CARIBBEAN EXAMINATIONS COUNCIL

Caribbean Advanced Proficiency Examination®

SYLLABUS

ANIMATION AND GAME DESIGN

CXC A37/U2/*22*

Effective for examinations from May–June 20*24*

CXC

CAPE®

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CXC

Contents

CXC

NOTE TO TEACHERS AND LEARNERS

Please note that the syllabus has been revised and amendments are indicated by italics.

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PLEASE NOTE

This icon is used throughout the syllabus to represent key features which teachers and learners may find useful.

Introduction

The Caribbean Advanced Proficiency Examination® (**CAPE®**) is designed to provide certification of the academic, vocational and technical achievement of students in the Caribbean who, having completed a minimum of five years of secondary education, wish to further their studies. The examinations address the skills and knowledge acquired by students under a flexible and articulated system where subjects are organised in 1-Unit or 2-Unit courses with each Unit containing three Modules. Subjects examined under **CAPE®** may be studied concurrently or singly.

The Caribbean Examinations Council offers three types of certification at the **CAPE®** level. The first is the award of a certificate showing each **CAPE®** Unit completed. The second is the **CAPE®** Diploma, awarded to candidates who have satisfactorily completed at least six Units, including Caribbean Studies. The third is the **CXC®** Associate Degree, awarded for the satisfactory completion of a prescribed cluster of *ten* **CAPE®** Units including Caribbean Studies, Communication Studies *and Integrated Mathematics. Integrated Mathematics is not a requirement for the* **CXC®** *Associate Degree in Mathematics.* The complete list of Associate Degrees may be found in the **CXC®** Associate Degree Handbook.

For the **CAPE®** Diploma and the **CXC®** Associate Degree, candidates must complete the cluster of required Units within a maximum period of five years. *To be eligible for a* **CXC®** *Associate Degree, the educational institution presenting the candidates for the award, must select the Associate Degree of choice at the time of registration at the sitting (year) the candidates are expected to qualify for the award.* Candidates will not be awarded an Associate Degree for which they were not registered.

Animation and Game Design Syllabus

♦ RATIONALE

Animation and Game Design is a course of study that focuses on the process of creating motion and shape change illusion and applying design aesthetics for animation and game development. It facilitates the creative and deliberate use of traditional and new media to represent thoughts, issues, and messages to various audiences. Through a collaborative, highly practical*, learner centered* and industry-driven approach, the Animation and Game Design Syllabus will provide opportunities for students to develop their aesthetic and technical competences, express creativity and conceptualise projects that integrate technology, arts and media to address various issues. This syllabus will also empower students for further studies or immediate entry into the job market whether through waged or entrepreneurial (self) employment, by providing goods or services on any feasible scale.

The study of the Animation and Game Design Syllabus will facilitate the achievement of core Twenty-first century student outcomes which include the mastery of information, media and technology skills, life and career skills, and learning and innovation skills. Given the current importance and dynamism of the field of Animation and Gaming both at the regional and international levels, the syllabus will help to increase the cadre of culturally aware practitioners such as content creators, animators, graphic artists, sound engineers/technicians and actors trained in the use of industry-specific skills to solve design and communication problems. This will result in the region being poised to secure and utilise the skillsets and knowledge base that are essential to building and sustaining the digital economy in the Caribbean.

Ultimately, this course of study in **CAPE®** Animation and Game Design will develop the Ideal Caribbean Person who, as articulated by CARICOM Heads of Government at their 18th Summit, is emotionally secure with a high level of self-confidence and self-esteem; sees ethnic, religious and other diversity as a source of potential strength and richness; has an informed respect for our cultural heritage; demonstrates multiple literacies, independent and critical thinking; questions the practices of the past and present and brings this to bear on the innovative application of science and technology to problem solving. *This individual* demonstrates a positive work ethic and values and displays the creative imagination in its various manifestations and nurtures its development in economic and entrepreneurial spheres *and* in all other areas of life. This course of study will also help candidates to meet the criteria of the UNESCO Pillars of Learning, which are, Learning to know, Learning to do, Learning to live together, *Learning to be* and Learning to transform themselves and society.

♦ AIMS

This syllabus aims to:

1. develop a fundamental understanding of the *theories,* principles and *ethical* practices of animation and game design;

2. foster an appreciation of the value of animation and game design to society;

3. encourage the development of dynamic, creative, innovative and sustainable *animation and gaming* solutions relevant to economic, educational, cultural and social contexts;

4. engender critical thinking, *project* management*, team orientation,* entrepreneurial skills and competencies necessary for functioning effectively in the *dynamic* animation and game design environment; and,

5. facilitate the acquisition of relevant knowledge, skills and competencies through *experiential and* authentic learning experiences, in preparation for a career in the Animation and Game~~s~~ industr*ies.*

♦ SKILLS AND ABILITIES TO BE ASSESSED

The skills and abilities that students are expected to develop on completion of this syllabus have been grouped under three headings:

(a) Knowledge and Comprehension.

(b) Creativity, Innovation and Collaboration.

(c) Presentation and Communication Skills.

Knowledge and Comprehension

The ability to:

(a) define terms and concepts;

(b) describe *current and emerging trends*;

(c) explain the economic, social and cultural impacts;

(d) explain the entrepreneurial opportunities; *and,*

(e) describe ethical issues and considerations.

Creativity, Innovation and Collaboration

The ability to:

(a) conceptualise *and design* innovative solution*s using animation and game design principles*;

(b) apply *the* entrepreneurial *mind set to local/regional problems*; *and,*

(c) work with others *to apply skills and techniques* to realise a product.

Presentation and Communication skills

The ability to:

(a) select and use appropriate tools/technology;

(b) use appropriate terminology in discussing their discipline; and,

(c) articulate ideas/concepts effectively.

♦ PREREQUISITES OF THE SYLLABUS

Any person who has completed five years of secondary education or its equivalent should normally be able to pursue the course of study defined by the syllabus. However, it is desirable that a candidate has some *programming, illustration and design skills,* as well as good verbal and written communication skills.

♦ SOFTWARE AND EQUIPMENT

Candidates must be able to access equipment and materials that provide them with opportunities to participate in activities in a learning environment similar to that of a real animation and game design workplace. This access can be inside or outside of the classroom and *may* include open source software relevant to Animation and Game Design.

♦ STRUCTURE OF THE SYLLABUS

The subject is organised in two Units. A Unit comprises three Modules each requiring 50 hours. The total time for each Unit, is therefore, expected to be 150 hours with at least 60 percent of the time dedicated to practical work. Given the nature of the discipline, teamwork is mandatory for students. Each Unit can independently offer students a comprehensive programme of study with appropriate balance between depth and coverage to provide a basis for further study in this field.

UNIT 1: Fundamentals of Animation and Game Design

Module 1 - Understanding Animation and Game Design
Module 2 - Drawing and Layout
Module 3 - Story and Character Development

UNIT 2: Interactive Design and Game Development

Module 1 - Introduction to Interactive Design
Module 2 - Game Design and Development
Module 3 - Animation for Games

In this syllabus, the specific objectives which are denoted by an asterisk (*) are particularly suitable for practical exercises. However, practical work should not necessarily be limited to these objectives.

♦ APPROACHES TO TEACHING THE SYLLABUS

The specific objectives indicate the scope of the content and the activities that should be covered. The students should be exposed to accurate and unbiased content and skills that will foster more creative and prepared citizens capable of effectively participating in a dynamic society. Therefore, the role of the teacher is to employ a collaborative, authentic, highly practical and learner-centered approach to facilitate students' learning.

♦ UNIT 1: FUNDAMENTALS OF ANIMATION AND GAME DESIGN

MODULE 1: UNDERSTANDING ANIMATION AND GAME DESIGN

GENERAL OBJECTIVES

On completion of this Module, students should:

1. develop an understanding of animation and game design;
2. demonstrate awareness of the *impact* of *the* animation and game design *industry on the region*;
3. be aware of skill sets needed in animation and game design;
4. *understand the ethical and social implications involved in animation and game design; and,*
5. understand game design methodologies *and the animation design process.*

SPECIFIC OBJECTIVES	CONTENT/EXPLANATORY NOTES
Students should be able to:	
1. define terms associated with animation and game design;	*(a)* Animation. *(b)* Game Design. *(c)* Other relevant terms *which can be found in the Glossary*.
2. outline the history and *trends in* animation and game design;	History of animation *and current trends:* *(a)* *h*istory of *twentieth century* game design *including the evolution of consoles, and related technologies; and,* *(b)* *current trends, including but not limited to: VR, Augmented Reality, Mixed Reality, Gesture-based.*
3. *outline the stages in the animation and game design process and the applicable roles and responsibilities;*	*Stages, roles and responsibilities including but not limited to:* *(a)* *p*re-production: contract service providers - console developers, software developers, tool developers, designer, *storyboard designer,* scriptwriter;

SPECIFIC OBJECTIVES	CONTENT/EXPLANATORY NOTES
Students should be able to:	
	(b) production: layout/environment designer, animator, sound engineer; and,
	(c) post-production: consumers, players, publishers, distributors, retailers.
4. explain the different *animation and* game goals;	Goals: educational, entertainment *and edutainment*.
5. *explain the different game and animation genres;*	*Game g*enres *including*: Arcade, Action, Adventure, Puzzle, Role Play Game (RPG), Strategy, Simulator, Board, and Sports. *Animation genres including: Adventure, Comedy, Science-fiction, Fantasy, Action, Drama, Horror, Romance and Mystery.*
6. discuss the methods of deploying games;	*(a)* Platforms: Computers, handheld consoles, home consoles, mobiles, arcade, tabletop, and online*/digital distribution (examples Google Play Store, Apple)*. *(b) Advantages and disadvantages.*
7. outline the elements of game play;	*Elements of game play:* Rules, characters, sound, environment, storyline, actions, skills, choice, player modes including single, multiplayer, *massive multiplayer online game (MMOG).*
8. explain game theory *in* game design;	*Theory:* mathematical and logical actions leading to winning, pure conflict (zero-sum), mutual gain (positive sum), mutual harm (negative sum).
9. outline the role and impact of the Animation and Gaming Industry on the Caribbean region;	*(a)* Economic value of games and animation*:* *(i) job creation;* *(ii) Government revenue;* *(iii) fostering entrepreneurship; and,* *(iv) GDP growth.*

SPECIFIC OBJECTIVES	CONTENT/EXPLANATORY NOTES
Students should be able to:	
	(b) Educational value of games and animation: (Instructional materials, assessment including gamification).
	(c) Entertainment value of games and socioculturally relevant themes.
10. discuss the *soft* skills that support employment and entrepreneurship in animation and game design;	*(a)* *Soft skills: critical thinking, creativity, innovation and communication.*
	(b) Team/collaborative skills and approaches including virtual team approach to entrepreneurship versus individual practices.
11. *outline the main stages of animation design;*	*Main stages including:* *Brainstorming, creative brief (what is the animation's aims and objective, length, audience and deadlines), visual style guide, scripting, storyboarding and/or animatics.*
12. *outline the main stages of iterative game design;*	*Creative process including:* *(a) brainstorming and ideation;* *(b) rapid prototyping;* *(c) play test;* *(d) revision; and,* *(e) repeat.*
13. *outline the advantages and disadvantages of RAD versus the plan-based method;*	*(a) Compare to plan-based methods. For example, waterfall methods.* *(b) Advantages and disadvantages of RAD.*
14. *outline the pipeline process used in animation design;*	*Ideation, development, pre-production, production and post-production.*

SPECIFIC OBJECTIVES	CONTENT/EXPLANATORY NOTES
Students should be able to:	
15. *demonstrate effective pitch delivery*;	*(a) Pitching (pitch deck and art of the five- minutes pitch).* *(b) SWOT analysis.* *(c) Skills and preparation required: research, time management, and communication.* *Guidelines for effective oral and written communication:* *(a) diction;* *(b) grammatical structures;* *(c) knowing your audience: relationship between audience and diction;* *(d) determine the purpose: inform, persuade, instruct, entertain;* *(e) structure: Beginning, Middle and End; and,* *(f) importance of the hook and types of hooks, for example, statistics and quotes.* *Oral communication elements:* *(a) tone and pitch;* *(b) body language and movement;* *(c) use of visual aids with specific emphasis placed on multimedia;* *(d) equipment and room check; and,* *(e) importance of editing.*

SPECIFIC OBJECTIVES	CONTENT/EXPLANATORY NOTES
Students should be able to:	
16. *create a production plan and concept note for an animation and game project;*	*(a) Pre-production, production and post-production tasks.* *(b) Concept Note (two pages-maximum).* *(c) Synopsis.* *(d) Demographics.* *(e) Character description.* *(f) Budget that includes appropriate pre-production, production, and post-production items.* *(g) Competitive advantage.* *(h) A concept image that characterises the nature of the project.* *(i) SWOT analysis.* *(j) Methods of funding: Government Grants, Crowd funding (donation), Venture Capitalist, Angel Investor, Lending institutions (loans), Bootstrapping (pitch competition).* *(k) Levels of risk for different funding methods.*
17. identify concepts and skills required for animation and game design;	(a) 12 principles of Animation (Walt Disney). (b) Programming languages such as C#, Java and Python. (c) Game Development Tools such as: *Unity*, Construct 2 and Stencyl. (d) Examples of Open Source and Proprietary software useful for animation and game design.

SPECIFIC OBJECTIVES	CONTENT/EXPLANATORY NOTES
Students should be able to:	
18. *demonstrate basic sound editing techniques;	*The science of sound, the ten recording commandments (Sound Bible), critical listening, types of sound effects (hard, Foley, background, electronic, sound design), vocal recording, editing (fades and multi-tracks), exporting files.*
19. outline ethical and social issues associated with animation and game design; *and,*	*Implications: Ethical and social issues.* *Plagiarism* *What is right or wrong about individuals' actions when dealing with animation and game design for example:* (a) *downloading software that is too costly to purchase from file sharing networks;* (b) making *unauthorised copies* of digital content; *and,* (c) *use of content including music/sound without creator's permission.* *Licencing Protocols for Open Source Resources*: (a) Open Source*;* (b) Open Data*;* (c) Open Educational Resources (OER)*;* (d) Open Source versus Public Domain*; and,* (e) Creative Commons Licensing. *Not adhering to content ratings.*

SPECIFIC OBJECTIVES	CONTENT/EXPLANATORY NOTES
Students should be able to:	
20. explain risks associated with animation and game design.	Intellectual property, patents and copyright protection as it relates to animation and game design: (a) *t*he reasons for and importance of intellectual property, patents and copyrights*;* (b) intellectual property, patents and copyrights protect*ion;* (c) *p*enalties for infringement of intellectual property, patents, copyrights*;* (d) *p*rocess involved in copyrighting and patenting one's work*; and,* (e) *un*authorised use of copyrighted material.

Suggested Teaching and Learning Activities

To facilitate students' attainment of the objectives in this Module, teachers are advised to engage students in the following teaching and learning activities which may be done separately or merged to facilitate sequencing and portfolio development.

1. Have students *work in small groups to view and discuss online* lectures *and videos* on the history of animation *and create a timeline to illustrate the chronology of animation*. *They should share their work with the class*.

2. *Have students collaborate* in groups or pairs to conduct research on different stages of the history of animation or game design. They should use a "show and tell" approach via props or multimedia to make their presentations. Facilitators can assign a stage in the chronology to a student, pair, or team for them to research and present.

3. Have students create a character that illustrates the principles of good animation. They should justify with evidence, why they think their character embodies the principles.

4. Have students discuss the economic impact of gaming and animation globally including success stories. Encourage them to use case studies and news articles to illustrate the economic value of both industries.

5. Have students *view videos of persons doing a pitch and use the information as a guide to prepare and make their own pitches*. *These should be peer reviewed using the mark scheme or a check list and feedback provided.*

6. Have students *participate in* guest lectures (virtual or face-to-face) facilitated by persons from areas such as the animation and gaming industries, intellectual property and law enforcement agencies *to address relevant topics.* Field trips may also be arranged for students to visit relevant sites; (virtual alternatives could also be facilitated). Students should also be guided to develop instruments for conducting interviews during the field trips or for asking questions after the lectures.

7. Have students *attend* demonstrations done *(virtually or face to face)* by industry experts as to how to distribute/share games online. *These demonstrations may also be facilitated by the teacher or a knowledgeable student*.

RESOURCES

Anthropy, A. and Clark, N.	*Game Design Vocabulary, A: Exploring the Foundational Principles Behind Good Game Design, Addison-Wesley, 2015.*
Thorn, A.	Game Development Principles, Cengage Learning, 2014.

1. Tablets
2. Computers
3. Drawing pads
4. Drawing Tablets
5. Relevant Software

WEBSITES

http://www.cta.int/en

https://elearningindustry.com/top-10-free-timeline-creation-tools-for-teachers

https://hcandelar8.wordpress.com/2013/06/11/monsters-inc-archetypes/

https://www.informationweek.com/software/7-ways-to-create-e-portfolios/d/d-id/1110673?

http://www.museumofplay.org/icheg-game-history/timeline/

https://blog.udemy.com/archetypal-characters/

http://www.animationmeat.com/pdf/televisionanimation/strybrd_the_simpsonsway.pdf

https://www.artella.com/#features

https://www.youtube.com/watch?v=7y0ouVBcogU

https://www.estuarypartnership.org/sites/default/files/Sound%20Mapping_Watershed%20Focus%20Lesson.pdf

UNIT 1
MODULE 2: DRAWING AND LAYOUT

GENERAL OBJECTIVES

On completion of this Module, students should:

1. *develop observational, interpretive and drawing skills of subjects which include natural and manmade drawings from life;*

2. *understand spatial concepts for compositing and layout design;*

3. *employ design skills to create characters specific to gaming and animation;*

4. understand the importance of applying social and cultural relevance to animation and game design; and,

5. understand theories and *principles* used to conceptualise ideas for animation and game design.

SPECIFIC OBJECTIVES	CONTENT/EXPLANATORY NOTES
Students should be able to:	
1. use a variety of drawing techniques;	*Techniques: contour drawing, gesture drawing, dynamic figure drawing, digital art and illustrations.*
2. apply the elements and principles of art and design;	*(a) Elements: dot, lines, shape, colour, texture, form, space.* *(b) Life drawing.* *(c) Skeleton, muscle system, facial.* *(d) Principles: movement, contrast, balance, rhythm, repetition, proportion.*
3. draw from direct observation;	*(a) Detailed study, for example, a cross section of item or parts of the body.* *(b) Interpret compositions for a variety of subject matters, such as, still life, human figure, geometric drawings, architectural drawings and drawings from nature.*

UNIT 1
MODULE 2: DRAWING AND LAYOUT (cont'd)

SPECIFIC OBJECTIVES	CONTENT/EXPLANATORY NOTES
Students should be able to:	
4. *demonstrate* types of motion drawings;	Motion analysis: Gesture drawing, dynamic figure drawing; figure in motion, humanoid and non-humanoid characters.
5. *create* layers of an environment;	Midground, foreground, background layers.
6. *apply knowledge of design principles;	*(a)* Observational drawing: Perspective, *Depth of fields*. *(b)* Colour theory and texture. *(c)* Composition and layout: Scene design, blocking. *(d)* *Contrast, repetition, alignment and proximity.*
7. outline the structure of a game using levels;	*Environment, character(s), task(s), assets, progression.*
8. design the first three levels of a game;	*(a)* Levels: mission, quest, episode, world, chapter. *(b)* *Levels and game play: sequence, rewards, interface.*
9. design an environment where the animation takes place;	*Layout and design, illustration, colour techniques, depth of field and layers.*
10. create concept art for the game/animation;	*Consider the following:* *Mood, theme, colour theory and drawing style, character archetype, environment and references.*
11. apply Caribbean socio-cultural context to the development of animation and games and local ideas and concepts;	*(a)* Caribbean art and heritage. *(b)* Folklore as it applies to character development. *(c)* Cultural studies – festivals, celebrations, monuments, artefacts, architecture.

