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# UTHM
Universiti Tun Hussein Onn Malaysia

# UNIVERSITI TUN HUSSEIN ONN MALAYSIA

## FINAL EXAMINATION
## ONLINE
## SEMESTER II
## SESSION 2019/2020

COURSE NAME        : FUNDAMENTAL OF MULTIMEDIA
                     COMPUTING

COURSE CODE        : BIM 10103

PROGRAMME CODE     : BIM

EXAMINATION DATE   : JULY 2020

DURATION           : 2 HOURS 30 MINUTES

INSTRUCTION        : 1. ANSWER **ALL** QUESTIONS.
                     2. PLEASE MAKE SURE TO CLICK "SAVE ANSWER" BUTTON FOR SUBJECTIVE QUESTIONS. OBJECTIVE QUESTIONS ARE SAVED AUTOMATICALLY.

THIS QUESTION PAPER CONSISTS OF **FOUR (4)** PAGES

TERBUKA

Q1    Questions **Q1(a)-Q1(c)** are based on the following scenario.

> Ali is an amateur photographer. He got a job for taking a photo in wedding ceremony. For that he buy a new 6-megapixel digital camera which able to produce digital images of 3000x2000 pixels in 24-bit colour depth.

(a)    Calculate the file size in Megabytes for the camera. Show the steps.

(6  marks)

(b)    Calculate the file size in bits if half of the pixel dimension size is reduced. Show the steps.

(4 marks)

(c)    Analyze the effect if Ali changes camera resolution setting from 3000x2000 pixels to 4000x2000 pixels.

(6 marks)

Q2    (a)    Draw **ONE (1)** figure to show the difference of wavelength, amplitude and 2Hz frequency in sound wave.

(6 marks)

(b)    Sketch **ONE (1)** diagram to show the digitization of the sound wave shown in **Figure Q2** for sampling rate of 10Hz.

(6 marks)



**Figure Q2**

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BIM 10103
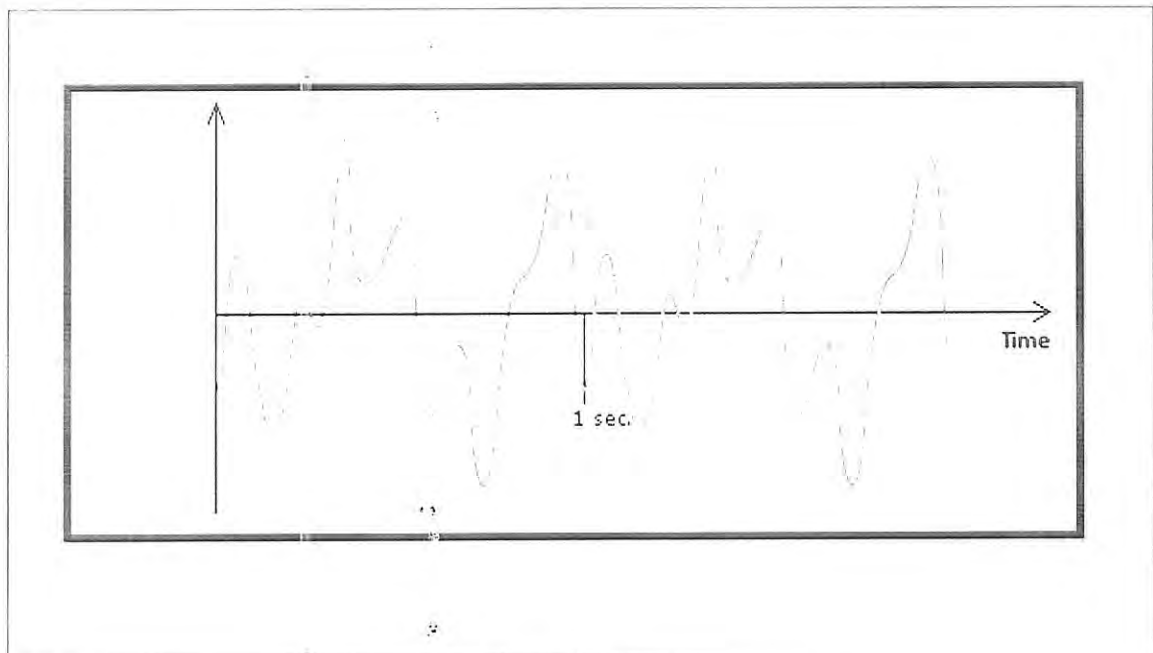
Q3 Questions **Q3(a)-Q3(c)** are based on the following standard video format definition:

- Pixel aspect ratio = 1.2
- Frame size = 720 × 480.

(a) Calculate the frame aspect ratio. Show the steps.

(6 marks)

(b) Draw **ONE (1)** diagram to represent the frame aspect ratio in **Q3(a)**

(? marks)

(c) Analyze the effect of the video image if the video is displayed on television with pixel aspect ratio of 0.9.

(4 marks)

Q4 Questions **Q4(a)-Q4(d)** are based on the following scenario.

As an animator at Fun Games Sdn Bhd, you are being assigned a task to develop a 3D animation scene of a battle between a warrior and aliens in Planet Pluto. You are also required to create planets and stars using procedural animation technique.

(a) Discuss the most suitable 3D animation tool for the scene with appropriate justification.

(3 marks)

(b) Discuss **THREE (3)** strengths of procedural animation technique applied in this project.

(6 marks)

(c) Sketch **TWO (2)** storyboards for any scene in the proposed game.

(8 marks)

(d) Discuss **THREE (3)** things that should be considered when your team decides to use some copyrighted works like image or music background in this project due to time constraint

(6 marks)

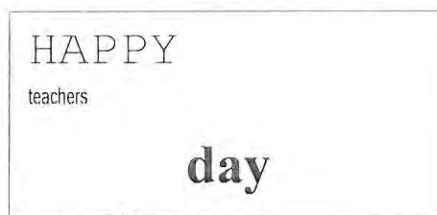Q5 Questions **Q5(a)-Q5(b)** are based on the following **Figure Q5**.



**Figure Q5**

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(a)     Discuss **TWO (2)** mistakes in **Figure Q5** based on design principles of typography.

(4 marks)

(b)     Sketch the text in **Figure Q5** with correction based on your answer in **Q5(a)**.

(3 marks)

-END OF QUESTION -

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