UTHM
Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
SEMESTER II
SESSION 2018/2019

COURSE NAME   : 3D MODELLING

COURSE CODE   : BBU 30203

PROGRAMME CODE   : BBF

EXAMINATION DATE   : JUN/JULY2019

DURATION   : 3 HOURS

INSTRUCTION   : ANSWER **ALL** QUESTIONS.

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

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Q1   (a)   Give definition for rendering in 3D Modelling.

(2 marks)

        (b)   Elaborate the following primitive objects and draw a diagram to support your elaboration.
            (i)   Box
            (ii)   Sphere
            (iii)   Geosphere

(9 marks)

        (c)   Draw and describe the term below and explain the function in 3D Modelling.
            (i) Vertex
            (ii) Edge
            (iii) Polygon

(9 marks)

Q2   (a)   Name modifiers for each situation given below
            (i)   To smooth 3d object
            (ii) To create a hole in 3D object
            (iii) To create a blanket

(3 marks)

        (b)   Define bump mapping and explain what happens to a 3D model when this texture is applied. Give one (1) example to support your answer.

(5 marks)

        (c)   Discuss the three (3) basic terms and concept 3D camera in 3d Studio Max and use a diagram to support the discussion.

(12 marks)

Q3   (a)   Elaborate target directional light and draw an image to illustrate the lighting beam.

(3 marks)

        (b)   State seven (7) common mapping technique in 3D Studio Max

(7 marks)

        (c)   Draw a diagram and elaborate step by step procedure in creating a target camera in 3D scene and how to change the view from camera in 3D Studio Max.

(10 marks)

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Q4 Lighting has a big impact on the appearance of final renderings on 3D modelling. There are 4 light sources in 3D Max programs. Light Parameters is the lighting controllers and effects in 3d software. When a light is selected, several different roolouts appear that enable you to turn the lights on and off and determine how a light affects objects surfaces.

(a) List two (2) types of lighting usually used for most scenes in 3Ds Max.

(4 marks)

(b) Explain three (3) main light sources that you had learned.

(6 marks)

Figure Q4 (c)

(c) Figure Q4 (c) shows the 3D object with a lighting setup that you had learned in order to produce realistic lighting effects.
Choose a suitable light sources and parameters that you can manipulate to produced final images as shown in the figure.

(10 marks)

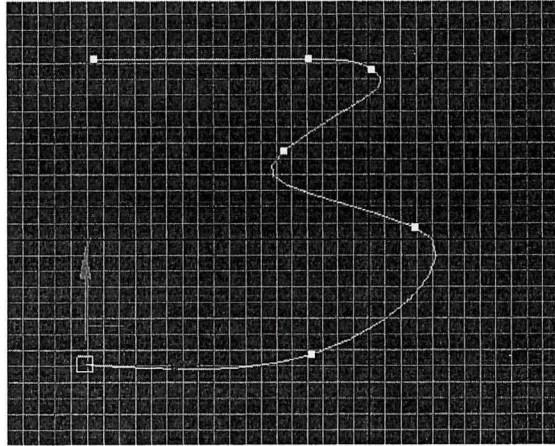**Q5** (a) Discuss three (3) sweep techniques in 3D modelling from Figure Q5 (a).

(6 marks)

Figure Q5 (a)

(b) Draw a 3D model used sweep technique and elaborate step by step procedure in creating 3D modeling in 3D Studio Max.

(6 marks)

(c) Define the following terms in editing sub objects in 3D graphics:

    (i) Edges
    (ii) Split
    (iii) Insert Vertex
    (iv) Bridge Edges

(8 marks)

-END OF QUESTIONS-

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