



UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER I
SESSION 2011/2012**

COURSE NAME : 3D GRAPHICS AND ANIMATION
TECHNOLOGY

COURSE CODE : BIT 3213/BIT 32103

PROGRAMME : BACHELOR OF INFORMATION
TECHNOLOGY

EXAMINATION DATE : JANUARY 2012

DURATION : 3 HOURS

INSTRUCTION : ANSWER ALL QUESTIONS.

THIS QUESTIONS PAPER CONSISTS OF FOUR (4) PAGES

PART A

Instruction: Answer **ALL** questions.

- Q1**
- (a) Describe about Polygonal Modeling. (6 marks)
 - (b) Show by drawing **TWO (2)** examples of Polygonal Modeling. (6 marks)
 - (c) Discuss **THREE (3)** disadvantages of using Polygonal Modeling approach in 3D animation. (6 marks)
 - (d) Differentiate the effect of adding and deleting vertex when editing 2D shapes. (6 marks)
 - (e) Describe about Bezier Spline with suitable diagram. (5 marks)

Q2 Given the following 3D model:

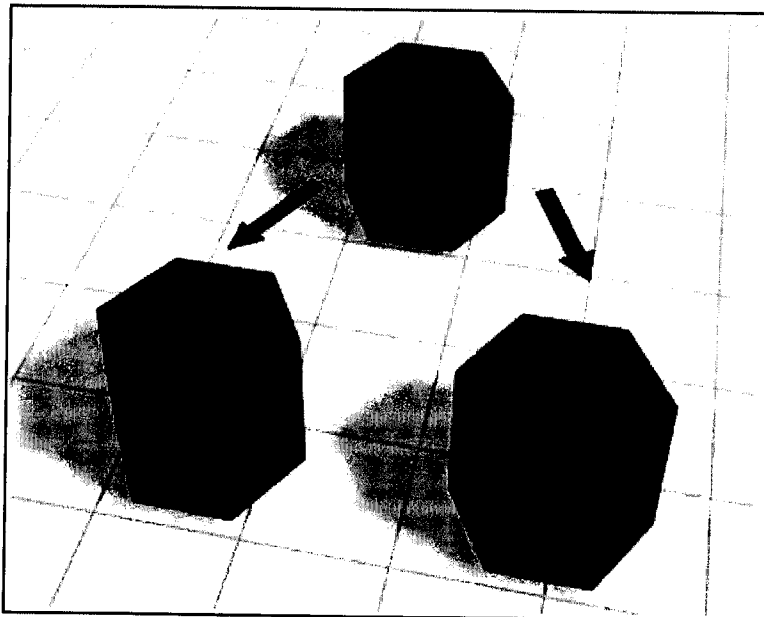


Figure Q2

- (a) Explain the modeling technique applied to the model depicted in **Figure Q2**. (8 marks)
- (b) Show **TWO (2)** different steps to apply the modeling technique stated in **Q2 (a)** when modeling an object in Autodesk 3d max software. (8 marks)

- (c) Explain the effects of applying **edge** and **face-center** type to the above modeling technique. Use suitable diagram to support your answer. (8 marks)
- (d) Describe the effects on the object in **Figure Q2** if Mesh Optimization modeling technique is applied. (5 marks)

Q3 Based on the following 3d models:

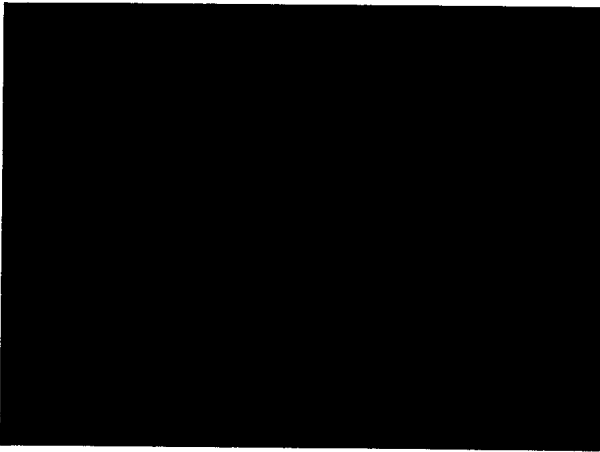


Figure Q3 (a)

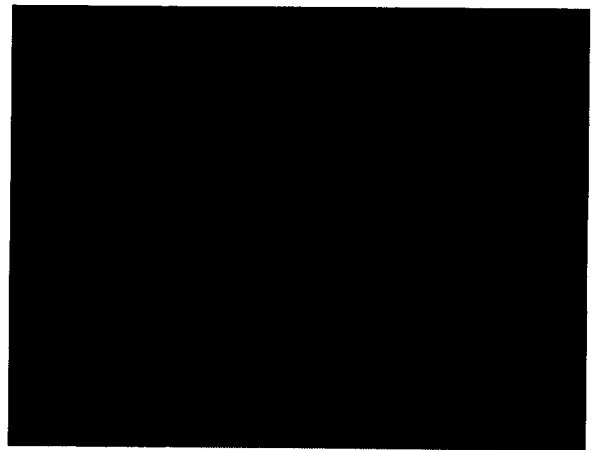


Figure Q3 (b)

- (a) Describe **TWO (2)** principles of light. (4 marks)
- (b) Analyze **TWO (2)** effects of applying different 3d light sources to the objects as in **Figure Q3 (a)** and **Figure Q3 (b)**. Draw appropriate diagrams to show the direction of each 3d light source. (12 marks)
- (c) Suggest **ONE (1)** technique to control the lighting effects to the objects in **Figure Q3 (a)** and **Figure Q3 (b)**. (4 marks)

PART B

Instruction: Answer **ALL** questions.

Q4 Given the following 3d modeling:

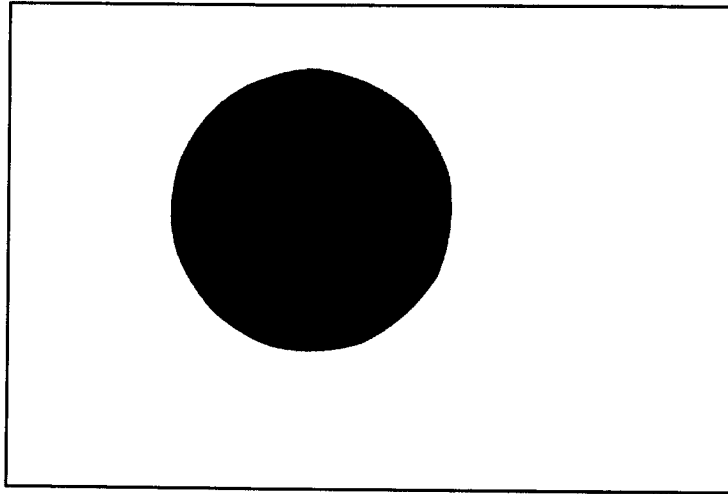


Figure Q4

- (a) Suggest **FOUR (4)** modeling techniques that can be applied to create a football as depicted in **Figure Q4**.
(8 marks)
- (b) Plan steps to create a 3D football object in Autodesk 3ds max software.
(14 marks)