UNIVERSITY OF COLOMBO, SRI LANKA

UNIVERSITY OF COLOMBO SCHOOL OF COMPUTING

BACHELOR OF SCIENCE IN INFORMATION SYSTEMS
BACHELOR OF SCIENCE HONOURS IN INFORMATION SYSTEMS

First Year Examination – Semester I – 2020

IS1107 – Interactive Media Design

TWO (2) HOURS

To be completed by the candidate

Examination Index No: ....

Important Instructions to candidates:

1. The medium of instruction and questions is **English**.

2. Note that questions appear on both sides of the paper. If a page is not printed, please inform the supervisor immediately.

3. Write your index number on each and every page of the answer paper.

4. Write the answers to these questions in the space provided in the question paper itself.

5. This paper has **4** questions and 15 pages.

6. Answer **ALL** questions. All questions carry equal marks (**25** marks).

7. Any electronic device capable of storing and retrieving text including electronic dictionaries and mobile phones are **not allowed**.

8. Calculators are not **allowed**.

For Examiner's use only	
Question No	Marks
1	
2	
3	
4	
Total	

Question 1

(a) Explain the concept behind the Linear and Non-Linear types of multimedia

[3 Marks]

Linear multimedia is a sequential type of multimedia while non-linear is a nonsequential type of multimedia. Linear multimedia has a distinct begining and end. It goes on a logical flow from a starting point to a conclusion inteded for display purposes with not much interaction/distraction from the audience.

In non-linear multimedia person's participation is crucial. person need to interact with a computer program. person and the computer interact with each other with asing an interface.

(b) What is meant by the terms Multimedia and Hypermedia? Distinguish between these two concepts.
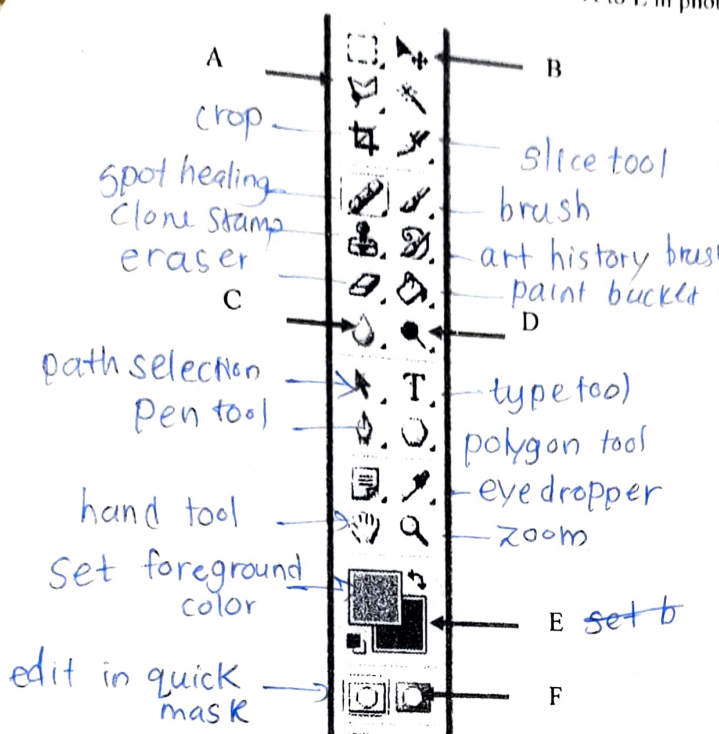
[4 Marks]

Multimedia is embedded in every electronic system eg: PC, TV, radio, audio, mobiles. text, graphic, audio, video, animations all are included in multimedia. There are linear and non-linear type of multimedia.

Hypermedia is a collection of hypertext, graphics, audio, video which resulting a complete, non-linear computer based experience. That means hypermedia is a part of multimedia.

(c)   Identify and label the following tools from A to E in photoshop

A _____   B   [6 Marks]

crop

spot healing   slice tool   A - polygonal lasso tool
clone stamp   brush
eraser   art history brush B- move tool
                                     paint bucket   C- blur tool
C   D
                                                        D- ~~Amore~~ Dodge tool
path selection   type tool
pen tool   E- set background color
                                     polygon tool
                                     eye dropper   F- change screen mode
hand tool   zoom
set foreground
color   E ~~set b~~

edit in quick   F
mask

(d)   Write down one importance in the following features in Photoshop?
                                                       [4 Marks]

(i)   Layers: Let you add components to an image.
       without permanently changing your original
       image you can work on them at a one
       time.

