



The Open University of Sri Lanka
Faculty of Engineering Technology
Department of Electrical and Computer Engineering

Study Programme	: Bachelor of Software Engineering Honours
Name of the Examination	: Final Examination
Course Code and Title	: ECI3168/EEI3368/EEI3668 Graphics and Multimedia design
Academic Year	: 2019/20
Date	: 27 th September 2020
Time	: 0930-1230hrs
Duration	: 3 hours

General Instructions

1. Read all instructions carefully before answering the questions.
2. This question paper consists of **Three (3)** sections.
3. Section A consist of Ten (10) questions, **Section B** consist of One (1) question, and **Section C** consist of Three (3) questions in **Five (5)** pages.
4. Answer **all** questions in Section A and Section B.
5. Answer any **Two (2)** questions from **Section C**.
6. Questions in Section A carry equal marks. Question 1 in Section B carry 30 marks, and Questions in Section C carry 20 marks in each.
7. Answer for Section A should mark in the separate answer sheet provided.
8. Answer for Section B and Section C should write in the answer book provided.
9. Each question should commence from a new page.
10. This is a Closed Book Test (**CBT**).
11. Answers should be in clear handwriting.
12. Do not use red colour pen.

Section A

Answer All Questions with the best suitable answer.

Multiple Choice Questions [30 marks]

1. What are the five (5) components of Multimedia?
 - a. Audio, Video, Laptop, TV, Camera
 - b. Graphic, Text, Audio, Video and Animation
 - c. Audio, Video, Images, Web, Software
 - d. Text, Images, Audio, Video and Animation
2. What are the characteristics of Multimedia?
 - a. Intuitive Interface, Immersive Experience, Better understanding, Cost effectiveness
 - b. They must be computer-controlled, They are integrated, The information they handle must be represented digitally & The interface to the final user may permit interactivity.
 - c. Discrete media, Continuous media, Immersive Experience, They are integrated
 - d. The interface to the final user may permit interactivity. They must be computer-controlled, Intuitive Interface. They must be held digitally
3. Briefly explain the five (5) stages of Multimedia project.
 - a. Designing, Prototyping, Approving, Testing & Delivering
 - b. Planning & Coasting, Designing & Producing, Testing, Delivering
 - c. Planning, Designing, Costing, Approving, Testing & Delivering
 - d. Sketching, Prototype, Testing & Delivering
4. What are three (3) types of resolutions?
 - a. Image resolutions, Display resolutions & Density resolutions
 - b. Density resolutions, Color resolutions & Display resolutions
 - c. Image resolutions, Display resolutions, Colour resolutions
 - d. Frequency resolutions, Density resolutions, Power resolutions
5. What are the four(4) steps to follow to begin the animation?
 - a. Modelling, Texturing, Animation, Rendering
 - b. Modelling, Animation, Lighting, Rendering
 - c. Modelling, Skin & Bones, Animation, Rendering
 - d. Modelling, Texturing, Animation, Lighting & Rendering

6. What are the four (4) components in the user's perspectives in the multimedia evaluation system?
 - a. Subject, Content, Platform, Cost
 - b. Subject & Content, Platform, Usability, Cost
 - c. Content, Platform, Retention, Budget
 - d. Content, platform, Testing & Retention, Cost
7. What are the four(4) components in Developer's perspectives in the multimedia evaluation system?
 - a. Content, Performance, Delivery, Interface
 - b. Content, Specification, User Interface, Delivering
 - c. Schedule, Content, Development, Delivery
 - d. Content, Design, Development, Delivery
8. What are the four (4) stages of a project?
 - a. Planning, Costing, Producing, Testing, Delivering
 - b. Producing, Developing, Testing, Completing
 - c. Planning & Costing, Designing & Producing, Testing, Delivering
 - d. Planning & Producing, Designing & Developing, Testing & Debugging, Delivering
9. What is are the Elements of Design?
 - a. Colours, Shapes, Lines, Patterns, Vector, Raster
 - b. Balance, Rhythm, Proportion, Contrast, Unity, Alignment
 - c. Balance, Proportion, Unity, Colors, Shapes, Arrangement
 - d. Lines, Shapes, Colours, Texture, Space, Alignment
10. In here which one is the correct statement about graphics
 - a. Vector graphics are made with pixels
 - b. Raster graphics made with mathematical equations
 - c. Binary is one bit monochrome image
 - d. Display resolution is known as colour depth