UNIT 1
MODULE 2: DRAWING AND LAYOUT (cont'd)

SPECIFIC OBJECTIVES	CONTENT/EXPLANATORY NOTES
Students should be able to:	
12. *apply* the steps for story development; *and,*	*(a)* Basic Storyboarding *(camera angles, sound, key events)*. *(b)* Story Development *(creative writing, story arc, script writing, character development)*.
13. *utilise digital image processing software to create digital artwork.	Digitise drawings: scanning, clean-up, colour *replacements*. Manipulate *layers (placement and cutting of layers).*

Suggested Teaching and Learning Activities

To facilitate students' attainment of the objectives in this Module, teachers are advised to engage students in the following teaching and learning activities which may be done separately or merged to facilitate sequencing and portfolio development.

1. *Have students observe and model* figure drawing techniques *which are projected in class.* These examples should include humanoid and non-humanoid figures.

2. *Expose the students to the figure using photographs, pictures, videos, mannequins.*

3. *Have students and/or models pose for the teaching and learning of figure drawing and gesture drawing techniques.*

4. *Have students engage in activities which allow them to be exposed to colour and colour mixing.* Engage them in activities where they paint the colour wheel to expose them to the experience of the colour changes, as well as for them to demonstrate their knowledge of the concept.

5. *Have students view* video tutorials on all topics *to enhance their exploration of the content.* These *video tutorials* can also be disseminated to facilitate student practice outside of the timetabled class sessions.

6. *Have students collaborate to research the basic principles of perspective and engage in class discussion.* Follow up by engaging students in the production of artwork done through observation. As a part of the requirements, students should create perspectives with an animated/gaming world as the background.

7. Still life can be set up using objects that are relevant to specific themes. Students are to observe and draw these objects. The teacher should ensure that the principles of observational drawing are taught, adhered to by the students and appropriately assessed.

8. *Have students practice their observational drawing from* a snapshot of a game or animation frame. *These should be shared to facilitate feedback from peers and the facilitator. Before and after drawings may be posted on their website or in the class.*

9. In order for students to investigate line, space, form, and shape, have them create a Pinterest board with elements that demonstrate their understanding of the concepts.

10. Engage students in an activity to practise landscape drawing and have them modify *them* to suit an animation or game environment. Emphasis should be placed on perspective and colours. *Students should then be placed in pairs to facilitate peer review and feedback on their works. The final version could be shared with the class.*

11. *Expose the students to digital imaging including drawing pads and digital art. They should also be allowed to practise the skills and create a simple product to demonstrate their knowledge of the software as well as their competence in this area.*

12. *Have students participate in lectures presented by* local animators and game designers in which they explain the relevance of animation and game design for local ideas and concepts.

13. *Encourage students to do research on characters in folklore and the evolution of the festivals in the region and its relevance on the culture of the Caribbean. It is also recommended that cultural heritage experts be invited to speak to the students.*

14. Arrange visits to local galleries, museums, or artists to expose the students to the work of artists and *to* view artefacts. *Have students write a reflection about their experience.*

15. Have students create Instagram or Pinterest accounts to host their work and share with peers and facilitators as they progress.

RESOURCES

1. Drawing Pads
2. Tablets
3. Models
4. Still Life Objects
5. Mixed Media
6. Digital Art Software: GIMP, Blender, Pixlr
7. Camera

WEBSITES

https://www.pixelovely.com/portfolio/figure-gesture-drawing-tools/

https://www.wikihow.com/Practice-Gesture-Drawing

https://www.youtube.com/watch?v=74HR59yFZ7Y (Gesture drawing techniques)

https://www.awn.com/animationworld/animation-layout-getting-perspective

https://www.studentartguide.com/articles/realistic-observational-drawings

https://www.pinterest.com/

https://www.instagram.com/

UNIT 1
MODULE 3: STORY AND CHARACTER DEVELOPMENT

GENERAL OBJECTIVES

On completion of this Module, students should:

1. understand concepts of story arcs and storytelling principles;
2. understand character *design in animation* and game *genres*;
3. understand *the importance of the environment in story and character development*; and,
4. develop *p*roduction documentation for *g*ame*s* and *a*nimation*s*.

SPECIFIC OBJECTIVES	CONTENT/EXPLANATORY NOTES
Students should be able to:	
1. *create a synopsis for a game *and an* animation;	(a) Synopsis development. *(b) Animation.* *(c) Story arc.* *(d) Character(s) description and environment design.* *(e) Games.* *(f) Genre.* *(g) Brief summary of plot/problem.* *(h) Character(s).*
2. *write a narrative for a game and an animation based on story arcs and storytelling principles;	*(a)* Story development. *(b)* Story Arc. *(c)* Scriptwriting. *(d) Character development.*
3. *create a storyboard for a game or animation;	*(a)* Storyboard creation. *(b) Panel documentation: sequence numbers, camera angles, key events, script narration, music/sound effects if applicable.* *(c) Benefits of storyboarding in animation and game design.*

SPECIFIC OBJECTIVES	CONTENT/EXPLANATORY NOTES
Students should be able to:	
4. *design genre-appropriate characters;	*(a)* Character Design Principles. *(b)* *Story.* *(c)* *Character archetypes.* *(d)* *Shape and lines.* *(e)* *Silhouettes.* *(f)* *Proportions and exaggerations.* *(g)* *Expression.* *(h)* *Posture and stance.* *(i)* *Scale, colour, shading and texture.*
5. *create character turnarounds;	Turn-around designs of characters *(front, side, three quarter, back)*.
6. *create an environment and assets suitable for the story of an animation or game; and,*	*(a)* Environmental design – layers (background, midground, foreground). *(b)* *Assets.*
7. *create a Production Bible for game design and animation.	Production Bible creation *including game design documents/animation proposal, production schedule, budget.*

UNIT 1
MODULE 3: STORY AND CHARACTER DEVELOPMENT (cont'd)

Suggested Teaching and Learning Activities

To facilitate students' attainment of the objectives in this Module, teachers are advised to engage students in the following teaching and learning activities which may be done separately or merged to facilitate sequencing and portfolio development.

1. *Have* students examine samples of storyboards and discuss these, then have them work in groups to create storyboards by sketching or using online tools.

2. *Have students discuss* sample synopses of stories *and then* create synopses based on a culturally relevant theme.

3. *Have students observe an illustration of* a five-point and an eight-point story arc, using a well-known story, then provide a scenario based on a culturally relevant theme and have students work in groups to create a story arc.

4. *After a class* discussion of the three-act structure of a story, have students work in groups to create a three-act story based on a culturally relevant theme.

5. Have students view an animation and discuss script development. Students will then begin to create a story journal.

6. Allow students to practise and demonstrate mastery of colour and texture skills such as painting and modelling in environmental designs. *Students will then engage in peer critique and provide feedback on each other's work.*

7. *Have students explore* the story arc examples in the resource folder, create a simple story concept and apply it to a story arc.

8. Use online videos and/or live demonstrations in the classroom, or on appropriate sites outside of the classroom setting, to illustrate the concept of camera angles. Have students work in groups to create a storyboard for the first scene of an animation story. This should include at least three different camera angles. They should then name these camera angles and create a camera angle montage.

9. *After demonstrations to illustrate foreground, midground and background, environmental designs by the teacher and/or a resource person* engage students in guided discussions on environmental designs. *Additionally,* students may view an animation or play a game to identify and describe the environmental layers. After the initial instructional activities, *have students* work in groups to create a game concept on a particular theme, and create an *e*nvironment for a game using, *f*oreground, *m*idground and *b*ackground. *These should be shared and peer reviewed.*

10. *Assign concepts to pairs of students to research and then engage them in discussions of the principles of design for various character archetypes. Follow up with students viewing an animated film and justifying the different character archetypes that are evident in that film.*

11. *Have* students *examine* a sample *digital/transmedia* Production Bible and discuss and demonstrate what it entails and how it is developed. Begin the SBA component of the syllabus with the sample as a guide.

12. *Have students engage* in a group activity where they create/design *a character adventure game or hero for pre-schoolers.* They should indicate the use of his/her special abilities and props and create a turnaround for this character.

UNIT 1
MODULE 3: STORY AND CHARACTER DEVELOPMENT (cont'd)

RESOURCES

Anthropy, A. and Clark, N.	*Game Design Vocabulary, A: Exploring the Foundational Principles Behind Good Game Design, Addison-Wesley, 2015.*
Thorn, A.	Game Development Principles, Cengage Learning, 2014.

1. Computer Microsoft Word
2. Storyboard applications online
3. Drawing tablet
4. Scanners
5. Relevant Software
6. Mixed media
7. Online tutorials
8. Drawing tablet
9. Camera

WEBSITES

https://www.storyboardthat.com/

https://www.cooltoons2.com/various/artlessons/turnarounds.html

https://ydraw.com/wp-content/uploads/2012/04/Stop-Motion-Aids-Multimedia-Learning.pdf

https://www.dailywritingtips.com/how-to-structure-a-story-the-eight-point-arc/

https://digitalworlds.wordpress.com/2008/04/07/story-arcs-and-the-three-act-structure/

https://animationsupplement.com/forum/entry.php?10-Chronology-History-of-Animation-Films-from-1926-to-1946

https://www.sophia.org/tutorials/cinematography-intro-camera-angles-shots

https://www.digitaltutors.com/tutorial/1760-Understanding-Color-Theory-in-Concept-Art-and-Illustration

https://www.ctrlpaint.com/videos/film-studies-foreground-middleground-background

♦ UNIT 2: INTERACTIVE DESIGN AND GAME DEVELOPMENT

MODULE 1: INTRODUCTION TO INTERACTIVE DESIGN

GENERAL OBJECTIVES

On completion of this Module, students should:

1. understand the evolution of animation and game design and development;
2. understand what is Interactive Design;
3. subscribe to the principles of Interactive Design;
4. understand visual design as it relates to designing user interfaces (UI);
5. subscribe to the principles of storytelling to develop interactive media products and services (game development);
6. *appreciate the importance of effective communication skills;*
7. implement creative solutions based on demographics; and,
8. be familiar with appropriate ethical business practices *in animation and game design.*

SPECIFIC OBJECTIVES	CONTENT/EXPLANATORY NOTES
Students should be able to:	
1. outline the history of animation *as well as the history of video* game design and development;	History of animation*, history of video* game design and development.
2. explain the different game genres;	Examples *include*: Arcade, action, adventure, puzzle, role play game (RPG), strategy, simulator, board, sports.
3. define Interactive Design;	*Definition of* Interactive Design (also known as Interaction Design and IxD).
4. discuss the five key/main principles of Interactive Design;	*Five key/main principles of Interactive Design: Consistent, Perceivable, Learnable, Predictable, Feedback.*
5. outline the factors that influence user experience;	*Factors that influence user experience: Useful, Usable, Desirable, Findable, Accessible, Credible.*

SPECIFIC OBJECTIVES	CONTENT/EXPLANATORY NOTES
Students should be able to:	
6. *explain* some prominent best practices for designing interactions *for games*;	*Best practices include: Discoverability, Signifiers, Feedback, Mappings, Consistency, Standards, Constraints, Learnability*.
7. *examine current trends in designing interactions for animations;*	*Examples include virtual reality (VR), interactive backgrounds.*
8. *identify the basic elements of visual design;*	*Basic elements of visual design:* *Line, Shape, Direction, Size, Texture, Colour, Value.*
9. *outline the principles for creating a visual design;*	*Principles for creating a visual design:* *Unity, Gestalt, Space, Balance, Hierarchy, Contrast, Scale, Dominance, Similarity.*
10. *discuss the importance of Colour Theory in animation and game design;*	*(a) Importance of colour theory in animation and game design.* *(b) The colour wheel, role of colour in character design, target audience and story.*
11. *employ design principles and best practices to create a wireframe of the user interface (UI) of a game;	*(a) Sketching.* *(b) Wireframing.*
12. *explain* the steps involved in creating a story arc;	Basic steps in creating a story arc: Exposition/Setup, rising action, catalyst, turning points, climax, resolution.
13. *employ the knowledge of writing scripts for *animations and* games;	*(a) Story Development (consideration of cultural and contextual relevance).* *(b) Scriptwriting (cultural symbols, core message).*
14. *create a storyboard *for an animation or a game;*	*(a) Storyboard Development.* *(b) Panel documentation: sequence numbers, camera angles, key events, script narration, music/sound effects if applicable.*

SPECIFIC OBJECTIVES	CONTENT/EXPLANATORY NOTES
Students should be able to:	
15. *present an idea for an interactive game *or animation*;	*(a)* Pitching *(pitch deck and the art of the five- minutes pitch)*. *(b)* Communication Skills (*diction, pacing*).
16. apply critical thinking to solve interactive design problems to meet customers' needs;	*(a)* Understanding demographics including: (i) *t*arget audience*;* (ii) *l*ocation*;* (iii) *a*ge group; *and,* (iv) *r*atings. *(b) SWOT analysis.*
17. outline the importance of culture in animation and game design; and,	*(a)* Cultural Studies: folklore to include mythological characters that are culturally and geographically appropriate. *(b)* Game *and animation* ratings: age appropriate. (See glossary for categories).
18. outline ethical business practices in animation and game design.	*(a)* Intellectual property *rights (copyright, trademarks, patents)*. *(b)* Role and responsibilities of monitoring agencies *(for example, Government Oversight Bodies, IP Offices).*

Suggested Teaching and Learning Activities

To facilitate students' attainment of the objectives in this Module, teachers are advised to engage students in the following teaching and learning activities which may be done separately or merged to facilitate sequencing and portfolio development.

1. Have students create Instagram or Pinterest accounts to host their work and share with peers and facilitators as they progress. *This may also be done as a group activity.*

2. Have students research the history of animation and games and discuss how animation and games have evolved over time. Teacher can assign a stage in the chronology to a student or team to research *and creatively present their work.*

3. *Have students work collaboratively to review a set of games and* identify major aspects such as the main character and other characters, the genre and demographic of the game and the story.

4. *Have students work in groups and based on specific demographics brainstorm ideas* for a game, create game concepts and present them using a relevant presentation tool. They should do follow-up activities where students create a storyboard from game concepts and story arcs.

5. *Allow* students to work in groups to examine *selected* games based on a checklist which serves to guide discussion on the user interface of those games, highlighting good and bad aspects/elements.

6. *Have students organize in working groups to observe or participate in* demonstrations (by teacher or appropriate expert) via teaching videos or face-to-face interactions. *Students will then* engage in hands-on activities to develop their competence in the use of wireframe tools, such as Balsamic Mockups, Framebox OmniGraffle, iPlotz, Mockingbird, Pencil and MS Vizio.

7. *Have students work collaboratively to view appropriate videos, bearing in mind different aspects of game design. They will then apply the relevant* steps to design their own games based on culturally appropriate themes and different target audiences.

8. After viewing and discussing videos of successful/unsuccessful pitches, have groups of students apply the skills to pitch their game concept to a panel of experts.

9. Arrange for guest lectures by persons in areas such as the animation and gaming industries, intellectual property agency and law enforcement agencies. Field trips may also be arranged for students to visit relevant sites. Students should also be guided to develop instruments for conducting interviews during the field trips or for asking questions after the lectures.

10. Arrange for students to conduct research on the existing standards regarding Interface Design for Games. They should analyse these standards and create an interface checklist to demonstrate their understanding. This list is to be used to guide a game deconstruction exercise in which a game is played by a set of students and deconstructed by other members of the class.

11. Invite history and heritage experts or leaders of folk troupes to make presentations on Folklore. Emphasis must be placed on the characters in the Folklore. Historical background must be explored to make students aware of the relevance of these characters to the culture of the Caribbean.

12. *Have students work collaboratively to examine the usefulness of Interactive Design in three games of different genres and provide clear identifications of the elements of each.*

13. *Have students examine how current trends in gaming, for example, VR and AR, are being used and what applications are there locally or regionally. They should creatively present their findings using relevant computer based or web-based tools.*

RESOURCES

Novak, J. — *Game Development Essentials: An Introduction, 3rd Edition. New York: Delmar Cengage Learning, 2012.*

Brathwaite, B. and Schreiber, I. — *Challenges for Game Designers. Boston: Course Technology, Cengage Learning, 2009.*

Despain, W. — *100 Principles of Game Design. New Riders: Pearson Education, 2013.*

Schell, J. — *The Art of Game Design: A book of Lenses, 3rd Edition. Burlington: Morgan Kaufman Publishing, 2019.*

Darby, J. — *Awesome Game Creation: No Programming Required, 3rd Edition. Boston: Thomson Learning Inc., 2008.*

Adams, E. — *Fundamentals of Game Design, 3rd Edition, New Riders, Pearson Education. 2013.*

Mitchell, B. L. — *Game Design Essentials, Indianapolis, Indiana: John Wiley & Sons Inc., 2012.*

Relevant Software
Online resources
Games
Celtx
Storyboard Template
Multimedia projector

WEBSITES

https://scratch.mit.edu/

https://www.ixda.org/

https://www.uxbooth.com/articles/complete-beginners-guide-to-interaction-design/

https://www.usability.gov/what-and-why/user-experience.html

https://www.mif.vu.lt/~moroz/HCI/2%20usability_experience_principles.pdf

https://www.vervesearch.com/best-practice-guides/user-interaction-design/

https://www.usability.gov/what-and-why/interaction-design.html

https://www.uxbooth.com/articles/wireframing-tips-tools-and-techniques-pt-2/

https://www.gamasutra.com/view/feature/129843/designing_usable_and_accessible_.php?page=1

https://www.usability.gov/what-and-why/visual-design.html

https://www.johnlovett.com/test.htm

https://history-of-animation.webflow.io/

https://en.wikipedia.org/wiki/History_of_animation

https://www.gamedesigning.org/gaming/history/

History of Video Game Design (envato.com)

Video Game History - Timeline & Facts - HISTORY

History of video games - Wikipedia

https://xd.adobe.com/ideas/principles/human-computer-interaction/what-is-interaction-design/

https://arl.human.cornell.edu/879Readings/Interaction%20Design%20-%20Beyond%20Human-Computer%20Interaction.pdf

https://www.toptal.com/designers/interactive/interaction-design-principles

https://www.invisionapp.com/inside-design/how-to-wireframe/

UNIT 2
MODULE 2: GAME DESIGN AND DEVELOPMENT

GENERAL OBJECTIVES

On completion of this Module, students should:

1. understand essential principles of game design;
2. develop an appreciation for Iterative Design;
3. know how to develop the mechanics for a game;
4. understand storytelling for games;
5. understand the principles of user interface design for games;
6. demonstrate proficiency in the use of game design software; *and,*
7. *understand the constraints associated with game design.*

SPECIFIC OBJECTIVES	CONTENT/ EXPLANATORY NOTES
Students should be able to:	
1. define the common terms associated with game design;	See Glossary.
2. *describe* the types of careers in game design;	Examples of careers: Programmer, Artist, Designer, Producer, Tester, Composer, Sound Designer, *Game* Writer.
3. *explain* the types of design associated with games;	Types of design: World Design, System Design, Content Design, *Story Design*, Level Design, User Interface *Design*.
4. distinguish among the different core dynamics of games;	Core dynamics of games: (a) territorial acquisition; (b) prediction; (c) spatial *r*easoning; (d) survival; (e) destruction; (f) building; (g) collection; (h) chasing or *e*vading; (i) trading; *and,* (j) race to the *e*nd.

SPECIFIC OBJECTIVES	CONTENT/ EXPLANATORY NOTES
Students should be able to:	
5. *identify prominent game design tools;*	*Examples of tools: Stencyl, Construct 2, Scratch, Unity, GameMaker, Unreal Engine, GDevelop.*
6. *apply* the stages/steps associated with iterative design *in game development*;	Stages/Steps: (a) rapid prototyping; (b) playtest; (c) revision; *and,* (d) repeat.
7. apply some common mechanics used in games;	Common Mechanics: (a) setup *(example character choice)*; (b) victory conditions; (c) progression of play; *(d) game state (based on events);* (e) player actions; (f) game views; *and,* *(g) rules.*
8. *integrate* short-term and long-term goals *in a* game;	*(a)* Short-term goals, such as, collecting coins, *impact on player engagement*. *(b)* Long-term goals, such as, winning the race.
9. differentiate among the types of stories in games;	(a) *L*inear. (b) *B*ranching. *(c) Parallel paths.* *(d) Threaded.* (e) *O*pen-ended.
10. *create* the characters in a game;	(a) *C*haracter design. (b) *C*haracter archetypes: *h*ero/ protagonist, shadow/villain/ antagonist, mentor, ally, guardian, trickster, herald.