(ii)   Channels: to store color information about
       an image / to store selections.
       channel   { bitmap mode
       modes   grayscale
                    duotone
                    indexed - color images

(d) "Applications of multimedia is used in many fields", Explain briefly using suitable examples

[8 Marks]

Previously from our mobile phones we ~~would~~ were only be able to send ~~text~~ certain number of text messages. but now Multimedia Messaging Services (MMS) is very popular. we can send not only text but also audio and video contents

in public places like hotels, shopping malls, museums, train stations and grocery shops use multimedia and at home we play computer games. watch DVDs, listen to music and watch cartoon. they all are applications of multimedia

We can track location using GPS applications eg: pickme, uber. E-business applications and maketing applications like a site with text, images, video shows general idea of a product.

deaf-blind assistive technology is another application type.

in industrial sector face recognition, fingerprint identification and quality control we can take as examples of multimedia applications

Question 2

(a) Briefly explain **two (02)** of the basic Design Principles.

[5 Marks]

Unity / Harmony

Unity is the main goal of the design. All the elements of the design must work harmoniously to give the viewer a satisfying sense. when the unity is achieved individual element need not to compete for attention. The key theme also will be commuicated clearly.

Empasis is

Empasis the art of making a specific element stand out. It will draw the attention of the eye. can be achieved by size, color, placement, contrast & movementetc. Emphasis should draw attention, but it should not dominate the overall design. related to the visual weight of a particular object we can. divide emphasis into 3 main stages.
dominant - object with most V.W
sub-dominant - " " of secondary emphasis
Subordinate - " " least visual weight.

(b) Briefly explain the **two (02)** types of Shapes and give two examples for each type.

[4 Marks]

(1) Geometric Shapes (mechanical Shapes)

Can be described using mathematical terms.
they are very precise.
Can be often found in man made things because they are easier to reproduce and make things.
eg:- circle, square, triangle, rectangle.

(2) Organic Shapes

more often found in nature definitions.
dificult to describe using
these are irregular shapes that can be
drawn by hand.

eg:-   cloud
         Star
         leaves
         rocks
         trees

(c)   Define Typography and explain why it is important in design.

[6 Marks]

Typography is the art and technique of
arranging type to make written language
legible, appealing and readable when
displayed.
Typography is the design of individual letters
and the arrangement of those letters in
print
to convey specific messages, to elicit emotions
we use font styles, appearance & structures.

Typography,

1. Establish a strong visual hierarchy
2. build a brand recognition
3. Optimize readability / guide the reader
4. Holds the attention of the reader
5. Provide a graphic balance to the design.

(d) Compare the RGB Color Model vs. CMYK Color Model.   [5 Marks]

	RGB Color Model	CMYK Color Model
1)	addictive	subtractive
2) use	white as a combination of all primary colors	use white as the natural color of the print background
3)	use black as the absence of light.	use black as a combination of colored inks
4)	used by monitors for displays	only way to print media
5)	smaller file sizes	Eeasier to color treat
6)	3 channels red/green/blue	4 channels Cyan/Yellow/Magenta/Black.

(e)   Explain how to use design elements according to the design principles to enhance your design.
                                                                              [5 Marks]

Design elements are the parts / components
that can be isolated in any visual design

Design elements: point, line, shape, form space, color, Texture

Design principals - balance, Rhythm, Scale & proportion, emphasis, unity

Question 3

(a)   Explain **three (03)** Principles of Animation.

[5 Marks]

staging   -   direct audience's attention.
make it clear what is of greatest
importance in a scene.

timing   -   number of frames for a given action,
which translate to the speed.

solid   -   taking 3 dimensional space, giving
drawing   volume and weight.

(b)   Describe the difference between Drawn Animation and Cutout Animation.

[6 Marks]

(c)

(i) Explain what is Computer Generated Imagery (CGI)?

[3 Marks]

3D animations are known as CGI

This is also the same type of animation used to create digital characters for live action films and animation for video games.

3D imaging or 3 D rendering

(ii) Describe the different types of CGI.

[4 Marks]

(d)   (i)   Explain the importance of using Best Practices in Multimedia.

[3 Marks]

(ii)   Describe how you are going to use the 3-2-1 strategy for backing up and storing your data.

[4 Marks]

