UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
SEMESTER I
SESSION 2010/2011

COURSE NAME	:	3D MODELLING AND ANIMATION
COURSE CODE	:	DIT 3223 / DAT 32203
PROGRAMME	:	3 DIT
EXAMINATION DATE	:	NOVEMBER/DECEMBER 2010
DURATION	:	2½ HOURS
INSTRUCTION	:	ANSWER ALL QUESTIONS.

THIS PAPER CONSISTS OF THREE (3) PAGES

Instruction: Answer **ALL** questions.

Q1 (a) Explain what is meant by an object's poly count and its importance in low-poly modelling.

(3 marks)

(b) Explain the relationship between poly count and level of detail.

(4 marks)

(c) Explain how poly count and level of detail may works together in achieving greater performance and scene appearance.

(4 marks)

(d) State **TWO (2)** ways a user can maintain object's planarity in low-poly modelling.

(4 marks)

Q2 (a) Describe **THREE (3)** elements that form a colour.

(9 marks)

(b) Not all colours in the real-world can be duplicated by the RGB and HSV models despite the millions of colours available. Discuss the reasons behind this statement.

(6 marks)

Q3 (a) Describe **THREE (3)** light sources used in 3D modelling.

(9 marks)

(b) Explain what projection mapping is (with appropriate figure).

(6 marks)

Q4 (a) Explain each of the following camera movement:

(i) Pan
(ii) Tilt
(iii) Tracking
(iv) Dollying

(8 marks)

(b) Suggest **ONE (1)** suitable scene for each camera movement in **Q4 (a).**

(4 marks)

(c) Differentiate between *Pan* and *Tracking*.

(3 marks)

Q5 Given the following figures:

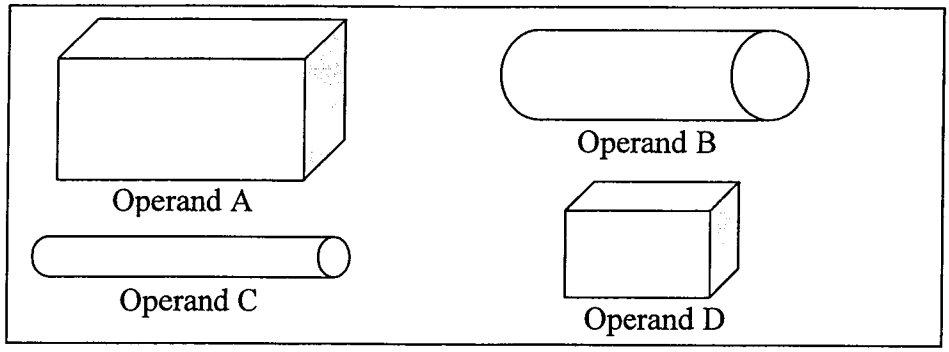

Figure Q5 (a)

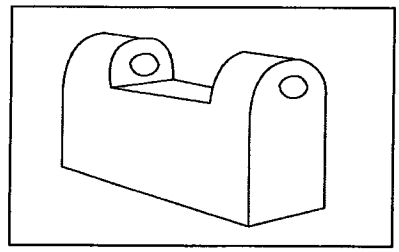

Figure Q5 (b)

(a) Discuss the concept of 3D Booleans.

(3 marks)

(b) Sketch a detailed step by step operation to create an object in **Figure Q5 (b)** from the operands in **Figure Q5 (a)**.

(12 marks)

(c) Explain your steps in **Q5 (b).**

(5 marks)

Q6 Given the following figure:

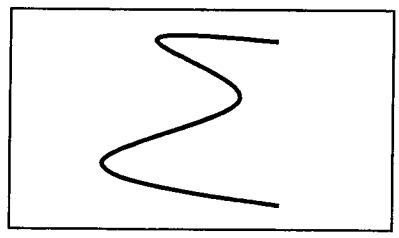

Figure Q6

(a) Explain the concept of *Lathe* or *Lathing.*

(3 marks)

(b) Draw the result if the following techniques are applied to the spline in **Figure Q6**:
(i) Sweep
(ii) Lathe

(5 marks)

(c) Describe **THREE (3)** types of *lathe* with appropriate figures.

(12 marks)