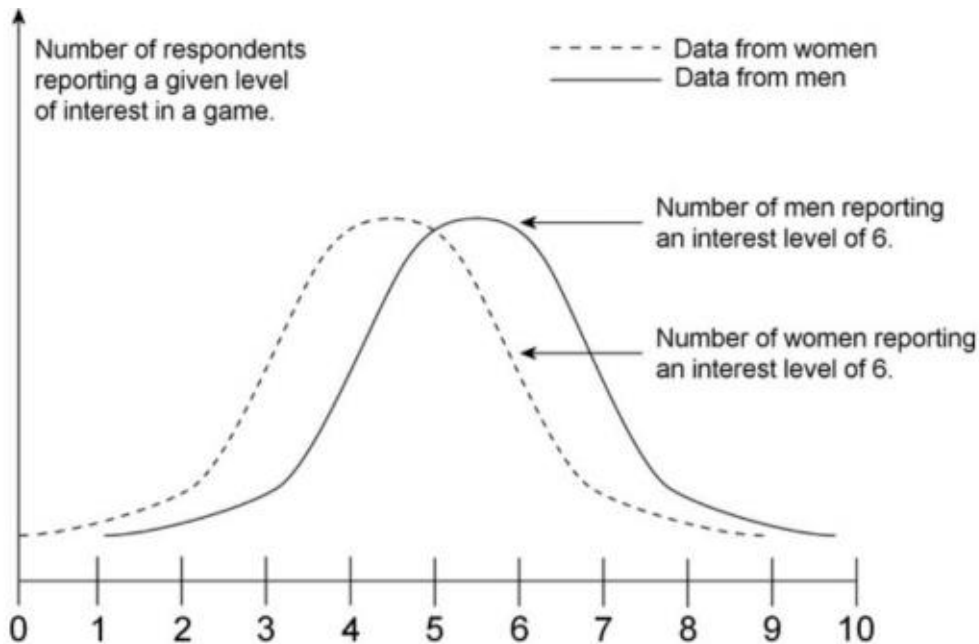


Figure 4.3 Reported level of interest in a game on a 0–10 scale

Men have a higher level of interest in this game than women do,” in fact, a large area of overlap indicates that a significant portion of the women surveyed are interested in the game as well. Furthermore, the number of women reporting an interest level of 6 is about two-thirds that of the number of men reporting the same interest level. two-fifths of all the people reporting an interest level of 6 are women—far too many to simply ignore

Strive for Inclusiveness, Not Universality We cannot make a game that appeals to everyone by throwing in a hodgepodge of features because group A likes some of them and group B likes others. If you do, you will produce a game that has too many features and no harmony. For instance, you can’t make a game that appeals to action fans, to strategy fans, and to fans of management simulations by combining kung fu, chess, and Monopoly—the result would be a mess that appeals to none of them. On the other hand, you can include a story line in a fighting game so long as the story line doesn’t interfere with the gameplay. The story line adds depth to the game without driving away its key market of fighting-game enthusiasts, and it might attract the interest of people who otherwise wouldn’t pay any attention to a fighting game. Heavenly Sword and God of War are good examples.

9. Describe the anatomy of a game designer

Imagination

A game exists in an artificial universe, a make-believe place governed by make-believe rules. Imagination is essential to creating this place. It comes in various forms:

Visual and auditory imagination enables you to think of new buildings, trees, animals, creatures, clothing, and people—how they look and sound.

Dramatic imagination is required for the development of good characters, plots, scenes, motivations, emotions, climaxes, and conclusions.

Conceptual imagination is about relationships between ideas, their interactions, and dependencies.

Lateral thinking is the process of looking for alternative answers, taking an unexpected route to solve a problem.

Deduction is the process of reasoning from a creative decision you've made to its possible consequences. Deduction isn't ordinarily thought of as imagination, but the conclusions you arrive at produce new material for your game.

Technical Awareness:

Technical awareness is a general understanding of how computer programs, particularly games, actually work.

Level designers, in particular, often need to be able to program in simple scripting languages. You must also be aware of its limitations so that you don't create unworkable designs.