SPECIFIC OBJECTIVES	CONTENT/ EXPLANATORY NOTES
Students should be able to:	
11. *create* the environment in a game;	Environmental design to include: *layers, perspective,* scale, time of day, physical characteristics, camera view, *colour and texture.*
12. *determine effective* user interface design for games;	*Effective User Interface Designs:* (a) *h*euristics of user interface design; (b) *g*uidelines for UI designs for games; *and,* (c) *e*xamples of good and bad UI designs for games.
13. *distinguish among the different camera views;	Camera views: Static, Scrollable, Parallax scrolling, First-Person, Third-Person, Isometric, Top-down.
14. create the user interface design for games;	*Opening interface, in-game interface and closing/end-game interface.* *Processes:* *(a) identification of input/output controls:* *(i) input (movement keys, mouse position); and,* *(ii) output (scores, tools and lives).* *(b) prioritise;* *(c) give immediate feedback for your inputs – sounds;* *(d) reduce everything;* *(e) prototype; and,* *(f) playtest.*

SPECIFIC OBJECTIVES	CONTENT/ EXPLANATORY NOTES
Students should be able to:	
15. **use a game design tool to create a three level game; and,*	*Creation of a Three level Game, to include:* (a) game environment; (b) characters; (c) assets; (d) behaviours; (e) sound; *and,* (f) *scores.*
16. discuss the constraints on game design.	*Constraints on Game Design, t*o include: *(a) budget (staffing, salaries, access to subject matter experts, service providers);* *(b) time (robustness of game systems, acceptance testing, patches after launch); and,* *(c) audience (HCI development, accessibility).*

Suggested Teaching and Learning Activities

To facilitate students' attainment of the objectives in this Module, teachers are advised to engage students in the following teaching and learning activities which may be done separately or merged to facilitate sequencing and portfolio development.

1. Have students collaborate in small groups and use relevant tools to create resources about careers in the gaming industry. For example, infographics or videos which should be presented to the class and/or displayed.

2. *Have* students work in groups/pairs to conduct research on types of design associated with games. Their findings are to be *creatively* presented in class and form the base of discussions.

3. *Have* students *work* in groups/pairs to conduct research on the core dynamics of games *A* suitable game *will then be played* in class to illustrate the core dynamics of games. Students must observe and document data regarding the dynamics as the game progresses. *Their findings are to be creatively presented and discussed in class.*

4. *Have students watch and discuss* suitable video tutorials on game mechanics. *Students will then complete* a quiz for this tutorial to ensure that *they* have grasped the concept.

5. *Have* students *work collaboratively* to conduct research on types of stories in games. Their findings are to be *creatively* presented in class and form the base of discussions.

6. Assign students the task of carrying out research on characters, then find three distinctive characters (for example, Cute, Villain, Hero, Heroine, Red Herring). *Have the students distinguish among them,* create a character that illustrates the principles of good design and justify why their character embodies the principles.

7. *Allow students to view* a video tutorial illustrating the iterative design process. Discuss the material with the class and then have students work in teams and use any platform to design a game based on a relevant theme. Provide them with a fictional budget and other constraints. Allow students to practise and demonstrate knowledge of principles and mastery of the skills of game design and development such as stages in the iterative design, mechanics, environment, characters, camera views, and design tools. The pieces may include those in their e-portfolios and the exercise should add to the portfolio as well.

8. Have students create game design scenarios with varying constraints for peers to assess project impact.

9. Have students map out/design a 3-level game. This should be peer reviewed and students share their ideas with the class.

10. *Have students work in pairs to examine two games of different genres. They should: (a) identify the short-term and long-term goals and (b) explain how these are achieved in the game using relevant supporting evidence. The response should be shared with the class.*

RESOURCES

Novak, J. — *Game Development Essentials: An Introduction, 3rd Edition. New York: Delmar Cengage Learning, 2012.*

Brathwaite, B. and Schreiber, I. — *Challenges for Game Designers. Boston: Course Technology, Cengage Learning, 2009.*

Despain, W. — *100 Principles of Game Design. New Riders: Pearson Education, 2013.*

Schell, J. — *The Art of Game Design: A book of Lenses, 3rd Edition. Burlington: Morgan Kaufman Publishing, 2019.*

Darby, J. — *Awesome Game Creation: No Programming Required, 3rd Edition. Boston: Thomson Learning Inc., 2008.*

Schuytema, P. — *Game Design: A Practical Approach, 1st Edition. Cengage Learning, 2007.*

Anthropy, A. and Clark, N. — *Game Design Vocabulary, A: Exploring the Foundational Principles Behind Good Game Design, Addison-Wesley, 2015.*

Adams, E. — *Fundamentals of Game Design, 3rd Edition, New Riders, Pearson Education. 2013.*

Thorn, A. — *Game Development Principles, Cengage Learning, 2013.*

Mitchell, B. L. — *Game Design Essentials, Indianapolis, Indiana: John Wiley & Sons Inc., 2012.*

Games
Stencyl
Construct 2
Scratch

WEBSITES

https://piktochart.com/

https://www.instructionaldesign.org/models/iterative_design.html

https://gamedesignconcepts.wordpress.com/2009/07/30/level-10-nonlinear-storytelling/

https://www.funbrain.com/games

https://indiangamedesign.wordpress.com/2016/04/28/core-dynamic-of-a-game/

https://www.nngroup.com/articles/usability-heuristics-applied-video-games/

UNIT 2
MODULE 3: ANIMATION FOR GAMES

GENERAL OBJECTIVES

On completion of this Module, students should:

1. demonstrate an appreciation for the principles of animation as applied to game design; and,

2. *understand* the appropriate animation tools and techniques.

SPECIFIC OBJECTIVES	CONTENT/ EXPLANATORY NOTES
Students should be able to:	
1. *design *assets for animations and games*;	Graphic Design *(designing from references, raster vs vector, layer hierarchies, naming convention, composition).*
2. *employ *drawing* skills to create characters *for animations*;	Important skills and content: (a) *figure* drawing; (b) skeleton; (c) muscle system; *and,* (d) *portraiture.*
3. *employ design skills to *animate environmental assets in a* game;	Important skills and content: (a) *cutting digital layers;* (b) *creation of props; and,* (c) *staging the scene in a digital tool.*
4. *use 3D software to create props *and* assets for games;	*(a) 3D Modelling.* *(b) Use of tools, including extrusion tools.*
5. *apply texture and colour to *a* 3D *o*bject;	Basic *t*exturing *of smooth surfaces (for example a rough skin on a smooth dinosaur model).*
6. **apply* basic *l*ighting for *a* 3D scene;	Lighting for 3D *(directional, ambient and spotlight)*.
7. *employ basic 3D rigging of a character and an asset;*	*Rigging (constraints, inverse kinematics chain).*
8. *create simple 2D animation movements;	*12 basic principles of animation as developed by the Nine Old Men. Use the 24 frames per second (fps) to create movement.*

UNIT 2
MODULE 3: ANIMATION FOR GAMES (cont'd)

SPECIFIC OBJECTIVES	CONTENT/ EXPLANATORY NOTES
Students should be able to:	
9. *explain* the persistence of vision;	*(a) Frames per second (fps) and/or frame rate.* *(b) Illusion of movement.*
10. *create *a* Bouncing Ball;	*Animation principles (timing and spacing, arcs, squash and stretch, ease in/out, contrasting weight).*
11. create a 2D character;	*(a) Archetype.* *(b) Application of the principle of appeal.* *(c) Application of colour theory.* *(d) Turnarounds (front, side, three quarters).*
12. **identify the four poses of a* basic walk cycle; *and,*	*Four poses: Contact, down, passing, high point.*
13. Create an animated segment that includes a character and animated assets for a game.	*(a) Twelve principles of animation (Disney).* *Animation principles (anticipation, straight ahead action and pose-to-pose, timing, follow through and overlapping action).* *(b) Realistic motion.* *(c) Layout of the environment to place an animated segment.*

Suggested Teaching and Learning Activities

To facilitate students' attainment of the objectives in this Module, teachers are advised to engage students in the following teaching and learning activities which may be done separately or merged to facilitate sequencing and portfolio development.

1. *Have students participate in virtual or face to face* demonstrations to be done by industry experts as to how to apply the various skills required in animation for games. These demonstrations may also be done by the teacher if the facilities are available on site, or if industry facilities and experts are not readily available. *Have students engage in activities to practice the skills demonstrated.*

2. Have students to work in groups of five (5) to do the following over time:

   (a) create an animated 2D and 3D bouncing ball and present their animations in class;
   (b) use design skills to create *environments* and *animate characters* for different genres of games;
   (c) use 3D software to create props, assets for games; and,
   (d) use basic Lighting for 3D scenes.

   These activities and outcomes should form a significant part of the SBA for the Unit.

3. *Have students work individually and collaboratively to create an animatic (rough drafts of ball bouncing sequence).*

4. *Allow students to develop a synopsis for a new game or existing game and discuss the effectiveness of the game story used. Supporting arguments/evidence should be provided.*

RESOURCES

Adams, E.	Fundamentals of Game Design, 3rd Edition, New Riders, Pearson Education, 2013.
Anthropy, A. and Clark, N.	Game Design Vocabulary, A: Exploring the Foundational Principles Behind Good Game Design, Addison-Wesley, 2015.
Brathwaite, B. and Schreiber, I.	Challenges for Game Designers. Boston: Course Technology, Cengage Learning, 2009.
Despain, W.	100 Principles of Game Design. New Riders: Pearson Education, 2013.
Darby, J.	Awesome Game Creation: No Programming Required, 3rd Edition. Boston: Thomson Learning Inc., 2008.

Mitchell, B. L.	Game Design Essentials, Indianapolis, Indiana: John Wiley & Sons Inc., 2012.
Novak, J.	Game Development Essentials: An Introduction, 3rd Edition. New York: Delmar Cengage Learning, *2012.*
Schell, J.	The Art of Game Design: A book of Lenses, 3rd Edition. Burlington: Morgan Kaufman Publishing, *2019.*
Schuytema, P.	Game Design: A Practical Approach, 1st Edition. Cengage Learning, 2007.
Thorn, A.	Game Development Principles, Cengage Learning, 2013.

RESOURCES

Design Software
Tablets
Drawing Pads
Models
Armature Wire
Foam
Plastercine
Foil

WEBSITES

https://www.pixelovely.com/portfolio/figure-gesture-drawing-tools/

https://www.wikihow.com/Practice-Gesture-Drawing

https://www.awn.com/animationworld/animation-layout-getting-perspective

https://www.autodesk.com/education/free-software/maya

https://animation-nuggets.com/en/home/

https://www.schoolofmotion.com/

https://industrialscripts.com/

https://www.taylorfrancis.com/books/mono/10.4324/9780080962177/acting-performance-animation-derek-hayes

♦ OUTLINE OF ASSESSMENT

Each Unit of the syllabus will be assessed separately.

The Scheme of the assessment for each Unit will comprise two components: An External Assessment component which contributes 40 per cent of the final mark and a School-Based Assessment component which contributes 60 per cent of the final mark. Grades and marks will be awarded independently for each Unit and for each Module. These arrangements are detailed below.

UNIT 1

EXTERNAL ASSESSMENT **(40 percent)**

Paper 01 (1 hour)	This paper will consist of 45 multiple-choice items assessing achievement in all three Modules.	(45 marks)
Paper 02 (2½ hours)	A structured essay paper assessing achievement in all three Modules. Candidates will be required to apply theoretical knowledge and design skills.	(75 marks)

SCHOOL-BASED ASSESSMENT **(60 percent)**

Each piece of work submitted for assessment must include the date on which it was produced.

Part A	A critical analysis assessing achievement over all three Modules. Candidates must choose an animation or game from the prescribed list published in the syllabus.	(*30* marks)
Part B	A digital/transmedia Production Bible of an animation or game assessing achievement over all three Modules.	(*90* marks)

NB. If a student chooses to analyse an animation for Part A, he/she MUST produce a Production Bible for Part B, and vice versa.

UNIT 2

EXTERNAL ASSESSMENT **(40 percent)**

Paper 01 (1 hour)	This paper will consist of 45 multiple-choice items assessing achievement in all three Modules.	(45 marks)
Paper 02 (2½ hours)	A structured essay paper assessing achievement in all three Modules. Candidates will be required to apply theoretical knowledge and design skills.	(75 marks)

SCHOOL-BASED ASSESSMENT **(60 percent)**

Each piece of work submitted for assessment must include the date on which it was produced.

Part A	A showreel of no more than *90 seconds assessing* achievement over all three Modules. Candidates are expected to show evidence of the development of 3D assets.	(*51* marks)
Part B	Design and develop a single player interactive 2D educational or entertainment game. It provides opportunity for expression, innovation and the demonstration of skills, abilities and knowledge in the fundamentals and application of animation and game design. The game should take no longer than 10 minutes to play through. *A project presentation comprised of a pitch and demo* of no longer than 5 minutes should also be included.	(69 marks)

ASSESSMENT DETAILS

Details of External Assessment by Written and Production Papers (40 per cent of Total Assessment)

Paper 01 – Multiple-Choice Paper (1 hour)

1. Composition of Paper

This paper comprises 45 multiple-choice items with 15 items from each module.

2. Syllabus Coverage

(a) Knowledge of the entire Unit will be required.

(b) The intention of this paper is to test candidates' theoretical and in-depth knowledge of the entire Unit.

3. Question Type

The questions will cover cognitive abilities including, but not limited to comprehension, application and analysis.

4. Mark Allocation

(a) One mark will be assigned for each multiple-choice question.

(b) The total number of marks available for this paper is 45.

(c) Paper 01 will contribute 15 per cent to the candidate's final grade.

5. Examination environment

The examination should be held in a controlled environment. Computer screens should be covered with privacy filter screens. **This paper will be delivered online to all registered candidates.**

Paper 02 – Structured Essay (2½ hours)

1. Composition of Paper

This paper consists of a set of structured essay questions assessing achievement in all three Modules. The questions will require the candidate to apply theoretical knowledge and design skills.

2. Syllabus Coverage

The intention of this paper is to test candidates' proficiency in using methods and techniques in animation and game design to demonstrate the required skills and competencies.

3. Mark Allocation

The total number of marks available for this paper is 75.

4. Examination environment

The examination should be held in a controlled environment. Computer screens should be covered with privacy filter screens. ***This examination will be delivered online to all registered candidates.***

DIGITAL DELIVERY OF EXAMINATION

(a) Papers 01 and 02 for both Units of the examination will be delivered via an electronic examination platform.

(b) The Technical Officer will distribute the instructions and assets required to complete the examination to each candidate's computer.

SCHOOL-BASED ASSESSMENT

School-Based Assessment is an integral part of candidates' achievement in the content covered by this syllabus. The activities for the School-Based Assessment are linked to the Modules in each Unit and are the outcome of teaching and learning of the principles and practice in the content of the syllabus.

During the course of study of the subject, candidates obtain marks for competencies developed during the production and completion of School-Based Assessment assignments. These marks and grades contribute to the final marks and grades that are awarded to candidates for their performance in the **CAPE®** Animation and Game Design examination.

The guidelines provided in this syllabus are for selecting appropriate tasks and are intended to assist teachers and candidates in planning and scheduling assignments for the School-Based Assessment. These guidelines are also intended to assist teachers in awarding marks for achievement in the School-Based Assessment component of the syllabus. In order to ensure that the marks awarded by teachers are in alignment with the **CXC®** standards, the Council undertakes the moderation of the School-Based Assessment assignments marked by each teacher.

School-Based Assessment provides an opportunity to individualise a part of the **CAPE®** syllabus and facilitates feedback to the students at various stages of the experience. This helps to build the self-

confidence of the students as they proceed with their studies. School-Based Assessment further facilitates the development of essential investigative and practical skills that allow the candidate to function more effectively in his or her chosen vocation. *Additionally, the use of group work is encouraged in the School-Based Assessment in order to facilitate the development of collaborative skills among candidates. As such, groups of a* ***maximum of five candidates*** *are encouraged.* School-Based Assessment, therefore, makes a significant and unique contribution to both the development of relevant skills and the *assessing* and rewarding of students for the development of those skills.

The School-Based Assessment in Animation and Game Design *assesses* a range of skills for creative production, problem solving, critical thinking and inquiry through research, as well as practical skills in design and composition, craftsmanship and innovation.

MODERATION OF SCHOOL-BASED ASSESSMENT

Each school submitting students for the **CAPE®** Animation and Game Design examination is required to submit the following through the Online Registration System (ORS) to reach **CXC®** by 31 May of the year of the examination:

1. School-Based Assessment Record of Marks.
2. Moderation Scores.
3. Order of Merit.

CXC® will indicate through the ORS the names of candidates whose works have been selected for moderation. The School Based Assessment for Unit 1 and Unit 2 will be moderated by external moderators.

Copies of the students' assignment must be retained by the school until three months after publication by **CXC®** of the examination results.

Skills to be assessed in the School-Based Assessment – Units 1 and 2

The skills, abilities and knowledge to be internally assessed for the Critical Analysis, Portfolios *and* Creative Project are given below:

Critical Analysis – Unit 1

1. Layout and presentation:

   (a) design of critical analysis report (title page, layout of text and visual materials, and aesthetic appeal); and,

   (b) relevance of visual material (when used), to research report.

2. Enquiry:

   Sources (presentation of references).

3. Content and Critical Thinking:

   (a) content: visual design, animation style and principles, subject matter, plot, characters, conflict, resolution of conflict, story told in the animation and the role of audio in support of the animation;

   (b) environment analysis: description, interpretation, synthesis and evaluation of scenes, topic and content; and,

   (c) communication of information in a logical way using correct grammar.

Digital/Transmedia Production Bible: Unit 1

1. Pitch: clearly presenting and describing the concept of the project.
2. Treatment.
3. Technology and design specifications.
4. Business and Marketing to include Budget, market research and production schedule.

Showreel: Unit 2

1. Level of skills in manipulation of digital tool/software in creating and finishing of product.
2. Use of relevant software tool.
3. Creative use of technology: Use of graphics, animation/elements, photos, color and audio, among others.
4. Showreel construction and management: Use of program tools, animation/elements, navigation.
5. Product content choice: Product shows student progress and knowledge of curriculum content, very clearly presented.
6. Demonstration of personal expression and creativity.

2-Dimensional Game: Unit 2

1. Demo (no longer than 5 minutes) to sell the idea of the product

   (a) Description of the concept of the project.

   (b) Clarity and impact of the presentation.

2. Quality of the product (Interactive game)

   (a) 2D animation with 3D components.

   (b) Appropriate user experience.

   (c) Playability.

   (d) Implementation.

GUIDELINES FOR SCHOOL-BASED ASSESSMENT

UNIT 1: FUNDAMENTALS OF ANIMATION AND GAME DESIGN

1. Aims of the Project

(a) Develop candidate's understanding and application of animation *and game design*.

(b) Provide opportunities for all candidates to demonstrate their *innovative,* creative *and* critical thinking skills.

2. Requirements

Each *candidate*/group is required to prepare *a critical analysis of an animation or a game and* develop a digital/transmedia Production Bible for an animation or game *within the Caribbean context.*

3. Integration of Project into the course

(a) The activities related to project work should be integrated into the course so as to enable candidates to learn and practise the skills of undertaking a successful project.

(b) Some time in class should be allocated for general discussion of project work. For example, discussion of how data should be collected, how data should be analysed and how data should be presented.

(c) Class time should also be allocated for discussion between teacher and student and student and student.

4. Management of Project

(a) Planning: An early start to planning project work is highly recommended and the schedule of the dates for submission should be developed by teachers and candidates.

(b) Length: The overall length of the project *should not exceed* ***1500*** **words** excluding diagrams, graphs, tables and bibliography.

