END SEMESTER EXAMINATION, NOVEMBER-2018

Semester – 5th

CG LIGHTING AND RENDERING

Subject Code : AMT-502

Full Marks – 70

Time – Three hours

The figures in the margin indicate full marks for the questions.

PART – A

Marks – 25

All questions are compulsory.

1. Fill in the blanks :   1×10=10

   (a) The region where some or all of the light source is obscured is called _____.

   (b) _____ can be your most powerful design element if you learn to use it effectively.

   (c) White, black and grey colour are considered to be _____ colours.

(d) Tones are created by adding _____ to a specific colour or hue.

(e) Indirect light is also called _____ light.

(f) Fill light in a 3-point lighting set-up is also known as _____ light.

(g) By default, the Renderable Camera in the Render Settings is the _____ camera.

(h) To create the look of a glowing light, the _____ attribute is tweaked in the material shader.

(i) Out Colour attribute is found in a _____ shader.

(j) The default value of Depth Map Filter Size is _____.

2. Write true or false : 1×10=10

(a) The key combination to create shortcuts in the shelves are Alt + Shift + Left Mouse Button click.

(b) Ambient light has Depth Map Shadows.

(c) Scaling the Directional Light shape does not affect the light.

(d) Light-linking feature is found under Windows > Rendering Editors.

(e) Default value of a Penumbra Angle of a Spot Light is 20.

(f) An Area Light only has Light Glow attribute under Light Effects.

(g) Raytrace Shadows take more time to render.

(h) Directional Light does not have Light Effects.

(i) The Bounding Box feature is located under Lighting menu.

(j) The Ambient Occlusion pass is rendered using Mental Ray renderer.

3. Choose the correct answer : 1×5=5

(a) Which among the following is not a Decay Rate ?

(i) Linear (ii) Exponential

(iii) Quadratic (iv) Cubic

(b) Which artificial light in Maya does not have the Emit Specular attribute ?

(i) Volume Light   (ii) Area Light

(iii) Ambient Light   (iv) Point Light

(c) Colour Curve attribute is present in

(i) Ambient Light   (ii) Spot Light

(iii) Area Light   (iv) Volume Light

(d) Which render pass renders only the diffuse light of a scene ?

(i) Beauty Pass   (ii) Reflection Pass

(iii) Occlusion Pass   (iv) Shadow Pass

(e) The number key to cycle to the lighting mode in Maya is

(i) 4   (ii) 5

(iii) 6   (iv) 7

PART – B

Marks – 45

Answer any *five* questions.

4. (a) What are shadows ?   2

(b) Describe the parts of a shadow with diagrams.   6+1=7

5. (a) What are the different types of light in Maya ?   6

(b) Describe Area Light with diagrams.   3

6. (a) What is direct and indirect Lighting ? Give diagrams to support your answer.   4

(b) Why is ambient light rarely used in a 3D scene ?   3

(c) What is Negative Intensity and why is it used ?   2

7. Describe the 3-point lighting technique with a suitable diagram.   9

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8. (a) What are Gobos or cookies ? Why are they used ? 4

   (b) What is the Penumbra Angle ? Explain with a diagram. 5

9. (a) State the steps to enable Raytracing to render Raytrace Shadows. 5

   (b) What is light leaking and how can you fix it ? 4

10. What are the different render passes in lighting? Explain them. 9

(6)