

Total No. of printed pages = 3

BMD 171503

Roll No. of candidate

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2019

B.Des. 5th Semester End-Term Examination

Multimedia Communication and Design

**COMPUTER GENERATED LIGHTING AND
RENDERING**

Full Marks – 70

Time – Three hours

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

Answer Question No. 1 and any *four* from the rest.

1. Fill in the blanks : (10 × 1 = 10)
- (i) _____ is the shadow region where an observer experiences annular eclipse.
 - (ii) Colour wheel is based on the _____ colour model.
 - (iii) White, black and grey are considered to be _____ colours.
 - (iv) Black colour radiates _____ light.
 - (v) In 3-point lighting _____ light distinguishes the object from the background.
 - (vi) The default renderable camera in *Render Settings* is the _____ camera.

[Turn over

- (vii) The attribute which determines how much light is emitted from the light source is called _____.
- (viii) _____ light does not have Depth Map Shadows.
- (ix) Hypershade is located under Window > _____ Editors.
- (x) The key combinations to create shortcuts of tools on shelves is _____.
2. (a) What are the natural sources of light? (8)
 (b) What are the types of colour theory? Describe them briefly. (1 + 6 = 7)
3. (a) How can you differentiate between natural lighting and CG lighting? (4)
 (b) Describe Ambient Light and Area Light with examples. (5)
 (c) What is Negative Intensity and why is it used? (5)
4. (a) Describe any 5 attributes of a spot light. (10)
 (b) What are the different types of Light-linking? Describe them briefly. (5)
5. (a) Why are rendering passes important in lighting? (5)
 (b) Describe the following render passes: (2 × 5 = 10)
 (i) Shadow Pass
 (ii) Z-Depth Pass.



6. (a) What are the steps to enable Mental Ray plugin in Maya? (5)
 (b) What are the key inputs for lighting a 3D scene for production? (10)
7. Write short notes on the following: (5 × 3 = 15)
 (a) Hypershade
 (b) Artifacts
 (c) Penumbra Angle
 (d) Photons.
 (e) Colour Bleeding.