(c) Guidance: Each candidate should know the requirements of the project and its assessment process. Although candidates may consult with resource persons in addition to the teacher the candidate's/*group's* submission should be *their* own work.

The teacher is expected to give appropriate guidance at all stages of project work, for example, *suitable literature*, alternative procedures and other sources of information.

5. Authenticity

Teachers are required to ensure that all projects are the candidates' work. A recommended procedure is to:

(a) engage candidates in discussion;

(b) ask candidates to describe procedures used and summarise findings either orally or written; and,

(c) ask candidates to explain specific aspects of the analysis.

6. Submission Guidelines

The candidate/group should utilise digital submission when delivering milestones to the teacher.

Teachers *are required to* collect the completed SBA in a digital format.

The pitch should be presented *using a pitch deck*, impact the audience *and* clearly describe the concept of the project. *It is very important that the pitch submission is easily accessible. Therefore, the pitch should be uploaded to one of the platforms provided below while ensuring the following:*

(a) hyperlinks to submission are clickable;

(b) a URL shortener (for example, Bitly, Tiny URL) is used to limit the size of the link; and,

(c) the files are accessible without malefactor authentication (they should NOT be made private).

The following are the acceptable platforms for submission:

(a) YouTube; and,

(b) Google Drive.

UNIT 2: INTERACTIVE DESIGN AND GAME DEVELOPMENT

1. Aims of the Project

(a) Develop candidate's personal insights into the fundamentals of the application of animation and game design.

(b) Provide opportunities for all candidates to demonstrate their creative thinking and innovation that will be expressed via digital tools.

2. Requirements

Each group (***maximum five members)*** is required to develop a showreel and design an interactive 2D game (preferably for education *and or* entertainment) and create a demo, that must be presented to an audience of at least five (this audience may include classmates, other students, parents and teachers/industry professionals).

3. Integration of Project into the course

(a) The activities related to project work should be integrated into the course to enable candidates to learn and practise the skills of undertaking a successful project.

(b) Some time in class should be allocated for general discussion of project work. For example, discussion of how data should be collected, how data should be analysed and how data should be presented.

(c) Class time should also be allocated for discussion between teacher and student, and student and student.

4. Management of Project

(a) Planning: An early start to planning project work is highly recommended and the schedule of the dates for submission should be developed by teachers and candidates.

(b) Length: The length of the showreel should be no more than ***90 seconds***. The game must be 2-dimensional with 3-dimensional components and should take no longer than 10 minutes to play through. *A project presentation comprised of a pitch and demo* of no longer than 5 minutes should also be included.

(c) Guidance: Each candidate should know the requirements of the project and its assessment process. Although candidates may consult with resource persons, in addition to the teacher, the candidate's/*group's* submission should be *their* own work. The teacher is expected to give appropriate guidance at all stages of project work, for example, *suitable literature,* alternative procedures and other sources of information.

5. Authenticity

Teachers are required to ensure that all projects are the candidates' work. A recommended procedure is to:

(a) engage candidates in discussion;

(b) ask candidates to describe procedures used and summarise findings either orally or in writing; and,

(c) ask candidates to explain specific aspects of the *project.*

6. Submission Guidelines

The candidate should utilise digital submission when delivering milestones to the teacher. Teachers should collect the student's completed SBA in a digital format.

THE CRITICAL ANALYSIS PAPER

The Critical Analysis is a subjective analysis of a given animated video or game in the study of the fundamentals of animation and game design.

Requirements:

The Guidelines for preparing the Critical Analysis are as follows:

1. the study will be done over one academic year; and,

2. teachers should discourage duplication of material; although two groups may choose the same animation or game, there must be evidence of individual work.

If the critical analysis is not submitted, the candidate will be considered absent from the entire examination.

Presentation:

The Guidelines for presenting the Critical Analysis are as follows:

1. a title page should be included as the cover page;

2. a table of contents should be included after the title page;

3. a *bibliography*, *using the current APA format should be included*;

4. the layout of the pages of the Critical Analysis should be neat and legible;

5. visual material should be suitably chosen, labelled and integrated into the report;

6. presentation should be well organised and demonstrate coherence, continuity and completeness; and,

7. copyright rules should be strictly adhered to when using information or visuals from the internet, books or other secondary sources.

DIGITAL/TRANSMEDIA PRODUCTION BIBLE

The digital/transmedia Production Bible provides opportunity for expression and innovation and to demonstrate skills, abilities and knowledge in Animation and Game Design.

The candidate will be considered absent from the entire examination if the *digital/transmedia Production Bible* is not submitted.

Presentation

The guidelines for preparing and presenting the digital/transmedia Production Bible are as follows:

1. The digital/transmedia Production Bible should be created over one academic year.

THE SHOWREEL

The showreel is a *90-second* electronic collection of animation and game designs completed by a student over an academic year and must reflect the candidates' best work.

The guidelines for preparing the showreel are as follows:

1. The showreel should be compiled over one (1) academic year.

2. The showreel *is a visual documentation of the work involved in the creation of an animation project. It should include creative images, animation snippets, illustrations, sound and music complied in a creative way.*

Presentation

The guidelines for presenting the showreel are as follows:

1. Presentations should be well organised, demonstrating cohesion, continuity and completeness.

2. The showreel must be no more than *90 seconds* in length.

THE INTERACTIVE GAME

The interactive game is 2-dimensional with 3-dimensional components demonstrating skills in animation and game designs.

The guidelines for preparing the game are as follows:

1. The game should be 2-dimensional with 3-dimensional components and completed over one academic year. *It should be no more than 10 minutes in length.*

2. The game should be accompanied by a 5-minute *presentation comprising of a game. The demo should illustrate the game play through all levels and* a *pitch* to sell the idea of the game. *The presentation should be recorded and submitted for moderation. The game should be submitted as an executable file.*

3. *The pitch should be presented using a pitch deck, impact the audience and clearly describe the concept of the project.*

4. *It is very important that the pitch submission is easily accessible. Therefore, the pitch should be uploaded to one of the platforms provided below while ensuring the following:*

   (a) hyperlinks to submission are clickable;

   (b) a URL shortener (for example, Bitly, Tiny URL) is used to limit the size of the link; and,

   (c) the files are accessible without malefactor authentication (they should NOT be made private).

   The following are the acceptable platforms for submission:

   (a) YouTube; and,

   (b) Google Drive.

The candidate will be considered absent from the entire examination if the game is not submitted.

MARK SCHEMES

CRITICAL ANALYSIS

The following Table gives the allocation of raw marks by skill for the Critical Analysis for Unit 1, Module 1.

SKILLS		MARKS
Layout and Presentation (a) Basic Information (b) Visual Design (c) Animation/Game Design Principles	 2 marks 4 marks 3 marks	9
Content and Critical Thinking (a) Environment Analysis (b) Deconstruction of Design and Critical Analysis (c) Communication of information	 5 marks 10 marks 4 marks	19
Enquiry Sources	 2 marks	2
TOTAL		**30**

DETAILED BREAKDOWN OF MARK SCHEME FOR THE MARKING OF THE CRITICAL ANALYSIS REPORT

This part of the project will be graded out of a total of 60 marks and marks will be allocated to each task as outlined below. Candidates will be awarded marks for communicating information in a logical manner using correct grammar and terminology.

	MODULE 1	MODULE 2	MODULE 3	TOTAL (MAX)
1. Layout and Presentation (*9* marks)				
(a) Socio–cultural Context				
Justification should include relevance to Caribbean heritage, Folklore as it applies to character development, Cultural studies – festivals, celebrations, monuments, artefacts, architecture.				
Full justification of the socio–cultural relevance of the game/animation to the Caribbean region with reference to any one aspect.		2		2
Partial justification of the socio–cultural relevance of the game/animation to the Caribbean region with reference to any one aspect.		1		
Incoherent justification of the socio–cultural relevance of the game/animation to the Caribbean region with reference to any one aspect.		0		
(b) Visual Design				
Very good - excellent analysis of drawing style, colour themes, pattern		4		4
good analysis of drawing style, colour themes, pattern		3		
satisfactory analysis of drawing style, colour themes, pattern		2		
limited analysis of drawing style, colour themes, pattern		1		
(c) Animation *Principles*/Game *Mechanics*				
Very good - excellent analysis of animation *principles*/game ***mechanics*** observed.	3			3
Satisfactory - good analysis of animation *principles*/game ***mechanics*** observed.	2			
limited analysis of animation *principles*/game ***mechanics*** observed.	1			
2. Content and Critical Thinking (*19* marks)				
(a) Environment Analysis				
Critical Analysis of: appropriateness of environment, layout of the environment, colour scheme, mood, layers, use of props, camera angles,				
Excellent interpretation and integration of information into the art making process; within the context of topic/theme, art elements and principles, use of props, camera angles and layers.		*5*		*5*
Good interpretation and integration of information in the art making process within the context of topic/theme, art elements and principles, use of props, camera angles and layers.		*3*		
Poor interpretation of information in the art making process within the context of topic/theme, art elements and principles, use of props, camera angles and layers.		1		
No evidence and/or justification submitted.		0		

	MODULE 1	MODULE 2	MODULE 3	TOTAL (MAX)
(b) Deconstruct the design and critically analyse the concept of the game or animation				
Justify the genre, target audience, *story arc, environment,* character archetype				
appropriate justification of 5 items		5	5	10
appropriate justification of 4 items		4	4	
appropriate justification of 3 items		3	3	
appropriate justification of 2 items		2	2	
appropriate justification of 1 item		1	1	
None		*0*	*0*	
(c) Communication of information in a logical way using correct grammar				
communicates information in a logical way using correct grammar and appropriate terminology ALL of the time	4			4
communicates information in a logical way using correct grammar and appropriate terminology MOST of the time	3			
communicates information in a logical way using correct grammar and appropriate terminology SOME of the time	2			
communicates information in a logical way using correct grammar and appropriate terminology RARELY	1			
3. Enquiry Skills (*2* marks)				
(a) Sources				
excellent documentation of sources *(using the current APA format and in alphabetical order)*	2			2
limited documentation of sources	1			
MODULE TOTAL	**9**	**16**	**5**	**30**

UNIT 1 – Digital/Transmedia Production Bible:

The following Table gives the allocation of raw marks by skill for the Creative Project:

SKILLS	MARKS
Pitch	*25*
Synopsis	*30*
Technology and Design Specifications	*10*
Business and Marketing	*25*
TOTAL	***90***

DETAILED BREAKDOWN OF MARK SCHEME FOR THE TRANSMEDIA/PRODUCTION BIBLE

This part of the project will be graded out of a total of *90* marks and marks will be allocated to each task as outlined below.

	MODULE 1	MODULE 2	MODULE 3	TOTAL
Pitch (3-5 minutes oral presentation, to sell the idea**) [*25* marks]**				
Clearly describes the concept of the project				
Summary/Synopsis			*4*	*4*
Competitive advantage	*4*			*4*
Character description			*3*	*3*
Rationale	2			2
Target audience	1			1
Presentation				
Clarity and diction			*2*	*2*
Impact		*4*		*4*
Use of digital media *to enhance the presentation of the pitch (for example, transition, inclusion of video snippets, sound, into, outro)*		*5*		*5*
Synopsis [*30* marks]				
Animation Summary/Game* Synopsis *Development				*6*
Story arc (beginning, middle, end)		*3*		
Main character archetype and description		*2*		
Environment description		*1*		
Character designs/turnarounds				
Front			1	1
Side			1	1
Three quarter front			1	1

	MODULE 1	MODULE 2	MODULE 3	TOTAL
Environment designs				
Assets/props			*3*	*3*
Camera angles		*3*		*3*
Layers: foreground, background and midground			*3*	*3*
Concept Design				
Concept art (design, idea, mood)			*6*	*6*
Feature-list breakout				
Number of *characters/players*			1	1
Game *mechanics (game play, progression, and win strategy)/*three act structure*			*3*	*3*
Number of levels/**length*			1	1
Type of *genre*			1	1
Technology and design specifications [*10* marks]				
Justification of Platforms/**Method of Distribution*	*2*			*2*
*Justification of at least two d*evelopment tools	*4*			*4*
Storyboards *(camera angles, sound, key events [2 marks])*		*4*		*4*
Business and Marketing [*25* marks]				
Production Schedule				
Presents *a* schedule *for the production of the animation or game (pre-production, production and post-production tasks).*	*6*			*6*
Indicates *major task* milestones	*3*			*3*
SWOT analysis				
At least two points per category	*8*			*8*
Demographic breakdown				
Justification of the primary/core demographic		*3*		*3*
Budget				
excellent budget including items for pre-production, production and post-production tasks *satisfactory* *poor*	*5* *3* *1*			***5***
MODULE TOTAL	***35***	***25***	***30***	***90***

UNIT 2

SHOWREEL

The following Table gives the allocation of raw marks by skill for EACH piece in the Portfolio:

SKILLS			MARKS
Craftsmanship			
(a)	Level of skill in manipulation of tools and/or software	10 marks	*20*
(b)	Use of relevant software	*10* marks	
Design and Composition			
(a)	creative use of technology	*5* marks	*20*
(b)	*showreel* content	*15* marks	
Originality			
Demonstration of originality			10
TOTAL			**5*0***

DETAILED BREAKDOWN OF MARK SCHEME FOR THE MARKING OF SHOWREEL

	MODULE 1	MODULE 2	MODULE 3	TOTAL
1. Craftsmanship (*20* marks)				
Showreel Construction **(10 marks)**				
excellent skills in *compiling and editing for example, using transitions suitable for a showreel*		10–9		10
very good skills in *compiling and editing* for *example, using transitions suitable for a showreel*		8–7		
good skills in compiling *and editing for example, using transitions suitable for a showreel*		6–5		
satisfactory skills in *compiling and editing for example, using transitions suitable for a showreel*		4–3		
limited skills in compiling *and editing for example, using transitions suitable for a showreel*		2–1		
Use of relevant *animation* tools (*10* marks)				
excellent *application of process and* use of relevant software tools			*10-9*	*10*
very good *application of process and* use of relevant software tools			*8-7*	
good *application of process and* use of relevant software tools			*6-5*	
satisfactory *application of process and* use of relevant software tools			*4-3*	
limited demonstration of the use of relevant software tools			*2-1*	
2. Design and Composition (*20* marks)				
Creative use of technology (*5* marks)				
excellent use of graphics, *photos,* animation/elements, colour, *and* audio.		*5*		*5*
very good use of graphics, photos, *animation/elements,* colour, *and* audio.		*4*		
good use of graphics, photos, *animation/elements,* colour, *and* audio.		*3*		
satisfactory use of graphics, photos, *animation/elements,* colour, *and* audio.		*2*		
limited use of graphics, photos, *animation/elements,* colour, *and* audio.		*1*		

	MODULE 1	MODULE 2	MODULE 3	TOTAL
Showreel content (15 marks)				
Includes *concept art* and final *products* for: *at least* 2 characters, backgrounds, 3D assets an example of 2D animation and accompanied by audio				
Includes 9-10 *unique* elements *that demonstrate design progress and competency.*	15–13			15
Includes 7-8 *unique* elements *that demonstrate design progress and competency.*	12–10			
Includes 5-6 *unique* elements *that demonstrate design progress and competency.*	9–7			
Includes 3- 4 *unique* elements *that demonstrate design progress and competency.*	6–4			
Includes 1-2 *unique* elements *that demonstrate design progress and competency.*	3–1			
3. *Originality* (10 marks)				
Demonstration of *originality*				
Excellent interpretation of theme or topic	*10-8*			10
Good interpretation of theme or topic	*7-5*			
Limited interpretation of theme or topic	*4-1*			
MODULE TOTAL	**25**	**15**	**10**	**50**

The following Table gives the allocation of raw marks by skill for the *Pitch and Interactive Game:*

SKILLS	MARKS
Pitch	*28*
Interactive Game	*42*
TOTAL	***70***

	MODULE 1	MODULE 2	MODULE 3	TOTAL
Pitch (5-minute oral presentation, to sell the idea) **[*28* marks]**				
Clearly describes the concept of the project				
Game play summary/synopsis	1	1		2
Competitive advantage	2			2
Character description	1	1		2
Rationale	*2*			*2*
Target audience	1			1
Presentation				
Clarity and diction	*2*			*2*
Dress, deportment and body language	*3*			*3*
Use of digital media *techniques to create impact and enhance presentation, including good audio quality, captioning, camera angles, video quality, transitions and animation effects.*	*6*			*6*
Demo				*8*
Opening screen		1		
In game help/instructions		1		
Shows how to start the game		1		
Shows game progression (2) indicating what controls are being used to play (1).		*3*		
Shows how the game ends (win and lose scenarios).		*2*		
***Interactive Game* [*42* marks]**				
An animated 3D asset			*3*	*3*

	MODULE 1	MODULE 2	MODULE 3	TOTAL
Appropriate use of design and composition principles				
Good overall composition		1	1	2
Good use of colours or texture		1	1	2
Good use of space		1	*3*	*4*
Good use of typography or camera angles		1	*3*	*4*
Appropriate user experience				
Ease of starting the game		1	1	*2*
Playability				
pausing		1	1	2
continuing		1	1	2
ending		1	1	2
navigating through levels		1	1	2
Game play				
Game mechanics (rules) *Player/avatar can move around the board/environment (1)* *Player can interact with the game assets (1)* *Player controls are appropriate for the associated action/input (1)* *Player can see the effect of his/her movements (1)* *Player limits as identified are maintained (1)*		*5*		*5*
Feedback *Game progress (1), score (1), end state (1), in-game instructions (2)*		5		5
Game stability			*1*	*1*
Sound cues *(3 appropriate cues – 2 marks each)*			6	6
MODULE TOTAL	***18***	***29***	***23***	***70***

STANDARDISATION

Teachers will be required to allocate marks to each skill according to the criteria in the above Tables. It is imperative that teachers adhere to the mark schemes provided. This is to ensure that there is a standard distribution of marks across the Modules.

♦ REGULATIONS FOR PRIVATE CANDIDATES

A private candidate is one not entered through a school or other approved educational institution. ***Private candidates will be required to sit all components of the examination****. Private candidates would be required to write all papers.*

A private candidate must identify a teacher or tutor from a registered institution (school or technical institute or community college) who will assess and approve the candidate's submissions for the School-Based Assessment components of the syllabus. The name, school, and territory of the identified teacher or tutor should be submitted to the Council on registration for the subject.

♦ REGULATIONS FOR RESIT CANDIDATES

Resit candidates must complete Paper 01 and Paper 02 of the examination for the year for which they reregister.

CAPE® *candidates may reuse any moderated SBA score within a two-year period. In order to assist candidates in making decisions about whether or not to reuse a moderated SBA score, the Council will continue to indicate on the preliminary results if a candidate's moderated SBA score is less than 50 per cent in a particular Unit. Candidates reusing SBA scores should register as "Resit candidates" and must provide the previous candidate number when registering.*

Resit candidates must be entered through a school, approved educational institution or the local Registrar's office.

♦ ASSESSMENT GRID

The Assessment Grids for Unit 1 and Unit 2, showing marks assigned to each paper and to each Module and the percentage contribution of each paper to the total score, are provided.

