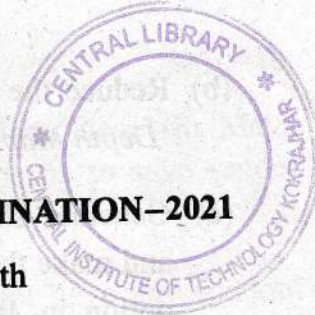Total No. of printed pages = 6

END SEMESTER EXAMINATION–2021

Semester : 5th

Subject Code : AMT-502

CG LIGHTING AND RENDERING

Full Marks – 70

Time – Three hours

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

Instructions :

(i) *All* questions of PART–A are compulsory.

(ii) Answer any *five* questions from PART–B.

(iii) Illustrate your answers with suitable sketches and
examples wherever necessary.

PART–A

Marks – 25

1. Fill in the blanks :   1×10=10

 (a) Maya keyboard shortcut combination to
 duplicate any light is _____.

[Turn over

(b) Reduce the value of _____ attribute in 'Depth Map Shadow will sharpen the shadow.

(c) Generate shadow through *directional* light and make the shadow smooth/soften there is option in *Maya 2018* is called _____.

(d) In order to activate*Arnold Render* in *Maya 2018* one need to switch on _____ from 'plug-in –Manager'?

(e) Increasing the value of _____ attribute in 'Depth Map Shadow' will soften the shadow.

(f) The keyboard shortcut for open any new scene in Autodesk Maya is _____.

(g) The default value of a Blinn material Specular Roll Off is _____.

(h) The keyboard combination for saving any files in Autodesk Maya is _____.

(i) In order to 'Set Project' in *Maya software* one needs to follow _____ menu bar.

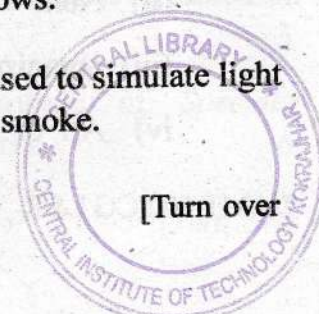(j) The default value of Maya spot light intensity is _____.
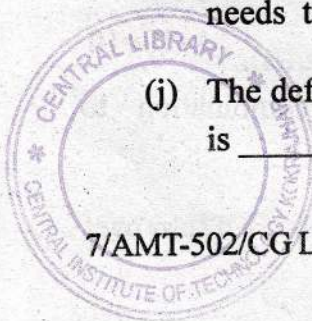
2. Write true or false : 1×10=10

(a) There is an option called 'Keep' in Maya render view which helps us to save render sequence.

(b) Directional light does not have any shadow option in *Autodesk Maya 2018*.

(c) There is an option *Maya* called *Specular Roll Off* which helps to increase shininess in *Lambert material*.

(d) *Blinn* is a shiny material that is particularly effective at simulating metallic surfaces (for example, chrome or aluminium).

(e) Maya lights are located under Mesh menu in Maya.

(f) Through *Outliner* in Maya one can build shading networks by creating, editing, and connecting rendering nodes.

(g) The *Key Light* creates the subject's main illumination, and defines the most visible lighting and shadows.

(h) The Volume Lighting is used to simulate light passing through fog or smoke.

7/AMT-502/CG L&R   (3)   [Turn over

(i) The key combination to create shortcuts in the selves is Alt + Shift+ left mouse button click.

(j) The keyboard shortcuts to duplicate any light in *Maya Software* is Ctrl+D.

3. Choose the correct answers for the following :

$1\times5=5$

(a) Light is located under

    (i) Windows menu

    (ii) Create menu

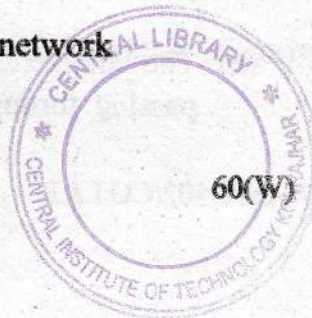   (iii) Mesh men

    (iv) Display menu

(b) Which is not Maya default light ?

    (i) Ambient   (ii) Directional

    (iii) Photometric   (iv) Volume

(c) Maya *Hypershader* is used to

    (i) arrange UV mapping

    (ii) None of them

    (iii) organize shading network

    iv) All of the above

(d) Specular Roll Off helps us to

    (i) Edit shiny/specular value of the material

    (ii) Specular Roll Off can be adjustable

    (iii) Specular Roll value can be changed based on material properties.

    (iv) All of them

(e) Which material is used for representing matt surface ?

    (i) Lambert   (ii) Blinn

    (iii) Phong   (iv) Anisotropic.

PART – B

Marks – 45

4. (a) What is *Outliner* in Maya Software ?   2

   (b) What is the importance of *Outliners* ? Explain with examples.   7

5. (a) What is *Material Attribute Editor* in Autodesk Maya ?   3

   (b) Describe material attribute of *Specular shading* in Blinn material.   6

7/AMT-502/CG L&R   (5)   [Turn over

6. (a) What are CG Lighting and Rendering ? 4

   (b) What is the difference between *Arnold* render and *Maya Software* render ? 5

7. (a) How Blinn material is different from Lambert Material ? 5

   (b) Explain *Material* and its importance in *Autodesk Maya* with an example 4

8. What are the different types of lights in Autodesk Maya ? Explain with diagrams. 9

9. What do you mean by Maya 3-point light ? Explain 3-point lighting technique with proper graphs. 9

10. Write short notes on any *three*. (Each carrying 3 marks) : 3×3=9

   (i) Maya outliner

   (ii) Light Rays

   (iii) Material Attribute editor in Maya

   (iv) Hypershade.