Analytical Competence:

Analytical competence is the ability to study and dissect something: an idea, a problem, or an entire game design. No design is perfect from the start; game design is a process of iterative refinement. Consequently, you must be able to recognize the good and bad parts of a design for what they are.

Mathematical Competence: Designers must have basic math skills, including trigonometry and the simpler principles of probability. Balancing games that feature complex internal economies, such as business simulations or real-time strategy games, can require you to spend a lot of time looking at numbers.

Aesthetic Competence:

Although you need not be an artist, you should have a general aesthetic competence and some sense of style. Far too many games are visual clones of one another, depending on stereotypes and clichés rather than real imagination. It's up to you (along with your lead artist) to set the visual tone of the game and to create a consistent, harmonious look

General Knowledge and the Ability to Research:

The most imaginative game designers are those who have been broadly educated and are interested in a wide variety of things. It helps to be well versed in such topics as history, literature, art, science, and political affairs.

Writing Skills

A professional game designer actually spends most of his time writing, so a designer must have good writing skills. This means being clear, concise, accurate, and unambiguous.

Technical writing is the process of documenting the design in preparation for development.

Fiction writing (narrative) creates the story of the game as a whole—a critical part of the design process if the game has a strong storyline.

Dialog writing (drama) is needed for audio voiceovers and cinematic material. Dialog conveys character, and it also can form part of the plot.

Drawing Skills

The vast majority of computer games rely heavily on visual content, and drawings are essential when you're pitching a product to a third party.

The Ability to Synthesize:

Synthesis, in this context, means bringing together different ideas and constructing something new from them.

First, you must allow your team some ownership of the vision as well, or its members won't have any motivation or enthusiasm for the project.

Second, a designer who can't deliver in a team environment, no matter how visionary she may be, doesn't stay employed for long. You must be able to work successfully with other people.

10. Explain the game design team roles.

Lead Designer. This person oversees the overall design of the game and is responsible for making sure that it is complete and coherent. She is the "keeper of the vision" at the highest and most abstract level. She also evangelizes the game to others both inside and outside the company and is often called upon to serve as a spokesperson for the project. A project has only one lead designer.

General Game Designer. A game designer who doesn't have a specialized role like the ones that follow is usually responsible for a little bit of everything, but in particular defining the gameplay—the challenges the player will face and the actions that he can take to overcome those challenges. This may include thinking up and describing a great many game elements: enemies, friendly non-player characters, types of units, and so on

Level Designers: Level designers take the essential components of the game provided by the other designers—the user interface, core mechanics, and gameplay—and use those components to design and construct the individual levels that the player will play through in the course of a game. On large games, level designers frequently need to build 3D models and program in scripting languages.

User Interface Designer: If a project includes user interface design as a separate role, it's performed by one or more people responsible for designing the layout of the screen in the various gameplay modes of the game and for defining the function of the input devices.

Writer. Writers are responsible for creating the instructional or fictional content of the game: introductory material, back story, dialogue, cut-scenes (non-interactive narrative video clips), and so on.

Art Director. The art director, who may also be called the lead artist, manages production of all the visual assets in the game: models, textures, sprites, animations, user interface elements, and so on. The art director also plays a major role in creating and enforcing the visual style of the game. the art director is usually at the same level as the lead designer

Audio Director. Like the art director, the audio director of a game oversees production of all the audible assets in the game: music, ambient sounds, effects, and dialogue or narration.

Lead Programmer. The lead programmer oversees the coding team and is responsible for the technical design of the game, as well as the quality of the software.

Producer or Project Manager Job roles in the game industry are not standardized, but typically a producer has overall responsibility for the game as a commercial product, and in addition to thinking about development, he also works with marketing, public relations, and community managers (if any) to help build excitement about the game before release. Producers usually expect to have a fair amount of creative input into the design, and they expect veto power over expensive or unworkable suggestions. The producer may also track the day-to-day progress of development, making sure that tasks are getting completed and that nobody is stuck waiting for something else to happen