UNIT 1

PAPERS	Module 1 Understanding Animation And Game Design	Module 2 Drawing And Layout	Module 3 Story And Character Development	Total Marks (%)
External Assessment Paper 01 45 Multiple Choice Items	15	15	15	120 (**40**)
Paper 02 Structured Essay	25	25	25	
School-Based Assessment Critical Analysis Digital/Transmedia Production *B*ible	40 (60)	40 (60)	40 (60)	120 (180) (**60**)
TOTAL	**100**	**100**	**100**	**300 (100)**

UNIT 2

PAPERS	Module 1 Introduction To Interactive Design	Module 2 Game Design And Development	Module 3 Animation For Games	Total Marks (%)
External Assessment Paper 01 45 Multiple Choice Items	15	15	15	120 (**40**)
Paper 02 Structured Essay	25	25	25	
School-Based Assessment Showreel 2D Interactive Game	40 (60)	40 (60)	40 (60)	120 (180) (**60**)
TOTAL	**100**	**100**	**100**	**300 (100)**

♦ GLOSSARY OF ANIMATION AND GAME DESIGN TERMS

Alpha	This is a stage in game development where the game code and mechanics are developed, though it may still need to be balanced.
Animation	The process of producing images which appear to come to life on screen in films, commercials, computer games, and other media. This includes working with drawings, specialist software, models, or puppets, capturing separate images of each stage of a movement. When the images are viewed at speed the character appears to move.
Animator	A person who possesses the artistic and professional skills required to produce images which appear to come to life on screen in films, commercials, computer games, and other media.
Arcade game	Also known as coin-op. It is a coin-operated entertainment machine, usually installed in public businesses, such as restaurants, bars, and particularly amusement arcades. Most arcade games are video games, pinball machines, electro-mechanical games, redemption games, and merchandisers. The term is also used to refer to an action video game that was designed to play similarly to an arcade game with frantic, addictive gameplay. The focus of arcade action games is on the user's reflexes, and the games usually feature very little puzzle-solving, complex thinking, or strategy skills.
Armature	The skeleton frame that makes the base for a puppet to be used in animated movement for stop motion animation.
Augmented Reality (AR)	A live direct or indirect view of a physical, real-world environment whose elements are augmented (or supplemented) by computer-generated sensory input such as sound, video, graphics or GPS data. Augmentation is conventionally in real-time and in semantic context with environmental elements, such as sports scores on TV during a match. With the help of advanced AR technology (such as, adding computer vision and object recognition) the information about the surrounding real world of the user becomes interactive and digitally manipulable. Artificial information about the environment and its objects can be overlaid on the real world. Augmented reality allows gamers to experience digital game play in a real world environment. Over time there have been improvements of technology, resulting in better movement detection.
Avatar	An icon or figure representing a player in a game.
Background	The plane in a composition perceived furthest from the viewer.
Balance	Refers to the placement of objects to create the perception of equal distribution. In gaming, it refers to the concept and the practice of tuning a game's rules, usually with the goal of preventing any of its

	component systems from being ineffective or otherwise undesirable when compared to their peers. This process ensures that the game is not too easy or too difficult.
Beta	The version of a game where the game is more stable than the alpha version and all content is in. Many bugs and balancing issues would be addressed at this point.
Blocking	The precise movement and staging of actors on a stage in order to facilitate the performance of a play, ballet, film or opera. Each scene in a play for example, is usually "blocked" as a unit, after which the director will move on to the next scene. The positioning of actors on stage in one scene will usually affect the possibilities for subsequent positioning.
Brainstorming	A process where a group discussion is used to formulate ideas.
Bugs	Errors in design, code, art, sound, or writing of a game.
Character	A fictional/imaginary person represented in film/animation or any Media.
Clean up	A part of the workflow in the production of hand-drawn animation, in which "clean" versions of the "rough" animation drawings are produced. The first drawings are called "roughs" or "rough animation" because they are often done in a very loose fashion. If the animation is successfully pencil tested and approved by the director, clean versions of the drawings have to be done. In larger studios this task is given to the animator's assistant, or, in a more specialised setting, to a clean-up-artist. The artist doing the clean-ups is responsible for the final line and finished look of the shot. Clean-ups generally are done on a new sheet of paper. They can be done on the same sheet as the rough animation if this was done with a "non-copy blue" pencil. This certain tone of blue will be invisible for photocopying machines or grayscale scanners, where the finished animation will be copied on cels or transferred into a computer for further processing. Character animation is not really complete until the second phase, the final phase, the clean-up phase is done.
Colour theory	In the visual arts it is a body of practical guidance to colour mixing and the visual effects of a specific colour combination. It focuses on the use of colours to convey meaning in design.
Console	A device used for playing games. A handheld game console is a specific lightweight and portable device for playing video games. A home video game console or simply home console is a video game device that is primarily used for home gamers. Home consoles are one type of video game consoles, in contrast to the handheld game consoles which are smaller and portable, allowing people to carry them and play them at any time or place, as well as the microconsoles and the dedicated consoles.

Contrast	Focuses on making items stand out by emphasising differences in size, colour, direction, and other characteristics.
Creative Commons License (CC)	One of several public copyright licenses that enable the free distribution of an otherwise copyrighted work. A CC license is used when an author wants to give people the right to share, use, and build upon a work that they have created. CC provides an author flexibility (for example, they might choose to allow only non-commercial uses of their own work) and protects the people who use or redistribute an author's work from concerns of copyright infringement as long as they abide by the conditions that are specified in the license by which the author distributes the work. There are several types of CC licenses. The licenses differ by several combinations that condition the terms of distribution.
Deconstruction	Game Analysis Guidelines. This is a list of general guidelines to analyze a videogame or a specific segment of it. It can also be helpful to compare different games. This is not a template, but rather a list of aspects that can be part of your analysis. Every section relates to all the others; they are listed in an order that would facilitate building up the argument, but can be rearranged depending on the goal of your analysis. Which sections you should expand on depends on the focus of your discussion. Whether you are analyzing a whole game and its context, or your experience of playing the game, or one specific game mechanic, are all factors that will shape your analysis. A game analysis should be a critique, rather than a review. A critique breaks down the object of study, using theoretical concepts systematically to structure and support it. Critiques are based on argumentation and supported by evidence. Reviews evaluate the quality of the game reviewed, and even though they also have to be supported by argumentation, they also tend to be more subjective. The goal of a game analysis is not to establish how good or bad a game is, but highlight and rationalise the aspects that make the game worth studying and contribute to understanding videogames better. Thus, you will be expected to write a critique, which is very different from a review for a blog.
Dominance	The use of one element as the focal point and others being subordinate. This is often done through scaling and contrasting based on size, colour, position and shape, for example.
Drawing perspectives	An approximate representation, on a flat surface (such as paper), of an image as it is seen by the eye.
Engine	The basic software of a video game. This is the core program that the game may run on (for example, Unreal and Gamebryo).
Electronic-portfolio	(Also known as an eportfolio, e-portfolio, digital portfolio, or online portfolio). It is a collection of electronic evidence assembled and managed by a user, usually on the Web. Such electronic evidence may include inputted text, electronic files, images, multimedia, blog entries, and hyperlinks. E-portfolios are both demonstrations of the user's abilities and platforms for self-expression, and, if they are

	online, they can be maintained dynamically over time. An e-portfolio can be seen as a type of learning record that provides actual evidence of achievement. There are three main types of e-portfolios: developmental (such as, working), assessment, and showcase. A developmental e-portfolio can show the advancement of skill over a period of time. The main purpose is to provide an avenue for communication between student and instructor. An assessment portfolio will demonstrate skill and competence in a particular domain or area. A showcase portfolio highlights stellar work in a specific area and it is typically shown to potential employers to gain employment. When it is used for job application it is sometimes called career portfolio. Most e-portfolios are a mix of the three main types to create a hybrid portfolio.
Environment	The surroundings in which characters exist in a game or animation.
Feature List	A list of key features of a game; typically, the selling points for the game.
Figure drawing	Figure drawing. Drawing of the human form.
Folklore	Traditional customs.
Foreground (of a composition)	The visual plane that appears closest to the viewer.
Game Design	The art of applying design and aesthetics to create a game to facilitate interaction between players for playful, healthful, educational, or simulation purposes. It creates goals, rules, and challenges to define a sport, tabletop game, role-playing game, or simulation that produces desirable interactions among its participants and possibly, spectators.
Game Jam	A gathering of game developers for the purpose of planning, designing, and creating one or more games within a short span of time, usually ranging between 24 and 48 hours.
Game Rating	A system used for the classification of video games into the appropriate age group based on the content and nature of each game. Entertainment Software Rating Board (ESRB) currently has six ratings for games: Early Childhood, Everyone, Everyone 10+, Teens, Mature, Adults Only.
Genre	A category of artistic composition.
Gestalt	In visual design, is the perception that an image, though consisting of many parts, is viewed as a whole. It helps users perceive the overall design as opposed to individual elements. If the design elements are arranged properly, the Gestalt of the overall design will be very clear.
Gesture-based computing	Refers to interfaces where the human body interacts with digital resources without using common input devices, such as a keyboard,

	mouse, game controller, or voice-entry mechanism. The introduction of the mouse allowed computer inputs to move beyond the linear dimension of the keyboard to two dimensions. Gesture-based computing is the next step in that evolution, enabling three-dimensional input that involves users in the computing activity. These interfaces could enable a more active and intuitive learning style that often seems more like play, and one particularly promising area is the combination of gesture-based computing with augmented reality. Gesture-based systems may offer new ways to interact with immersive 3D content and to investigate immersive scenarios.
Gesture drawing	Drawing defined by rapid execution (quick pose).
Gold	The term used to refer to the final version of a game that is ready to be released.
Hierarchy	Shows the difference in significance between items. In visual design, it refers to the use of font sizes, colours and position to show the difference in significance of objects. Designers often create hierarchies through different font sizes, colours, and placement on the page. Usually, items at the top are perceived as most important. In animation, it refers to the levels of control in the rigging of a character or object as it relates to the movement of the skeleton rig.
Intellectual property (IP)	A legal term that refers to creations of the mind. Examples of intellectual property include music, literature, and other artistic works; discoveries and inventions; and words, phrases, symbols, and designs. Under intellectual property laws, owners of intellectual property are granted certain exclusive rights. Some common types of intellectual property rights (IPR) are copyright, patents, and industrial design rights; and the rights that protect trademarks, trade dress, and in some jurisdictions trade secrets. Intellectual property rights are themselves a form of property, called intangible property.
Interaction Design (IxD)	In design, human–computer interaction, and software development, interaction design, often abbreviated IxD, is about shaping digital things for people's use, http://en.wikipedia.org/wiki/Interaction_design_-_cite_note-1 alternately defined as the practice of designing interactive digital products, environments, systems, and services. Like many other design fields interaction design also has an interest in form but its main focus is on behavior. What clearly marks interaction design as a design field as opposed to a science or engineering field, is that it is synthesis and imagining things as they might be, more so than focusing on how things are. It is heavily focused on satisfying the needs and desires of the users of the product.
Iterative process	The act of repeating a process with the aim of approaching a desired goal, target or result. It is also known as Amiration. Each repetition of the process is also called an "iteration", and the results of one iteration are used as the starting point for the next.

Layout	An arrangement or plan outlined by drawing. It is like designing a set which supports all the action in the story. The focus is on the relationship between the characters' actions and the background, so layout explains the set and the relationship between the set and characters with drawings.
Mechanics	This is essentially the rules associated with a game.
Mediated reality	A concept in which a view of reality is modified (possibly even diminished rather than augmented) by a computer. As a result, the technology functions by enhancing one's current perception of reality.
Milestone	This is a segment or point where something significant is achieved or content is delivered. This may be a document, major assets for a game, or a prototype.
Middleground	The visual plane located between both the foreground and background.
Motion analysis	A technique used to get information about moving objects from video. The motion analysis technique usually involves a high-speed camera and a computer that has software allowing frame-by-frame playback of the video. There are many commercial packages that enable frame by frame or real-time video motion analysis. The objective for video motion analysis will determine the type of software used.
Motion in drawing	A method that allows for visual presentation of a variety of information charged with emotion and high aesthetic values. It involves the organisation of the different segments of an image in order to give a sense of action using forms, shapes, textures and lines that shift the eye throughout the artwork. In this method, individual sketches could also stand alone because they always contain a reflection, riddle or surprise. They can also be modified to suit various occasions.
Mutual gain	An approach to gaming where multiple players coordinate/negotiate to achieve a desirable outcome.
Mutual harm	An approach to gaming where all players' winnings are reduced by a change in the game state. Players may seek to minimize their losses through strategy.
Outsourcing	An allocation of specific business processes to a specialist external service provider. Most of the times an organisation cannot handle all aspects of a business process internally.
Palette	In computer graphics, this is either a given, finite set of colors for the management of digital images (that is, a color palette), or a small on-screen graphical element for choosing from a limited set of choices, not necessarily colors (such as a tools palette). For a given application, the palette may be only a subset of all the colors that can be physically displayed. For example, a computer system can display millions of

	unique colors, but a given program would use only 200 of them at a time if the display is in 200-color mode. The computer system's palette, therefore, would consist of the millions of colors, but the program's palette would contain only the 200-color subset. A palette is also called a CLUT (color look-up table). On monochrome systems, the term palette is sometimes used to refer to the available fill patterns. In paint and illustration programs, a palette is a collection of symbols that represent drawing tools. For example, a simple palette might contain a paintbrush, a pencil, and an eraser.
Perspective	A technique used to illustrate dimension through a flat surface.
Pitch	An animated summation of a script with emphasis on the main characters, the conflict, and the genre. When pitching a script, you use this summation to persuade industry professionals to option the work (purchase it for consideration). Pitches come in two forms: the two-minute pitch, also known as the teaser, and the story pitch, which is traditionally 10 to 20 minutes in length, though the shorter the better.
Plagiarism	The "wrongful appropriation" and "stealing and publication" of another author's "language, thoughts, ideas, or expressions" and the representation of them as one's own original work.
Plan-based methods	A development approach characterized by extensive planning prior to development, a common example is the waterfall model.
Platform	The console, device, or system upon which a game will be played.
Playtest	The process by which a game designer tests a new game for bugs and design flaws before bringing it to market. Playtests can be run "open", "closed", "beta", or otherwise, and are very common with computer games, board games and role-playing games, where they have become an established part of the quality control process.
Positive sum	Also known as non-zero-sum or variable-sum. A game in which players have some common interests. It is different from constant-sum, which means that win-win or lose-lose is possible in two-person games.
Post-production	The final stage in the process of creating an animation, and it involves exporting or rendering out the animation frames and then editing the pieces of animation together using video editing software. The sound track, including sound effects, is also added during the final edit. The Post-production stage may also involve further advanced processes such as compositing and colour correction.
Pre-production	The process of preparing all the elements involved in a film, play, or other performance. There are three parts in a production: pre-production, production, and post-production. Pre-production is the phase of further developing ideas and planning prior to the process of

	production. In a live action movie sense it is the period before filming starts. In an animation sense it is the period before any real animating takes place. Pre-production ends when the planning ends and the content starts being produced.
Production	In the world of animation it is the process of animating scenes. The production phase is often the longest and busiest phase of the animation project. On a mainstream project many animators and artists will be working together in teams.
Production Bible (Digital/Transmedia)	It is a best-practice guide to the thinking, planning, documentation and supporting materials required when developing a property across multiple media platforms.
Project proposal	A document designed to present a plan of action, outline the reasons why the action is necessary, and convince the reader to agree with and approve the implementation of the actions recommended in the body of the document. In many cases, the document is drafted as a response to a Request for Proposal (RFP) that is issued by a current or prospective client. However, a document of this type may also be prepared to serve an internal purpose. In any situation, it must be clearly arranged so that readers can follow a logical progression of thought to the conclusion. The guidelines usually identify five key components or sections of any project proposal: the introduction, background, strategy, budgeting or financing, and outcome.
Prototype	An early playable demonstration version of a game or part of a game.
Pure conflict	An approach to gaming where the gain of utility of one player results in the loss of utility of another player.
RAD	Rapid application development (RAD) is both a general term used to refer to alternatives to the conventional waterfall model of software development as well as the name for James Martin's approach to rapid development. In general, RAD approaches to software development put less emphasis on planning tasks and more emphasis on development. In contrast to the waterfall model, which emphasises rigorous specification and planning, RAD approaches emphasise the necessity of adjusting requirements in reaction to knowledge gained as the project progresses.
Rapid prototyping	Rapid prototyping is a group of techniques used to quickly fabricate a scale model of a physical part or assembly using three-dimensional computer aided design (CAD) data. Construction of the part or assembly is usually done using 3D printing or "additive layer manufacturing" technology.
Role Play Game	(RPG, and sometimes roleplaying game) is a game in which players assume the roles of characters in a fictional setting. Players take responsibility for acting out these roles within a narrative, either through literal acting or through a process of structured decision-making or character development. Actions taken within many games

	succeed or fail according to a formal system of rules and guidelines. There are several forms of RPG. The original form, sometimes called the tabletop RPG, is conducted through discussion, whereas in live action role-playing games (LARP) players physically perform their characters' actions. In both of these forms, an arranger called a game master (GM) usually decides on the rules and setting to be used and acts as referee, while each of the other players plays the role of a single character.
Scale	Identifies a range of sizes. It creates interest and depth by demonstrating how each item relates to each other based on size.
Script	Written words (text) that detail a story including dialogue.
Scriptwriter	An individual who is responsible for crafting/writing a script.
Similarity	Refers to the use of objects with similar characteristics to create continuity throughout a design without direct duplication or repetition. Similarity is used to make pieces work together over an interface and help users learn the interface quicker.
Simulator	A program that allows a user to imitate the conditions of a physical environment or physical process in a virtual environment.
Software	The programs used to instruct the operations of a computer. Software enables the working of computers.
Sound editing	The capturing and modification of audio to create a final audio production.
Space	Refers to the blank distance between and around two objects. It is defined when something is placed in it. Incorporating space into a design helps reduce noise, increase readability, and/or create illusion. White space is an important part of your layout strategy.
Spatial Augmented Reality (SAR)	Refers to the principle of augmenting real world objects and scenes without the use of special displays such as monitors, head mounted displays or hand-held devices. SAR makes use of digital projectors to display graphical information onto physical objects. The key difference in SAR is that the display is separated from the users of the system. Because the displays are not associated with each user, SAR scales naturally up to groups of users, thus allowing for collocated collaboration between users. Examples include shader lamps, mobile projectors, virtual tables, and smart projectors. Shader lamps mimic and augment reality by projecting imagery onto neutral objects, providing the opportunity to enhance the object's appearance with materials of a simple unit, such as, a projector, camera, and sensor. Other applications include table and wall projections.
Stop-motion animation	Used to describe animation created by physically manipulating real-world objects and photographing them one frame of film at a time to create the illusion of movement. There are many different types of

	stop-motion animation, usually named after the medium used to create the animation.
Story arc	A continuing storyline in an episodic storytelling media such as television, comic books, video games, and films.
Storyboard	A sequence of drawings, typically with some directions and dialogue, representing the shots planned for a visual production (animation, movies, television).
Strategic moves	Moves which manipulate the rules of the game to a player's advantage. There are three types of strategic moves: commitments, threats, and promises. Only a credible strategic move will have the desired effect. (See Strategy)
Strategy	The plan of action used to advance successfully throughout a game.
System	A collection of game mechanics that is responsible for producing a given outcome within a larger game such as character creation, combat, or casting spells.
Target audience	Refers to all persons for which a publication, advertisement, or other message such as a game or animation is aimed or suited.
Texture	The visual and especially tactile quality of a surface.
Turnaround	Drawings that show the character from 3 or more angles, including front, side and back.
Unity	(In visual design) has to do with all elements on a screen/frame/page visually or conceptually appearing to belong together. Visual design must strike a balance between unity and variety to avoid a dull or overwhelming design.
User interface design (UID) or user interface engineering	The design of user interfaces for machines and software, such as computers, home appliances, mobile devices, and other electronic devices, with the focus on maximising the user experience. The goal of user interface design is to make the user's interaction as simple and efficient as possible, in terms of accomplishing user goals (user-centered design). Good user interface design facilitates finishing the task at hand without drawing unnecessary attention to itself. Graphic design and typography are utilised to support its usability, influencing how the user performs certain interactions and improving the aesthetic appeal of the design. Design aesthetics may enhance or detract from the ability of users to use the functions of the interface. http://en.wikipedia.org/wiki/User_interface_design - cite_note-NormanAttractiveWorksBetter-1 The design process must balance technical functionality and visual elements (such as, mental model) to create a system that is not only operational but also usable and adaptable to changing user needs.

