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**KIRIRI WOMENS' UNIVERSITY OF SCIENCE AND TECHNOLOGY  
UNIVERSITY EXAMINATIONS, 2019/2020 ACADEMIC YEAR  
THIRD YEAR, SECOND SEMESTER EXAMINATIONS  
FOR THE DEGREE OF BACHELOR OF SCIENCE  
(COMPUTER SCIENCE)**

Date: 9<sup>th</sup> April, 2019  
Time: 8.30am – 10.30am

**KCS 310 – COMPUTER GRAPHICS**

**INSTRUCTIONS TO CANDIDATES**

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**ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER TWO QUESTIONS**

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**QUESTION ONE (30 MARKS)**

- a) Describe four Applications of Computer Graphics. (4 Marks)
- b) What is the difference between 2-Dimensional and 3-Dimensional Graphics? (4 Marks)
- c) Explain in detail the Cohen-Sutherland line clipping algorithm with an example. (4 Marks)
- d) What is Fractal in computer graphics and using relevant Examples Describe four Applicable Areas of Fractal (6 Marks)
- e) Using Suitable examples give out the differences between Laser Printers and InkJet Printers (4 Marks)
- f) Describe any four Computer Graphics Software and their main applicable areas (4 Marks)
- g) With the help of diagrams, describe any three text clipping methods (4 Marks)

**QUESTION TWO (20 MARKS)**

- a) What is monitor Resolution? (3 Marks)
- b) You have been appointed as Computer Graphics Consultant to explain different monitor resolutions, Explain the following Resolutions;
  - i) High Definition(HD) (4 Marks)
  - ii) 4 K Display (4 Marks)
  - iii) 8 K Display (4 Marks)
- c) Computer Graphics technologies come with different color modes, describe RGB Color Mode (5 Marks)

**QUESTION THREE (20 MARKS)**

- a) Discuss any five parameters used to measure the performance of a monitor. (10 Marks)
- b) Outline four methods of acquiring images into a computer system. (4 Marks)
- c) Differentiate between vector graphics and bitmap image. (6 Marks)

**QUESTION FOUR (20 MARKS)**

- a) Bezier Curves are commonly used Curves in Computer Graphics , Using relevant Examples Describe Properties of Bezier Curves (10 Marks)
- b) Using relevant examples and diagrams, discuss the differences and similarities between Raster Based Graphics and Vector Based Graphics (10 Marks)

**QUESTION FIVE (20 MARKS)**

- a) Computer Animation is crucial area in generating graphics, using relevant examples discuss various techniques and technologies used in computer animations. (10 Marks)
- b) Discuss any five Computer Graphics Software , highlighting advantages, disadvantages and it well suited areas of graphics of each software (10 Marks)