Question 4

(a)   There are various types of photography in today's world. Give **two (02)** examples for commercial photography.
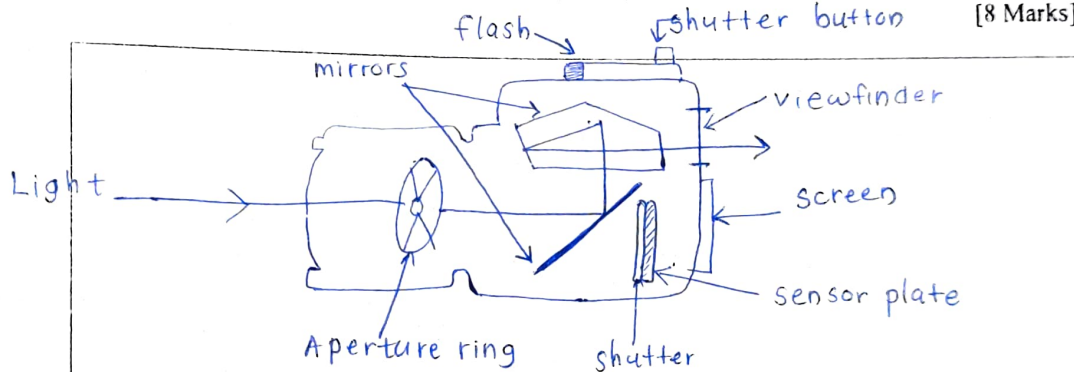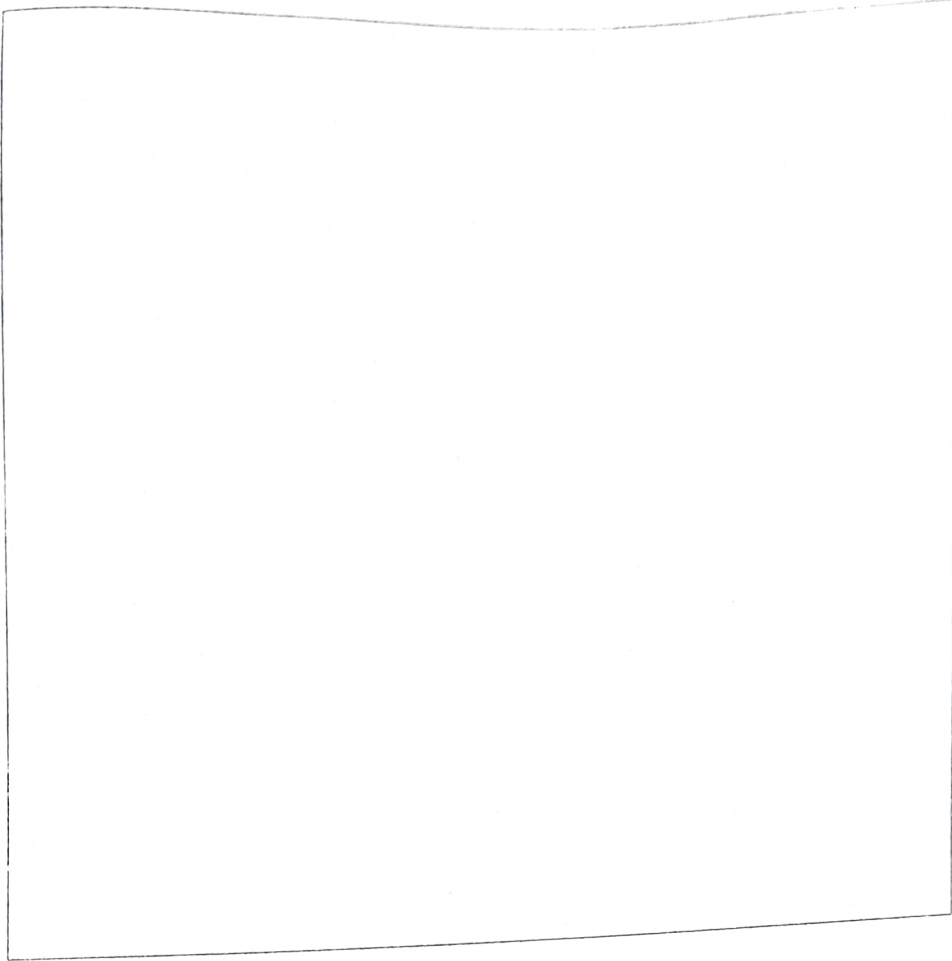
[2 Marks]

wedding

product

fashion

event

(b)   Briefly explain how a digital single-lens reflex (DSLR) camera works using an illustration.

[8 Marks]

* image sensor convert incoming light into electrical signal.
* to capture a scene shutter allows light to pass for a determind period, exposing image sensor to light.
* Aperture is a opening of a lens's diaphragm through which light passes

(c)   Briefly explain the difference between an action camera and a professional DSLR camera

[4 Marks]

(1)   Action camera is much more compact than a DSLR.

(2)   Action cameras are small and lighter in weight than a DSLR.

(3)   Action camera is more portable than a DSLR

(4)   We can use action cameras to record surfing, skiing from different angles very easily, but DSLR is difficult to handle like that.

compact - neatly packed together

(d) What are the **three (03)** components of the exposure triangle? [3 Marks]

(1) Aperture

(2) Shutter speed

(3) ISO

(e) Briefly explain post-production in videography [3 Marks]

post production is the process of editing the videos.
This includes merging seperate videos into one,
editing/syncing audio and video, adding titles, captions etc.
select the software, video exporting.

(f) "Video editing software have common features such as combine multiple videos, edit soundtracks & add effects." Explain the importance of these features using a real-world example. [5 Marks]

eg: Adobe premiere pro
openshot

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