Virtual Reality	A concept of the view of reality in which the real world is replaced with a simulated one.
Virtual team	A number of individuals who work online towards the achievement of common goals. Team members do not meet physically but may use video-conferencing technology and other online tools to collaborate.
Waterfall method/ model	A conventional method/model of software development which emphasises rigorous specification and planning. It is in contrast to RAD approaches to software development which put less emphasis on planning tasks and more emphasis on development, emphasising the necessity of adjusting requirements in reaction to knowledge gained as the project progresses.
Wire bending	The use of malleable wire to create an outline/sculpture of a figure. In animation the process involves making a rough shape of the figure intended for 3D animation.
Wire framing	The process of creating a basic visual layout of the intended finished product such as a website or user interface.
Zero-sum	(Constant-sum) A game in which one player's winnings are the others' losses, so the net gain is zero across all players.
2D	The traditional animation method that has existed since the late 1800s. It is one drawing followed by another in a slightly different pose, followed by another in a slightly different pose, on and on for 24 frames a second. 2D animation focuses on creating characters, storyboards and backgrounds in two-dimensional environments. The figures can move up and down, left and right. They do not appear to move toward or away from the viewer, as they would in 3D animation. 2D animation uses bitmap and vector graphics to create and edit the animated images and is created using computers and software programs, such as Adobe Photoshop, Flash, After Effects and Encore. These animations may be used in advertisements, films, television shows, computer games or websites.
3D	The creation of moving pictures in a three-dimensional digital environment. This is done by sequencing consecutive images, or frames, that simulate motion by each image showing the next in a gradual progression of steps, filmed by a virtual camera and then output to video by a rendering engine. The eye can be fooled into perceiving motion when these consecutive images are shown at a rate of 24 frames per second or faster. 3D techniques usually build virtual worlds in which characters and objects move and interact. 3D animation can create images that seem real to the viewer.

♦ GLOSSARY OF TERMS USED IN THE ANIMATION AND GAME DESIGN EXAMINATION

WORD	DEFINITION/MEANING	COGNITIVE LEVEL
Analyse	Examine methodically and in detail, the elements of a process, a situation or a theory, and then draw (a) conclusion(s).	UK
Apply	Use knowledge and/or principles, approaches or theories to solve problems.	UK
Arrange	Put in specific or logical order.	CK
Assess	Present reasons for the importance of particular structures, relationships or processes. Compare the advantages and disadvantages or the merits and demerits of a particular structure, relationship or process.	UK
Classify	Put into groups according to given criteria and observable characteristics.	CK
Comment	State opinion or view with supporting reasons.	CK
Compare and contrast	State, describe and elaborate on the similarities and differences. An explanation of the significance of each similarity and difference stated may be required for comparisons which are other than structural.	UK
Construct/ Compose/ Create	Combine knowledge, principles and elements to produce something new. For example, to build a model.	UK
Deduce	Make a logical connection between two or more pieces of information; use data to arrive at a conclusion.	UK
Define	Provide a precise statement giving the **nature** or the **scope** or the **meaning** of a term; or use the term in one or more sentences so that the meaning is clear and precise.	CK
Demonstrate	Show (how a process is carried out in steps/ stages).	UK
Describe	Provide a detailed account, including significant characteristics or elements of an issue or situation.	CK
Design	Plan and present with appropriate practical detail.	UK
Develop	Combine knowledge, principles and elements to produce something new. For example, to build a model.	UK

WORD	DEFINITION/MEANING	COGNITIVE LEVEL
Diagram	Simplified representation showing the relationship between components.	UK
Differentiate/ distinguish (between/ among)	State or explain briefly those differences between or among items or situations which can be used to define them or place them into separate categories.	UK
Discuss	Write an extended answer defining key concepts, stating what is, exploring **related** concepts and issues, present reasoned arguments for and against, using detailed examples but not necessarily drawing a conclusion.	UK
Draw	Make a simple freehand diagram showing relevant proportions and any important details.	CK
Evaluate	Weigh evidence and make judgements based on given criteria. The use of logical supporting reasons for a particular point of view is more important than the view held; usually both sides of an argument should be considered.	UK
Explain	Provide statements on **what** happened, **how** it happened and **why** it happened. Provide elaboration of particular terms, concepts, and approaches.	CK
Give	State/Provide factual information in concise terms.	CK
Identify	Name or point out specific components or features. Point out, indicate without explanation or recognise and select.	CK
Illustrate	Show clearly by using appropriate examples or diagrams, sketches.	UK
Investigate	Use appropriate procedures to observe, research, record data and draw logical conclusions.	UK
Justify	Explain the correctness of/ give reasons for the selection of.	UK
Label	Add names to identify structures or parts indicated by pointers.	CK
List	Itemise without detail such as explanation or description.	CK
Name	Give only the name of.	CK
Outline	Give main points only. Basic steps or features. Provide in skeletal form.	CK UK
Plan	Prepare to conduct an activity by showing a series of systematic steps which, when followed, will lead to a solution.	UK

WORD	DEFINITION/MEANING	COGNITIVE LEVEL
Select	Choose from a list	CK
Show	Demonstrate (how a process is carried out in steps/stages)	UK
Sketch	Outline/Make a simple freehand diagram showing relevant proportions and any important details.	CK
State	Give/Provide factual information in concise terms.	CK
Suggest	Offer an explanation deduced from information provided or previous knowledge. (... a hypothesis; provide a generalisation which offers a likely explanation for a set of data or observations.)	UK
Use	Employ knowledge/skill to produce something new.	UK

Western Zone Office
17 July 2023

CARIBBEAN EXAMINATIONS COUNCIL

Caribbean Advanced Proficiency Examination
CAPE®

ANIMATION AND GAME DESIGN

Specimen Papers and Mark Schemes/Keys

Specimen Papers, Mark Schemes and Key:

Unit 1 Paper 01
Unit 1 Paper 02
Unit 2 Paper 01
Unit 2 Paper 02

TEST CODE **02142010**

SPECIMEN 2023

CARIBBEAN EXAMINATIONS COUNCIL

CARIBBEAN ADVANCED PROFICIENCY EXAMINATION®

ANIMATION AND GAME DESIGN

SPECIMEN PAPER

Unit 1 – Paper 01

1 hour

READ THE FOLLOWING INSTRUCTIONS CAREFULLY.

1. This test consists of 45 items. You will have 1 hour to answer them.

2. Each item in this test has four suggested answers lettered (A), (B), (C), (D). Read each item you are about to answer and decide which choice is best.

3. Look at the following sample item.

   Sample Item

   Which of the following terms is NOT considered a type of game genre?

   (A) Teen
   (B) Sport
   (C) Puzzle
   (D) Strategy

   Sample Answer

   ● Ⓑ Ⓒ Ⓓ

   The best answer to this item is "Teen", so (A) has been shaded.

4. The use of mobile phones is NOT allowed.

DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO.

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1. In Patricia's game, players gain points for correctly solving mathematical equations. What is the goal of Patricia's game?

(A) Survival
(B) Edutainment
(C) Entertainment
(D) Race to the end

2. Janine wishes to design a game that creates an outcome where no one player wins at the expense of the others. What type of game must Janine design?

(A) One-sum
(B) Zero-sum
(C) Positive-sum
(D) Negative-sum

3. Brian and Hasim have arrived at the post-production phase in their animation project. Which of the following roles are they LIKELY to encounter in this phase?

(A) Publisher
(B) Tool developer
(C) Sound engineer
(D) Console developer

4. Which of the following trends in animation or game design is NOT current?

(A) Stop motion
(B) Virtual reality
(C) Gesture modelling
(D) Augmented reality

5. Which of the following outcomes are direct benefits to the Caribbean of having a regional animation and game design industry?

I. Decreasing unemployment
II. Reduction of crime and violence
III. Increasing entrepreneurial options and ventures

(A) I and II only
(B) I and III only
(C) II and III only
(D) I, II and III

6. Kieran created a game for his SBA using a soundtrack for which he had not sought the permission of the musician. Which of the following violations has occurred in this situation?

(A) Plagiarism
(B) Trademark
(C) Patent infringement
(D) Copyright infringement

7. Which of the following items is a game platform?

(A) Console
(B) Machine
(C) Play Store
(D) Television

8. Which of the following rules are included in the list of the Ten Recording Commandments?

I. Do not interrupt a take.
II. Record more than is needed.
III. Point the microphone at the sound.

(A) I and II only
(B) I and III only
(C) II and III only
(D) I, II and III

GO ON TO THE NEXT PAGE

9. Raquel is part of the development team for an animation feature. She is finding it difficult to write the script for her characters. Raquel has found animations online with a similar plot. She could use the same script — it would fit perfectly.

If Raquel uses the script, which of the following acts would she have committed?

(A) Plagiarism
(B) File sharing
(C) Trademark violations
(D) Stripping of DRM restrictions

10. Simone used the pipeline process for her animation. Which of the following stages is NOT included in the process?

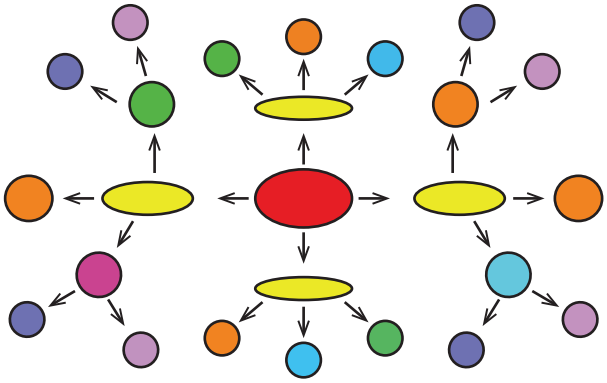
(A) Ideation
(B) Iteration
(C) Production
(D) Pre-production

11. Jordan thinks that he has a fantastic concept for a virtual reality game but he does not have the money to begin its creation. Jordan has decided he will not borrow money, nor does he want an investor telling him what to do.

Which of the following funding options would be MOST suitable for Jordan?

(A) Credit union
(B) Crowdfunding
(C) Debt financing
(D) Venture capital

Item **12** refers to the following image of a Mind Map.



12. In which of the following stages of animation design would the image be BEST utilized?

(A) Scripting
(B) Style guide
(C) Creative brief
(D) Brainstorming

13. When compared to plan-based methods such as waterfall, the iterative process of game design is

(A) faster
(B) cyclical and faster
(C) more individualized
(D) more individualized and faster

14. Which of the following soft skills support employment and entrepreneurship in animation and game design?

I. Critical thinking
II. Communication
III. Pitch deck creation

(A) I and II only
(B) I and III only
(C) II and III only
(D) I, II and III

15. Which of the following concepts is a principle of animation which was developed by Walt Disney Studios?

(A) 3D
(B) Staging
(C) Walk cycle
(D) Turnarounds

16. Which of the following elements should be used in the structure of a game?

I. Tasks
II. Progression
III. Environment

(A) I and II only
(B) I and III only
(C) II and III only
(D) I, II and III

17. Which of the following features is NOT a principle of art and design?

(A) Texture
(B) Balance
(C) Repetition
(D) Movement

18. Which of the following terms BEST defines a rapidly executed work of art?

(A) Life drawing
(B) Dynamic figure
(C) Gesture drawing
(D) Figure in motion

19. Which of the following elements are included in cultural studies?

(A) Assets
(B) Artefacts
(C) Characters
(D) Environments

20. Michael was asked to create a game with two levels to represent Caribbean drag racing. Which of the following environments would be MOST suitable for the game?

(A) Beach scenes and natural water attractions
(B) Market scene with people parading their fresh produce
(C) Hill runs and road areas where people line the sides of the street
(D) Rural areas with farmers working in their fields where the crops are ready for harvesting

21. Which of the following are factors that should be considered when developing a story for a game or animation?

I. Script
II. Publisher
III. Environment

(A) I and II only
(B) I and III only
(C) II and III only
(D) I, II and III

22. Which of the following techniques should be used to create a linear illusion?

(A) Drawing
(B) Perspective
(C) Scene design
(D) Gesture drawing

23. Level design is mainly concerned with

(A) stories
(B) avatars
(C) gameplay
(D) environments

24. The chronological construction of a plot in a game is referred to as

(A) a script
(B) a story arc
(C) concept art
(D) a storyboard

25. Which of the following terms is NOT a name given to a portion of a game?

(A) Level
(B) Quest
(C) Section
(D) Mission

26. Which of the following elements is a stage of a story arc?

(A) Plot
(B) Level
(C) Design
(D) Exposition

27. Which of the following terms refers to a camera angle?

(A) Pan-up
(B) Direction
(C) Scrollable
(D) Point of view

Item **28** refers to the following colour palettes.

(I)

(II)

(III)

(IV)

28. Katrina is designing an animation that targets children from ages four to six. Which of the following colour palettes would be MOST suitable for the age group?

(A) I
(B) II
(C) III
(D) IV

29. Observational art is drawing from

(A) life
(B) a computer
(C) a photograph
(D) the imagination

30. Which of the following styles is a type of motion drawing?

(A) Repetition
(B) Still life
(C) Gesture
(D) Figure

31. In the story of Minions, the character Gru can be considered a villain and a hero. Which of the following character design principles applies to Gru?

(A) Archetype
(B) Expression
(C) Posture and stance
(D) Proportion and exaggeration

32. A series of illustrations used to convey key events in an animation or game is known as

(A) concept art
(B) a storyboard
(C) a figure drawing
(D) a perspective drawing

Item **33** refers to the following image of a character.

33. Which view of a character turnaround is shown in the image?

(A) Side
(B) Back
(C) Front
(D) Three-quarter

34. Which of the following features are NOT assets that are likely to be included in an environment designed for action games?

(A) Children
(B) Obstacles
(C) Powerups
(D) Weaponry

35. Which of the following elements should be included in a synopsis for a game?

I. Genre
II. Character
III. Script narration

(A) I and II only
(B) I and III only
(C) II and III only
(D) I, II and III

36. Which of the following sections is NOT included in a transmedia/production bible?

(A) Treatment
(B) Design specification
(C) Management contract
(D) Business and marketing

37. Chan is a karate master trying to evade zombies during an apocalypse. Which of the following genre combinations would be MOST appropriate for Chan's character?

(A) Board/puzzle
(B) Shooter/survival
(C) Action/adventure
(D) Racing/simulation

38. Which of the following elements should be included in a storyboard?

(A) Characters
(B) Perspectives
(C) Art references
(D) Character turnarounds

39. When designing cartoon characters, which of the following character design principles is often used?

(A) Layers
(B) Contrast
(C) Camera angles
(D) Proportions and exaggerations

Item **40** refers to the following scene.

Source: *http://www.nickalive.net/2022_06_01_archive.html*

40. Which of the following game genres would be MOST appropriate for the scene?

(A) Strategy
(B) Adventure
(C) Simulation
(D) Role-playing

41. Which of the following components MUST be included in the production schedule for a game?

(A) Levels
(B) Quests
(C) Milestones
(D) Feature list

Item **42** refers to the following picture which shows a screenshot from a game.

Source: *https://www.adsoftheworld.com/campaigns/electrocity*

42. Which of the following terms BEST describes the camera angle used in the game?

(A) First person
(B) Side scroller
(C) Third-person 3D
(D) Top-down perspective

43. Which of the following terms refers to the area of acceptable sharpness in front of and behind the subject on which the lens is focused?

(A) Level design
(B) Camera angle
(C) Depth of field
(D) Environment effects

44. The resource that provides detailed information required for the development of an animation or game is called a

(A) glossary
(B) synopsis
(C) storyboard
(D) production bible

45. Which of the following elements would normally appear in a video game script?

(A) Genre
(B) Assets
(C) Storyboard
(D) Character descriptions

END OF TEST

Subject & Proficiency: CAPE Animation and Game Design - Unit 1				
Generation Name: 02142010 - CAPE Specimen Paper Master Data Sheet				
Item No.	**Subject Code**	**Key**	**Syllabus Reference**	**Module**
1	AGDU1	A	1.1.4	M1
2	AGDU1	C	1.1.8	M1
3	AGDU1	A	1.1.3	M1
4	AGDU1	A	1.1.2	M1
5	AGDU1	B	1.1.9	M1
6	AGDU1	D	1.1.20	M1
7	AGDU1	B	1.1.6	M1
8	AGDU1	D	1.1.18	M1
9	AGDU1	A	1.1.19	M1
10	AGDU1	B	1.1.14	M1
11	AGDU1	B	1.1.16	M1
12	AGDU1	D	1.1.11	M1
13	AGDU1	B	1.1.13	M1
14	AGDU1	C	1.1.10	M1
15	AGDU1	B	1.1.17	M1
16	AGDU1	D	1.2.7	M2
17	AGDU1	A	1.2.2	M2
18	AGDU1	C	1.2.4	M2
19	AGDU1	B	1.2.11	M2
20	AGDU1	C	1.2.9	M2
21	AGDU1	B	1.2.12	M2
22	AGDU1	C	1.2.6	M2
23	AGDU1	C	1.2.8	M2
24	AGDU1	B	1.2.12	M2
25	AGDU1	C	1.2.8	M2
26	AGDU1	D	1.2.12	M2
27	AGDU1	A	1.2.12	M2
28	AGDU1	B	1.2.2	M2
29	AGDU1	A	1.2.3	M2
30	AGDU1	D	1.2.4	M2
31	AGDU1	A	1.3.4	M3
32	AGDU1	B	1.3.3	M3
33	AGDU1	D	1.3.5	M3
34	AGDU1	A	1.3.6	M3
35	AGDU1	A	1.3.1	M3
36	AGDU1	C	1.3.7	M3
37	AGDU1	C	1.3.1	M3
38	AGDU1	A	1.3.3	M3
39	AGDU1	D	1.3.4	M3
40	AGDU1	B	1.3.1	M3
41	AGDU1	D	1.3.7	M3
42	AGDU1	D	1.3.3	M3
43	AGDU1	C	1.3.3	M3
44	AGDU1	D	1.3.7	M3
45	AGDU1	D	1.3.2	M3

TEST CODE **02142020**

SPECIMEN 2023

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ANIMATION AND GAME DESIGN

Unit 1 – Paper 02

2 hours 30 minutes

READ THE FOLLOWING INSTRUCTIONS CAREFULLY.

1. This paper consists of THREE questions.
2. You MUST answer ALL questions.
3. You are strongly advised to save your work INTERMITTENTLY.
4. All work done external to the online platform MUST be scanned/digitized and uploaded to the online platform.

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"*"Barcode Area"*"
Sequential Bar Code

MODULE 1

UNDERSTANDING ANIMATION AND GAME DESIGN

1. Janelle and Muhammed are 17 and 18 years of age respectively. They are preparing their pitch for the Caribbean Game Design Pitch Bowl in two weeks' time. If they win the top prize, they will receive USD$5000 which they are expected to invest in the development of their game. The two believe that their game is the first of its kind as it is an action game. However, the statistics show that Caribbean gamers prefer to download and play games produced in North America. Janelle and Muhammed's game is rated E for everyone, with each level set in a different Caribbean island. Although they have never produced a game before, Janelle has great illustration skills.

(a) Create a SWOT analysis for the scenario above.

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[10 marks]

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(b) (i) List, in sequence, the steps of the iterative design process.

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[6 marks]

(ii) Explain how the step in (b) (i) that is used in the pre-production process is useful in game development.

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[2 marks]

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(c) Develop a synopsis for Janelle and Muhammed's game.

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[7 marks]

Total 25 marks

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MODULE 2

DRAWING AND LAYOUT

2. (a) Create, using two-point perspective, a colour environment for a gaming character in a city.

[8 marks]

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(b) Using a hand as the model, draw THREE gestures in any medium.

[9 marks]

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NOTHING HAS BEEN OMITTED.

