

Computer science Higher level Paper 3

Thursday 5 May 2016 (afternoon)

1 hour

Instructions to candidates

- Do not turn over this examination paper until instructed to do so.
- A clean copy of the **Computer Science case study** is required for this examination paper.
- Read the case study carefully.
- Answer all questions.
- The maximum mark for this examination paper is [30 marks].

2 pages

Answer **all** questions.

1.	(a)	Define the term <i>rendering equation</i> .	[2]
	(b)	Outline the use of <i>cels</i> in the construction of a 2D scene.	[2]
2.	(a)	Compare the process of <i>tweening</i> with the process of <i>morphing</i> .	[4]
	(b)	Explain why animators have to be aware of the degree of realism provided by their animations in order to avoid the <i>uncanny valley</i> effect.	[4]
3.	With the aid of a diagram, explain how fractal algorithms are able to generate terrain that looks realistic, starting from a simple rectangle.		[6]
4.	<i>Pacific FX</i> is planning a computer game for the home computer market. This game will involve realistic, animated humans. Xiao-Ling and her team must decide which techniques are most appropriate for this project.		
	Disco rend Your	uss the techniques, for both the creation of the 3D wire-frame computer models and the ering of each scene, which the team would consider before making their decision. answer should include detailed references to the relevant technologies.	[12]