Section B

Answer All Questions

Case 1: When studying the fruit sector market, which had consistent growth in new products between 1999 and 2004. New fruit products are entering the market in the following categories: Minimally processed fruits, canned fruits, frozen fruits, fruit juices and juice drinks, fruit confectioneries, fruit spreads, energy and sports drinks, cider, and fruit-containing alcoholic beverages (e.g., wine, spirits, and beer products). Other new products containing fruits include snack bars, breakfast cereals, baby foods and drinks, and a variety of bakery food items. Fruits are also becoming important ingredients in prepared meals and meal replacements. Because the popularity of organic and natural fruits is still on the rise, XYZ company introduced organic fruit drinks to the market. Teenagers are the targeted audience for their new fruit drinks. The company have Mango, Strawberry, Avocado, Papaya, Banana, and Mix Fruit drinks in 150 millilitres, 500 millilitres, 750 millilitres and 1.5 litres bottles. The company management always makes sure no harm to the environment out of their products. Hence, all the canteens they manufacture with environmentally friendly recyclable bottles. Now the XYZ company wanted to promote newly introduced organic fruit brand as a TV commercial, News Paper, and Magazine Advertisements (Coloured).

Question 1 [30 Marks]

- a) Briefly explain the term '3D modelling' in your words with a simple example.
- b) Considering the competitive nature of the industry list down the steps, you are planning to follow when developing the modelling part of the TV commercial for the above mention case 1.
- c) Texturing is the next step in creating a realistic 3D model. Artists use various kind of software for texturing such as Photoshop, Mudbox, or ZBrush. Explain in steps how you do the Texturing for a selected model.
- d) The XYZ company want you to develop both paper and Magazine advertisement to promote their newly introduced products.
 - i. As an artist, what would be the best colour mode to be used for both paper and Magazine advertisement? Justify your answer with an example.
 - ii. Suppose you are going to design paper and Magazine advertisement, what type of graphic you will be used to satisfy the customer. Briefly explain the reason behind your answer.
 - iii. Briefly explain the term 'Typography' and explain how you are planning to apply typography principles to prepare paper and Magazine advertisement.

Section C

Select *any* two (2) questions

Question 2 [20 marks]

- a) Briefly explain the term 'Multimedia' with examples.
- b) Compare and contrast the Discrete and Continuous Media.
- c) List down the Components of Principles of Design and briefly explain their importance.

Question 3 [20 marks]

- a) Select only **three** topics from the list given below and briefly explain providing the relevant examples.
 - i. Munsell Colour System
 - ii. Sound and Properties of sounds
 - iii. Video and Chroma Subsampling
 - iv. Authoring tools

Question 4 [20 marks]

- a) Image processing consists of several stages, such as image import, analysis, manipulation, and image output. Digital and analogue are the two methods of image processing. Briefly explain the major digital image processing techniques.
- b) Advanced Video Coding (AVC) is a video compression standard based on the block-oriented, motion-compensated integer-DCT coding also referred to as H.264. Briefly explain the structure of H.264.

-End of the paper-



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1. Read all instructions carefully before answering the questions.
 2. Answer **all** questions in Section A
 3. Questions in Section A carry equal marks.
 4. Answer for Section A should mark in this sheet.
 5. Attached this answer sheet with Section B and Section C answer book.
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ANSWER SHEET FOR SECTION A

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