“*”Barcode Area”*”
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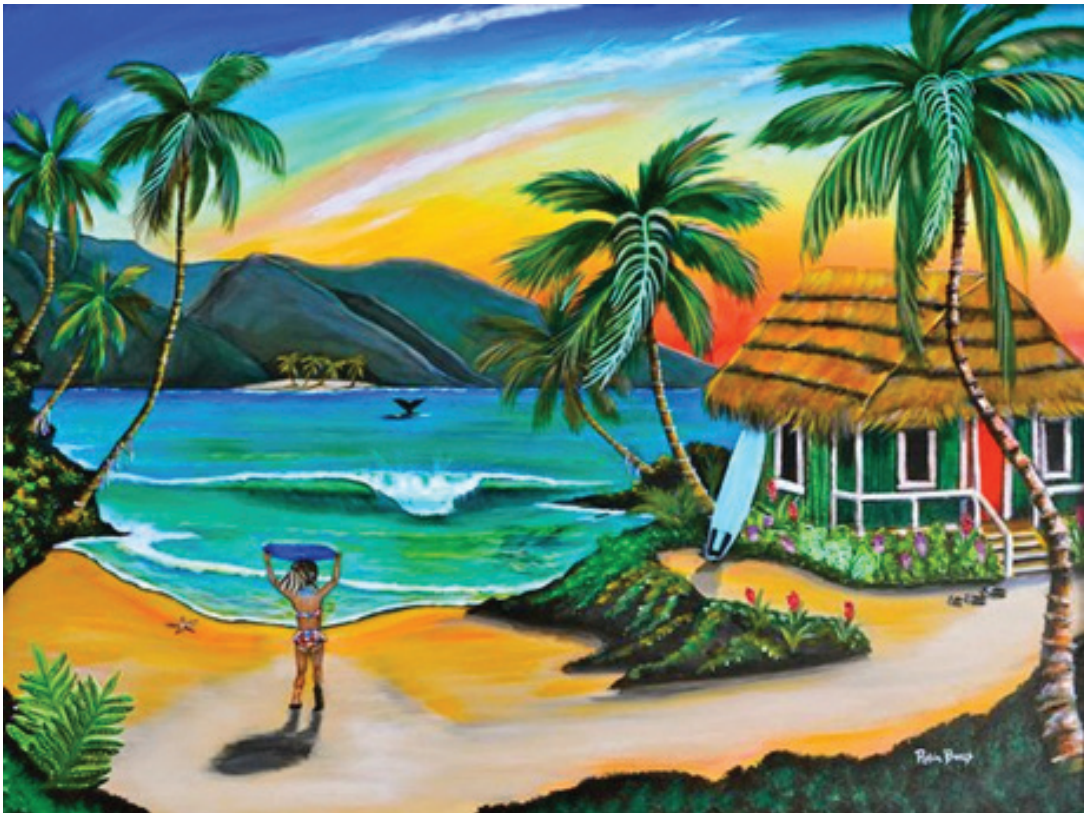
(c) The concept art shown below depicts an image of a Caribbean setting. Study the image and answer the questions that follow.



Source: https://www.pinterest.com/pin/430304939372380783/

(i) Describe the environment.

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[6 marks]

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(ii) Identify the mood of the concept art. State a reason to support your response.

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[2 marks]

Total 25 marks

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MODULE 3

STORY AND CHARACTER DEVELOPMENT

3. The Browne family decides to take a vacation aboard a Royal Caribbean cruise ship. The ship docks in the main port on an island at 8 a.m. The family sets out on an excurison on the island. A series of events unfolds which threatens to prevent the family from returning to the ship before it departs at 6 p.m. on that day.

(a) Based on the scenario above, create a narrative for a game or animation.

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[7 marks]

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(b) (i) Define the term 'storyboard'.

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[1 mark]

(ii) List TWO benefits of creating a storyboard.

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[2 marks]

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(c) Using the narrative created in (a), design a five-panel storyboard.

[10 marks]

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(d) Describe a character from the narrative in (a). The character could be a protagonist or an antagonist.

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[3 marks]

(e) Identify TWO assests that are appropriate for the narrative.

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[2 marks]

Total 25 marks

END OF TEST

"*"Barcode Area"*"
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C A R I B B E A N E X A M I N A T I O N S C O U N C I L

CARIBBEAN ADVANCED PROFICIENCY EXAMINATION®

ANIMATION AND GAME DESIGN

UNIT 1 – PAPER 02

KEY AND MARK SCHEME

SPECIMEN

ANIMATION AND GAME DESIGN
UNIT 1 - PAPER 02
KEY AND MARK SCHEME

QUES.	**Specific objectives:** 15, 12, 14, 16	KC	AA	SE
1.(a)	Strengths Janelle has great illustration skills **(1)** which would be beneficial in the development process such as unique character and environment designs **(1).** Weaknesses The team has never produced a game before **(1)** so there may be a steep learning curve/may result in a lengthy development process/result in a poorly developed game **(1).** Opportunities The game is unique **(1)** and this may provide a competitive advantage. **(1)** The game is rated E **(1)** for everyone which widens its appeal and target audience **(1).** Threats Consumer preference for games developed in North America may reduce demand **(1).** However, with effective marketing about the uniqueness of the game, the team may be able to counter that preference **(1).** **1 mark for accurate categorization of each factor** **1 mark for a brief outline of how each element may impact the team/game development process**		10	
(b) (i)	Brainstorming & ideation Rapid prototyping Play test Revision Repeat **1 mark for accurate identification of each of 5 steps** **1 mark for listing steps in correct sequence**	6		
(ii)	Brainstorming and ideation are useful for generating, exploring, and refining ideas (1) where groups and individuals subject their artifacts and ideas to limits and constraints, using mind maps/brainstorming charts/sessions (1) to come up with the most innovative and creative ideas that can be used in the game development process. **1 mark for the outline of usage** **1 mark for the example of appropriate ideation/ brainstorming tools**	2		

ANIMATION AND GAME DESIGN
UNIT 1 - PAPER 02
KEY AND MARK SCHEME

QUES.	**Specific objectives:** 15, 12, 14, 16	KC	AA	SE
(c)	The game synopsis should include: - the name of the game - the game rating (E for everyone from the scenario) - a brief outline of the game goal - the game world/environment (must be set in the Caribbean as from the scenario) - short term goals - the main character description - the game genre - (action) **1 mark for each accurate/appropriate component included**			7

Total 25 marks

ANIMATION AND GAME DESIGN
UNIT 1 - PAPER 02
KEY AND MARK SCHEME

QUES.	**Specific objectives:** 2, 9, 1, 4, 10	KC	AA	SE
2.(a)	 *Source: https://blogs.ubc.ca/jenniferch/practicum/two-point-perspective-futuristic-city-drawing/* CRAFTSMANSHIP Level of skill in manipulation of medium • ***2 marks for very good skill in effectiveness of 2-point perspective*** • ***2 marks for very good skill in appropriateness of environment for character*** **1 mark for lower level of skill on EACH category* • ***1 mark for evidence of experimentation/creativity in design*** DESIGN COMPOSITION • ***2 marks for very good use/manipulation of design elements (colour, lines, space, texture, shape, form)*** **Satisfactory use/manipulation of design elements* ORIGINALITY • ***1 mark for evidence of novel interpretation***		8	

ANIMATION AND GAME DESIGN
UNIT 1 - PAPER 02
KEY AND MARK SCHEME

QUES.	**Specific objectives:** 2, 9, 1, 4, 10	KC	AA	SE
(b)	 CRAFTSMANSHIP • Drawing of 3 gestures showing three distinct movements ***2 marks for each distinct gesture*** **1 mark if gesture is not distinct* • Level of skill in manipulation of medium ***2 marks for a realistic representation of hand*** **1 mark for lower level of skill* ORIGINALITY ***1 mark for evidence of novel interpretation***		2	6 1
(c) (i)	Description of concept art environment Foreground – sandy area with bushes and coconut tree Midground – cottage/hut with sea Background – mountain range/sunrise based on colours ***2 marks for description of each layer***	6		
(ii)	Mood of concept art The mood is happy, carefree **(1).** The natural environment and colourful environment/use of bright colours. ***1 mark for correctly identifying mood*** ***1 mark for justification of mood***	2		

Total 25 marks

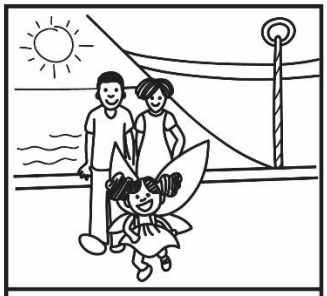
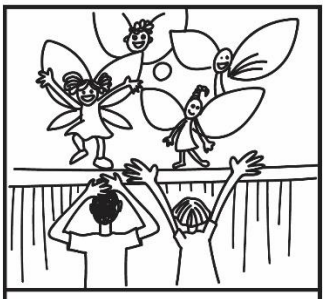
ANIMATION AND GAME DESIGN
UNIT 1 - PAPER 02
KEY AND MARK SCHEME

QUES.	**Specific objectives:** 2, 3, 4, 6	KC	AA	SE
3.(a)	As the Browne family exited the Royal Caribbean Cruise Ship, little Jenelle was so excited to show off her brightly colored fairy wings. After fifteen minutes of street parade, noise and music, the Brownes realized that little Jenelle was lost in the Carnival crowd. They were forced to leave the safety of their cruise group, to find her among the gigantic costumes blocking the roadway. During their frantic journey, the couple were horrified to discover little Jenelle being driven away on a music truck down the streets towards the City Centre. As they ran through the streets, dodging carnival costumes and pan trucks, the Brownes were convinced that the family will not make it back in time for the Cruise ship's 6 pm departure. On reaching the Savannah, they were relieved to see little Janelle prancing on stage with the other one hundred or so Carnival Fairies that she was mistakenly pulled into. After some frantic discussions and apologies, they were relieved to make it back to the ship on time. Little Janelle had a wonderful time at the Carnival but her parents learnt a tough lesson about Carnival revelry. Response should include all the stages of a story arc: Exposition, rising action, climax, falling action, resolution. **1 mark for evidence of each stage × 5** **2 marks for a cohesive (flowing) story** <u>Example of points in narrative</u> - Setting/Characters/Background information - A description of the excursion - What went wrong on the excursion - Other events that occurred or challenges to overcome - How they overcame those challenges - How they got back to the ship			7

ANIMATION AND GAME DESIGN
UNIT 1 - PAPER 02
KEY AND MARK SCHEME

QUES.	**Specific objectives:** 2, 3, 4, 6	KC	AA	SE
(b) (i)	A storyboard is a panel of sketches that depicts the action and scene in a film, television show, or advertisement. **1 mark for correct definition**	1		
(ii)	Benefits of a storyboard - Allows the director to see the film in draft form before filming or animating. - Helps to avoid expensive re-shoots. Storyboard helps us - Outlines the sequence of the story in a visual - Communicates the narrative to other stakeholders - Identifies inconsistencies in the narrative - Demonstrates if the concept works - Helps to ensure everyone developing the animation or game has the same understanding **1 mark for each benefit × 2**	2		

ANIMATION AND GAME DESIGN
UNIT 1 - PAPER 02
KEY AND MARK SCHEME

QUES.	Specific objectives: 2, 3, 4, 6	KC	AA	SE
(c)	PANEL 01  DIALOGUE: No Dialogue ACTION: The Browne Family is excited as they leave the ship for island Carnival. PANEL 02  DIALOGUE: No Dialogue ACTION: There is loud music and lots of festivities. The family is enthralled by everything. PANEL 03  DIALOGUE: No Dialogue ACTION: Mr Browne look down only to see that Janelle is not in her spot. They are both visibly shaken. PANEL 04  DIALOGUE: No Dialogue ACTION: They run through the parade looking for her frantically. In the distance they see her on the back of a truck being driven away. PANEL 05  DIALOGUE: No Dialogue ACTION: As they run towards the Carnival stage Janelle is seen dancing among the other fairies. The couple is visibly relieved. **1 mark for correct sequence of drawings in storyboard** **1 mark for indication of camera angles** **2 marks for illustration of at least 2 key events** **2 marks for character depictions in keeping with the narrative created** **2 marks for inclusion of appropriate script narration** **2 marks for realistic overall representation of the scenes**		10	

ANIMATION AND GAME DESIGN
UNIT 1 - PAPER 02
KEY AND MARK SCHEME

QUES.	**Specific objectives:** 2, 3, 4, 6	KC	AA	SE
(d)	Character description Mrs. Browne the mother, is the antagonist of the narrative. She is dressed in a torn T-shirt, shorts and sneakers, suitable for a family excursion, but smeared with mud, and torn, as she struggles to get her family out of the volcanic mud caves and back to the ship on time. **1 mark for suitability of character that matches the scenario** **1 mark for provision of adequate description of the look of the character** **1 mark for identification of the archetype**	3		
(e)	Props Dock, pier, taxi, boat, tree **1 mark for each appropriate asset × 2**	2		

Total 25 marks

CRITICAL ANALYSIS LIST FOR UNIT 1 PAPER 031

ANIMATIONS	Name: Meet the Wilbuts URL: https://youtu.be/T_156HOSBvM Name: Missy de Mosquito URL: https://www.youtube.com/watch?v=oLD6ixD5IaQ&t=34s Name: Epically Maya URL: https://www.youtube.com/watch?v=93yT6u0WPH8 Name: Unfetter and Fly URL: https://www.youtube.com/watch?v=7oPS8xqFrjE
GAMES	Name: Bitlife URL: https://play.google.com/store/apps/details?id=com.candywriter.bitlife Name: Fall Guys URL: https://store.epicgames.com/en-US/p/fall-guys Name: Market Boss URL: https://www.crazygames.com/game/market-boss Name: World Rescue URL: https://www.gamesforchange.org/games/world-rescue/

SPECIMEN 2023

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ANIMATION AND GAME DESIGN

SPECIMEN PAPER

Unit 2 – Paper 01

1 hour

READ THE FOLLOWING INSTRUCTIONS CAREFULLY.

1. This test consists of 45 items. You will have 1 hour to answer them.

2. Each item in this test has four suggested answers lettered (A), (B), (C), (D). Read each item you are about to answer and decide which choice is best.

3. Look at the following sample item.

   Sample Item

   The movement that prepares the audience for a MAJOR action that a character is about to perform is called

   (A) timing
   (B) anticipation
   (C) exaggeration
   (D) secondary action

   Sample Answer

   

   The best answer to this item is "anticipaton", so (B) has been shaded.

4. The use of mobile phones is NOT allowed.

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1. The earliest known video game was a computerized version of

(A) pools
(B) checkers
(C) tic-tac-toe
(D) battlefields

2. To which genre of games do both Farm Heroes and Candy Crush belong?

(A) Board
(B) Puzzle
(C) Adventure
(D) Educational

3. Which of the following features is considered a key principle of interactive design?

(A) Accessible
(B) Consistent
(C) Attractive
(D) Credible

4. If a player is unable to determine how to interact with a game and its characters, which of the following principles of interactive design has not been properly addressed?

(A) Feedback
(B) Learnable
(C) Consistent
(D) Perceivable

5. As part of an SBA project, your team is working on a strategy game. However, many examples of these games have already been developed.

In which category of a SWOT analysis would this be BEST addressed?

(A) Threats
(B) Strengths
(C) Weaknesses
(D) Opportunities

6. Michael, who is visually impaired, is considering purchasing a game that provides information about the history of the Caribbean.

Which of the following factors is MOST important in ensuring that Michael has a positive user experience?

(A) Credibility
(B) Usefulness
(C) Accessibility
(D) Desirableness

7. Which of the following elements is considered one of the basic principles of visual design?

(A) Line
(B) Angle
(C) Balance
(D) Contrast

8. Which of the following terms defines how a surface feels or is perceived to feel?

(A) Form
(B) Shape
(C) Texture
(D) Topography

9. Michelle is designing a mascot for her school. Which type of intellectual property rights should she seek for her design when signing a contract with the school's management?

(A) Patent
(B) Copyright
(C) Trademark
(D) Reservation of rights

10. Which of the following colour schemes is described as 'any two colours that are opposite each other on the colour wheel'?

(A) Analogous
(B) Monochromatic
(C) Complementary
(D) Split-complementary

11. Demographics can be defined as the quantifiable statistics of a given population. Which of the following factors BEST represents the demographics of a game?

(A) Income
(B) Religion
(C) Location
(D) Food preference

12. In the story arc for a game or animation, which section represents the point where major conflict occurs?

(A) Climax
(B) Resolution
(C) Rising action
(D) Turning point

13. Which of the following is NOT considered a genre for games?

(A) Maturity
(B) Strategy
(C) Adventure
(D) Role-playing

14. Which of the following principles is used in creating a visual design?

(A) Line
(B) Motion
(C) Direction
(D) Hierarchy

15. Which of the following colours is NOT on the basic colour wheel?

(A) Red
(B) Indigo
(C) Red-violet
(D) Blue-green

16. An early playable demonstration version of a game or part of a game is called a

(A) feature list
(B) demo reel
(C) prototype
(D) mock-up

17. Mark and Jonecia have recently produced a game. A fix is needed to improve the sound playability. Which of the following files would be MOST appropriate for improving the sound?

(A) Patch
(B) Game Audio
(C) Game Repair
(D) Adobe Audition

18. Which of the following outcomes are considered core dynamics of games?

I. Winning
II. Survival
III. Destruction

(A) I and II only
(B) I and III only
(C) II and III only
(D) I, II and III

GO ON TO THE NEXT PAGE

19. The core dynamic for a game in which the primary objective is to acquire and control a zone or region is called

(A) trading
(B) building
(C) spatial reasoning
(D) territorial acquisition

20. Which of the following terms describes an icon or figure representing a person in a game?

(A) Wireframe
(B) Avatar
(C) Player
(D) Role

21. Which of the following careers is NOT typically found in the animation and game design industries?

(A) Database administrator
(B) Programmer
(C) Tester
(D) Artist

22. Which of the following types of designs are associated with games?

I. World
II. System
III. User interface

(A) I and II only
(B) I and III only
(C) II and III only
(D) I, II and III

23. Consider a game where players are presented with several choices that influence how the game progresses. However, players are forced to encounter certain events regardless of their choices and ultimately come to the same ending.

What type of game story does this BEST represent?

(A) Linear
(B) Distributed
(C) Open-ended
(D) Parallel paths

24. Which of the following factors is considered a common constraint in game design?

(A) Exchange rate
(B) User feedback
(C) Milestone
(D) Audience

25. Which of the following types of designs, associated with games, pertains to the way in which the player interacts with the game and receives information and feedback from the game?

(A) User content
(B) User persona
(C) User interface
(D) User experience

26. In game development, camera view is important to the gameplay experience. In which of the following views can the player visually see the body of the controlled character?

(A) Blended
(B) Top-down
(C) First person
(D) Third person

27. Which stage of iterative design in game development involves testing the usability of the game for bugs and design flaws?

(A) Revision
(B) Play testing
(C) Brainstorming
(D) Rapid prototyping

28. Which of the following processes is part of designing user interfaces for games?

(A) Branching
(B) Prioritizing
(C) Story writing
(D) Compositing

29. Joan is developing a game but wants players to have varying options regarding progression in the gameplay. Which of the following story types is MOST appropriate for this game?

(A) Spiral
(B) Emergent
(C) Branching
(D) Open-ended

30. Which of the following application software is primarily used to design games?

(A) Unity
(B) Gimp
(C) Photoshop
(D) Game Factory

31. The series of levels that allow a designer to propagate specific gameplay themes across several levels is called

(A) world
(B) scene
(C) episode
(D) storyboard

32. Which character archetype normally refers to the villain?

(A) Jester
(B) Heroine
(C) Antagonist
(D) Protagonist

33. Which of the following file formats is used to support short clips or moving images?

(A) GIF
(B) HSB
(C) RGB
(D) CMYK

34. The three-dimensional process of extending a plane surface some distance, either perpendicular to the shape's outline or along a defined path, is called

(A) lathing
(B) extruding
(C) rendering
(D) modelling

35. To model an object to be placed in a scene, an artist must start with its

(A) size
(B) angle
(C) shape
(D) colour

Item **36** refers to the following image of a scene.

