



Daffodil International University

Department of CSE

Faculty of Science & Information Technology

Midterm Examination, Semester: Fall-2017

Course Code: CSE 433

Course Title: Digital Image Processing

[Write the initials of your respective course teacher on top of your answer script.]

Time: 1 Hour and 30 Minutes

Full Marks: 25

Answer any **three** of the following questions.

1. (a) What do you understand by image digitization? Briefly explain image digitization method with example. 3
(b) Mention the name of three applications of medical image processing? What are the differences between X-Ray images and USG images? 3
(c) Briefly explain different type of image operation. 2.33
2. (a) How light is used to form an image in a monocular digital camera? 2
(b) What do you understand by "depth of an image"? Distinguish between 2D and 3D images. 3
(c) What are connected pixels? Briefly explain 8-neighbours and 4-neighbour adjacency with example. 3.33
3. (a) Define color coordinate system with at least three examples. 2.33
(b) What is YIQ color coordinate system? Briefly explain color conversion process to convert RGB image to YIQ color coordinate system. 4
(c) What is normalized rgb color coordinate system? Explain using example. 2
4. (a) What are points, lines and edges? Briefly explain a point detection method with example. 3.33
(b) Briefly explain first order derivative method for edge detection. 3
(c) What is boundary of an object? Briefly explain an edge linking method for boundary detection. 2