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UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER II
SESSION 2015/2016**

COURSE NAME : 3D MODELING
COURSE CODE : BBU 30203
PROGRAM CODE : BBF
EXAM DATE : JUNE / JULY 2016
DURATION : 3 HOURS
INSTRUCTION : ANSWER ALL QUESTIONS

THIS EXAM PAPER CONTAINS FIVE (5) PAGES

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- Q1** (a) Define the following Virtual Reality (VR) terms.
- (i) VR navigation
 - (ii) VR interaction
- (4 marks)
- (b) What is the limitation of using Head Mounted Display (HMD) virtual visualization?
(8 marks)
- (c) What is computer graphics rendering according to the following context?
- (i) Rendering using computer
 - (ii) Formulation of mathematical formula
- (8 marks)
- Q2** (a) Discuss and draw the following 3D Studio Max primitive objects.
- (i) Torus
 - (ii) Tube
- (6 marks)
- (b) Elaborate four (4) advantages of developing a model using patches.
(8 marks)
- (c) What is the difference between U Loft and UV Loft
(6 marks)
- Q3** (a) Describe what is material editor?
(4 marks)
- (b) Define the following terms about lighting in 3D Std Max. Draw an image to illustrates your answer.
- (i) Default Light
 - (ii) Ambient Light
 - (iii) Spot Light
 - (iv) Omni Light
- (16 marks)

- Q4** (a) Discuss what is rendering in 3D Std Max? (4 marks)
- (i) State out three (3) scenes geometry involve in rendering stage. (3 marks)
- (b) Elaborate five (5) options in order to speed up the rendering process in 3D Std Max. (10 marks)
- (c) Describe what is camera in 3D environment? (3 marks)
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- Q5** (a) Discuss what is the role of camera tracker utility in order to create an animation in a scene? (4 marks)
- (b) State out five (5) animation component that involve in animation. (5 marks)
- (c) Elaborate a basic animation process in 3D Std Max. Give example to support your elaboration. (6 marks)
- (i) Discuss five (5) animation options available in the 3D Std Max motion panel in order to improve the animation scene? (5 marks)

-END OF QUESTION-

SULIT

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- S1** (a) Berikan maksud terma Realiti Maya (VR) berikut:
- (i) Pelayaran VR
 - (ii) Interaksi VR
- (4 markah)
- (b) Apakah limitasi dalam menggunakan *Head Mounted Display* (HMD) visualisasi maya?
- (8 markah)
- (c) Apakah maksud *rendering* grafik komputer bagi konteks berikut?
- (i) Rendering menggunakan komputer
 - (ii) Pembentukan formula matematik
- (8 markah)
- S2** (a) Bincang dan lukiskan objek primitif 3D Studio Max berikut:
- (i) *Torus*
 - (ii) *Tube*
- (6 markah)
- (b) Bincangkan empat (4) kelebihan pembangunan model 3D Studio Max menggunakan *patches*.
- (8 markah)
- (c) Apakah perbezaan di antara *U Loft* dan *UV Loft*?
- (6 markah)
- S3** (a) Huraikan apakah yang dimaksudkan dengan *material editor*?
- (4 markah)
- (b) Berikut maksud terma pencahayaan di dalam 3D Studio Max berikut. Sekiranya perlu, lukiskan gambar bagi jawapan yang diberikan.
- (i) Pencahayaan *Default*
 - (ii) Pencahayaan *Ambient*
 - (iii) Pencahayaan *Spot*
 - (iv) Pencahayaan *Omni*
- (16 markah)

SULIT

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- S4** (a) Bincangkan apakah *rendering* di dalam 3D Studio Max? (4 markah)
- (i) Nyatakan tiga (3) *scene* geometri yang terlibat di dalam peringkat *rendering*. (3 markah)
- (b) Huraikan lima (5) pilihan bagi meningkatkan kelajuan proses *rendering* di dalam 3D Studio Max. (10 markah)
- (c) Jelaskan apakah yang dimaksudkan dengan kamera di dalam persekitaran 3D? (3 markah)
- S5** (a) Bincangkan apakah peranan *camera tracker utility* bagi membangunkan animasi di dalam sesuatu *scene*? (4 markah)
- (b) Nyatakan lima (5) komponen animasi yang terlibat di dalam satu animasi lengkap. (5 markah)
- (c) Huraikan proses animasi asas di dalam 3D Studio Max. Berikan contoh bagi menyokong huraian anda. (6 markah)
- (i) Bincangkan lima (5) pilihan animasi yang terdapat di dalam 3D Studio Max *motion panel* bagi meningkatkan setiap *scene* animasi? (5 markah)

-SOALAN TAMAT-