Source: *https://academyofanimatedart.com/setting-up-and-controlling-your-lights/*

36. Which of the following types of lighting is MOST dominant in the image?

(A) Rim
(B) Spot
(C) Ambient
(D) Directional

---

37. Which of the following tools is a feature of three-dimensional modelling software?

(A) Lathe
(B) Thesaurus
(C) Autotrace
(D) Eyedropper

38. Which of the following features are represented in a 2D animated film?

I. Width
II. Depth
III. Height

(A) I and II only
(B) I and III only
(C) II and III only
(D) I, II and III

39. Which technique in 3D character design is used to create the exo-skeleton of a model?

(A) Rigging
(B) Modelling
(C) Morphing
(D) Portraiture

40. The drawings that follow the in-betweens in the creation of an animated sequence are referred to as

(A) layers
(B) frames
(C) key points
(D) key drawings

41. Which of the following is part of the rigging process?

(A) Rotoscoping
(B) De-morphing
(C) Cyber-motion
(D) Inverse kinematics

42. What is the correct sequence of the poses of the walk cycle?

(A) Contact, down, passing, low point
(B) Contact, down, passing, high point
(C) Contact, down, upward, high point
(D) Upward, down, passing, high point

43. The use of physical materials animated over time and captured one frame at a time is called

(A) time-set
(B) traditional
(C) stop-motion
(D) three-dimensional

44. What is the operating principle of the zoetrope, thaumatrope and phenakistoscope?

(A) Science
(B) Relativity
(C) Evolution
(D) Persistence of vision

45. Three-dimensional graphics software are MAINLY based on

(A) hypermedia
(B) bitmapped graphic
(C) presentation graphic
(D) object-oriented graphic

END OF TEST

Subject & Proficiency: CAPE Animation and Game Design - Unit 2				
Generation Name: 02242010 - CAPE Specimen Paper Master Data Sheet				
Item No.	**Subject Code**	**Key**	**Syllabus Reference**	**Module**
1	AGDU2	C	2.1.1	M1
2	AGDU2	B	2.1.2	M1
3	AGDU2	B	2.1.4	M1
4	AGDU2	D	2.1.4	M1
5	AGDU2	B	2.1.16	M1
6	AGDU2	C	2.1.5	M1
7	AGDU2	A	2.1.8	M1
8	AGDU2	C	2.1.8	M1
9	AGDU2	B	2.1.18	M1
10	AGDU2	C	2.1.10	M1
11	AGDU2	D	2.1.16	M1
12	AGDU2	A	2.1.12	M1
13	AGDU2	A	2.1.2	M1
14	AGDU2	B	2.1.4	M1
15	AGDU2	B	2.1.10	M1
16	AGDU2	C	2.2.6	M2
17	AGDU2	D	2.2.16	M2
18	AGDU2	C	2.2.4	M2
19	AGDU2	D	2.2.4	M2
20	AGDU2	B	2.2.1	M2
21	AGDU2	A	2.2.2	M2
22	AGDU2	D	2.2.3	M2
23	AGDU2	D	2.2.9	M2
24	AGDU2	C	2.2.16	M2
25	AGDU2	C	2.2.14	M2
26	AGDU2	D	2.2.13	M2
27	AGDU2	A	2.2.6	M2
28	AGDU2	B	2.2.14	M2
29	AGDU2	C	2.2.9	M2
30	AGDU2	A	2.2.5	M2
31	AGDU2	A	2.3.3	M3
32	AGDU2	C	2.3.11	M3
33	AGDU2	A	2.3.11	M3
34	AGDU2	B	2.3.4	M3
35	AGDU2	C	2.3.4	M3
36	AGDU2	B	2.3.6	M3
37	AGDU2	A	2.3.4	M3
38	AGDU2	B	2.3.8	M3
39	AGDU2	A	2.3.7	M3
40	AGDU2	D	2.3.12	M3
41	AGDU2	D	2.3.7	M3
42	AGDU2	B	2.3.12	M3
43	AGDU2	C	2.3.13	M3
44	AGDU2	D	2.3.9	M3
45	AGDU2	D	2.3.4	M3

TEST CODE **02242020**

SPECIMEN 2023

CARIBBEAN EXAMINATIONS COUNCIL

CARIBBEAN ADVANCED PROFICIENCY EXAMINATION®

ANIMATION AND GAME DESIGN

Unit 2 – Paper 02

2 hours 30 minutes

READ THE FOLLOWING INSTRUCTIONS CAREFULLY.

1. This paper consists of THREE questions.
2. You MUST answer ALL questions.
3. You are strongly advised to save your work INTERMITTENTLY.
4. All work done external to the online platform MUST be scanned/digitized and uploaded to the online platform.

DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO.

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"*"Barcode Area"*"
Sequential Bar Code

MODULE 1

INTRODUCTION TO INTERACTIVE DESIGN

1. The Ministry of Health is seeking to educate children ages seven to ten on good hygiene and best practices to safeguard their health and wellness. These practices include having a balanced diet and exercising. The ministry would like a game developed to address these objectives.

(a) Develop a six-panel storyboard for a suitable game.

[10 marks]

(b) Identify the TWO **most** suitable genres for your game.

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[2 marks]

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(c) Justify which of the intellectual property rights would be MOST relevant when designing this game.

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[5 marks]

(d) Considering the target audience, state the MOST appropriate ESRB rating for the game. Give a reason to support your response.

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[2 marks]

(e) List THREE principles for creating a visual design.

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[3 marks]

(f) (i) Differentiate between the factors 'findable' and 'accessible', with respect to user experience.

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[2 marks]

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(ii) State ONE **other** factor that influences user experience in an animation or game.

.....

[1 mark]

Total 25 marks

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MODULE 2

GAME DESIGN AND DEVELOPMENT

2. You are required to create a game concept for the government to promote awareness of pollution to teenagers in the Caribbean. The game should highlight the harmful effects of pollution and the negative impacts of pollution on the tourism industry.

(a) Identify the MAIN core dynamic that should be used to accomplish the goal of the game and outline ONE reason to support your answer.

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[3 marks]

(b) (i) Propose ONE short-term goal and ONE long-term goal of the game.

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[2 marks]

(ii) Suggest, giving a reason , an appropriate camera angle that could be used in the game.

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[2 marks]

(iii) Identify ONE victory condition for the game.

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[1 mark]

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(iv) State TWO actions that a player could use in the game.

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[2 marks]

(c) Explain the relevance of the type of story you would choose to guide the gameplay.

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[3 marks]

(d) Conceptualize the MAIN character for the game and complete the following tasks.

(i) Describe the main character of the game, clearly identifying the character archetype.

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[3 marks]

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(ii) Create a rough sketch of the character described in (d) (i).

[2 marks]

(e) Draw the game's opening interface and include the environment.

[7 marks]

Total 25 marks

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MODULE 3

ANIMATION FOR GAMES

3. Due to the impact of climate change and natural disasters in the Caribbean, CARICOM has sent out a call for the creation of an animated character for a game to be used in a regional campaign. This character is to be used to deliver the message about the importance of safety during disasters. The message is geared towards children at the primary school level. The character can be an animal, human, anthropomorphic or alien character.

(a) By applying appropriate design elements, create a 2D illustration of the character.

[10 marks]

(b) State TWO principles of animation that would be applicable to the creation and animation of the character.

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[2 marks]

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(c) Using suitable software, create an animated image or GIF for the target audience.

[2 marks]

(d) Explain how persistence of vision could be used in the animation of the character.

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[2 marks]

(e) State TWO purposes of rigging in animation.

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[2 marks]

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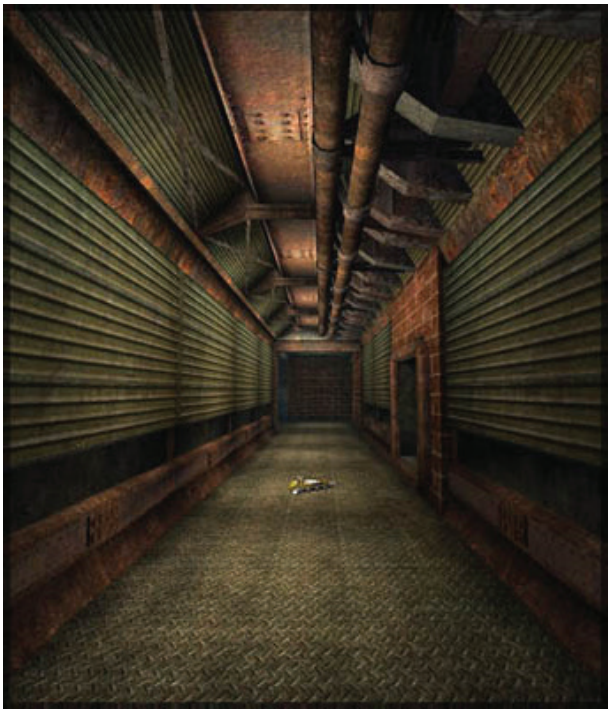
(f) The following image is a snapshot from a game. Study the image and answer the questions that follow.



Source: https://www.moddb.com/tutorials/lighting-in-game-environments-the-hows-and-whys

(i) State TWO reasons why good lighting is essential in a game environment.

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[2 marks]

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DO NOT WRITE IN THIS AREA

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(ii) Describe ONE way in which the lighting in the game environment in the image could be improved.

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[2 marks]

(iii) Label ONE ideal area for lighting placement on a copy of the snapshot. **[1 mark]**

(iv) State the type of lighting that would be BEST for the area identified in (f) (iii). Give a reason to support your response.

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[2 marks]

Total 25 marks

END OF TEST

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C A R I B B E A N E X A M I N A T I O N S C O U N C I L

CARIBBEAN ADVANCED PROFICIENCY EXAMINATION®

ANIMATION AND GAME DESIGN

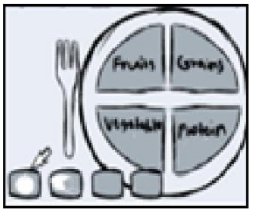
UNIT 2 – PAPER 02

KEY AND MARK SCHEME

SPECIMEN

ANIMATION AND GAME DESIGN
UNIT 2 - PAPER 02
KEY AND MARK SCHEME

QUES.	Specific objectives: 2, 5, 9, 14, 18	KC	AA	SE
1.(a)			10	

Screen 1	Screen 2	Screen 3
Hygienic Dream Press "Enter" to start		
Title screen showing the title of the game and how to start the game.	Hygienic Dream is a third-person point and click game where players click on objects to do certain hygienic tasks such as brushing their teeth.	If players click on the tooth-brush, they would then be put into a mini-game where they have to move the mouse cursor up and down rapidly to brush their teeth.
Screen 4	**Screen 5**	**Screen 6**
		GAME OVER
If players touch a food item, they would have to drag it to its corresponding food group, for each item found.	After completing the previous mini-game, players would then be sent to the final mini-game, jogging on a treadmill. Players must click as fast as they can in order to fill the gauge on the left.	After completing all the mini-games, players would be sent to the game over screen where they would be told that they have won. They would then be booted back to the title screen.

1 mark for representing the correct # of panels
1 mark for inserting sequencing numbers
1 mark for inclusion of appropriate script narration
1 mark for noting sound effects/type of music used
2 marks for evidence of relevance to the scenario
2 marks for accounting for proper camera angles
2 marks for illustration of at least 2 key events

(b)	Examples of genres Arcade, action, adventure, puzzle, role play game (RPG), strategy, simulator, board, sports, etc. ***1 mark for each suitable game genres × 2***	2		

ANIMATION AND GAME DESIGN
UNIT 2 - PAPER 02
KEY AND MARK SCHEME

QUES.	**Specific objectives:** 2, 5, 9, 14, 18	KC	AA	SE
(c)	Copyright protects original works of authorship. The game would need to be designed to use original work and to avoid using material authored by others. Alternatively - the finished game will automatically be copyrighted once published. Trademarks protect brands and logos. The game should avoid using brands and logos of other companies and thereby infringing on their trademark without permission. ***1 mark for identification of appropriate intellectual property rights*** ***2 marks for complete description of chosen intellectual property rights*** ***1 mark for partial description of chosen intellectual property rights*** ***2 marks for full justification of chosen intellectual property rights*** ***1 mark for partial justification***			5
(d)	E for Everyone (1) is the most suitable rating since the Ministry's game is about wellness/a wholesome topic for children between the ages of 7-10 and the content must be suitable for that age group with little to no violence/sexual content (1). ***1 mark for correct rating*** ***1 mark for suitable justification***			2
(e)	Unity, Gestalt, Space, Balance, Hierarchy, Contrast, Scale, Dominance, Similarity ***1 mark for each correct response × 3***	3		
(f)(i)	For there to be a meaningful and valuable user experience, information must be both findable and accessible. Findable refers to content being navigable and locatable onsite and offsite **(1)**. However, accessible refers to content for users of all abilities to understand, use and enjoy **(1)**. ***1 mark for each description***	2		

ANIMATION AND GAME DESIGN
UNIT 2 - PAPER 02
KEY AND MARK SCHEME

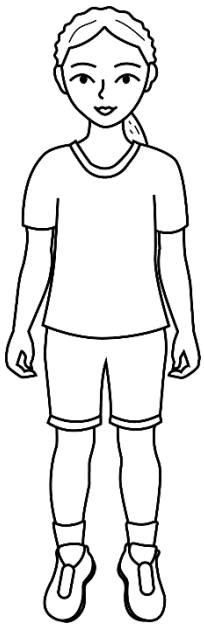
QUES.	**Specific objectives:** 2, 5, 9, 14, 18	KC	AA	SE
(ii)	Factors that influence user experience Useful, Usable, Desirable, Credible ***1 mark for correct response***	1		

Total 25 marks

ANIMATION AND GAME DESIGN
UNIT 2 - PAPER 02
KEY AND MARK SCHEME

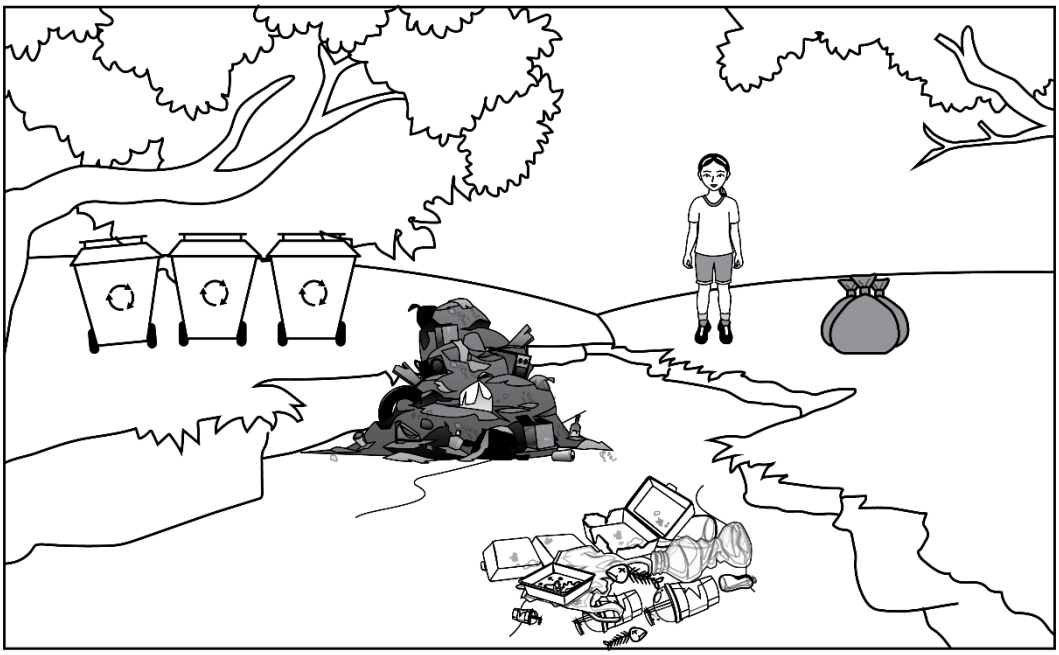
QUES.	**Specific objectives:** 2, 5, 9, 14, 18	KC	AA	SE
2.(a)	Collection – Player can collect waste items laying around the environment and dispose of them correctly. ***1 mark for identification of the core dynamic*** ***2 marks for full justification*** **1 mark for partial justification*	3		
(b)(i)	Short term - Pick up trash Long term – Player can accumulate points for the most trash collected in the timeframe. ***1 mark for the short-term goal*** ***1 mark for the long-term goal***	2		
(ii)	First person – Player can view the environment from an immediate perspective and can see the effects of pollution and their actions on the environment ***1 mark for a valid camera angle*** ***1 mark for justification***		2	
(iii)	Clear the environment of all the trash ***1 mark for victory condition***	1		
(iv)	Move, Collect items ***1 mark for each action × 2***	2		
(c)	Linear – Game follows a sequential path where player collects trash in different locations of a city within a certain timeframe. Player must complete one location before moving to the other ***1 mark for identifying a story type*** ***2 marks for full justification*** **1 mark for partial justification*		3	
(d)(i)	*The main character Teesea is an anti-pollution advocate. Teesea is a teenage girl residing in Dominica who is athletic, with the archetype of a hero.* ***1 mark for suitable character that matches the scenario*** ***1 mark for provision of adequate description of appearance of the character*** ***1 mark for identification of the archetype***		3	

ANIMATION AND GAME DESIGN
UNIT 2 - PAPER 02
KEY AND MARK SCHEME

QUES.	**Specific objectives:** 2, 5, 9, 14, 18	KC	AA	SE
(ii)	 Source: https://www.google.com/search?q=black+teenage+girl&tbm=isch&chips=q:black+teenage+girl,g_1:clipart:hZHMy2hOCHc%3D&hl=en&sa=X&ved=2ahUKEwjamfX-w9_4AhUEDd8KHbq6B_4Q4lYoA3oECAEQJQ&biw=1085&bih=468#imgrc=ZHZ0gZLqsPMz7M https://cutewallpaper.org/24/cartoon-teenage-girls/view-page-24.html ***2 marks for a sketch that represents the description provided***		2	
(e)	Rough layout of opening interface with required elements			7

ANIMATION AND GAME DESIGN
UNIT 2 - PAPER 02
KEY AND MARK SCHEME

QUES.	**Specific objectives:** 2, 5, 9, 14, 18	KC	AA	SE



Source: https://www.vectorstock.com/royalty-free-vector/forest-background-with-river-vector-9813029

Drawing should include:
Screen with game name, the polluted city, river or beach in the background relevant to the Caribbean and a start button.

The interface could possibly include:
a sketch of the main character/characters in the foreground/background, sketch of litter picker and garbage bins, some links to leaderboard and instructions.

Start Button, Name of game
1 mark for EACH element shown

1 mark for effective use of colour
1 mark for appropriate placement of all items
3 marks for environment in the background

Total 25 marks

ANIMATION AND GAME DESIGN
UNIT 2 - PAPER 02
KEY AND MARK SCHEME

QUES.	**Specific objectives:** 2, 6, 7, 8, 9	KC	AA	SE
3.(a)	 Design sample should include: Appropriate colours, bright or pastel shades Soft lines Appropriate costume Appealing design Applicable exaggeration ***2 marks for good skill seen in each category*** **1 mark for lower level of skill*		10	
(b)	Twelve basic principles: Squash and stretch, Anticipation, Staging, Straight-ahead action and pose-to-pose, Follow through and overlapping action, Slow in and slow out, Arc, Secondary action, Timing, Exaggeration Solid drawing ***1 mark for each animation principle × 2***	2		

ANIMATION AND GAME DESIGN
UNIT 2 - PAPER 02
KEY AND MARK SCHEME

QUES.	**Specific objectives:** 2, 6, 7, 8, 9	KC	AA	SE
(c)	Create simple animated movement for the GIF **1 mark for combination of frames** **1 mark for animated image**			2
(d)	Where persistence of vision is used, the illusion of movement is produced **(1)** from still images or frames moving at great speed **(1).** ***1 mark for each point in definition***	2		
(e)	Rigging is a technique used in skeletal animation **(1).** It is used for representing a 3D character model using a series of interconnected digital bones **(1).** It allows animators to move it around and act **(1).** ***1 mark each for any two points***	2		
(f)(i)	Good lighting is essential because it can be used to establish a setting/mood **(1),** help lead the player **(1),** direct the eye to objectives or threats **(1),** act as a sort of guide for the player as they make their way through the environment **(1),** create the illusion of depth/volume **(1).** ***1 mark each for any two points***	2		
(ii)	Include a source of light in a strategic place in the corridor **(1)** and ensure that the light projected is balanced with the size of the source **(1).** ***1 mark for each point in description***			2
(iii)	**1 mark for appropriately placed label**			1
(iv)	E.g. Point Light. The room is large and point light sources emit light equally in all directions like a conventional light bulb. ***1 mark for suitable type of lighting*** ***1 mark for justification***			2

Total 25 marks

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