Malaviya National Institute of Technology Jaipur

Computer Graphics

<u>Title</u>

CST 310 Final Project Report

Submitted By: Submitted To:

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ID: 2021UCP1305

Reference Image:

Meeting Project Requirements:

1. Understanding the concepts:

    a. Phong Illumination: Required in order to understand the components of Phong Illumination model which are diffuse reflection and specular reflection.

    Source Referred:

    Notes from Dr. Sadbhawna Thakur (CST-310)

    Link: https://sadbhawnathakur.github.io/data/CG/25._Illumination_Models.pdf

b. Ray Tracing: To understand about BSDF model and how the model is simulating properties such as reflection, refraction and shadow components.

Source Referred:

Lecture Notes (27 to 33) from Dr. Sadbhawna Thakur (CST-310)

Link: https://sadbhawnathakur.github.io/computer_graphics.html

c. Lab Assignments related to Blender

2. Objects used and their source of reference:

| Object	Source of Reference	Comments
Idle of Gautam Buddha	https://sketchfab.com/3d-models/buddha-1754e4978561484a88a29ca66a8c8fb7	Colouring, Shading and Texturing
Chinese Temple	https://www.blenderkit.com/asset-gallery-detail/27de2944-5605-4075-a409-e0dfb85dc12a/	None
Blossom Trees + Petals	https://sketchfab.com/3d-models/cherry-blossom-trees-f69be55d2e4f4f73b568ebb185bd8496	Colouring, Shading and Texturing
Rock	https://sketchfab.com/3d-models/stone-pack-f3e0a67b9ca243b09119177649f21e17	Colouring, Shading and Texturing + Adjusted the roughness to model smooth rock and rough rock

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Fog	https://www.blenderkit.com/asset-gallery-detail/096cded7-fc4c-47ff-91a4-319addc4641c/	None
Diya	Tutorial on YouTube: https://youtu.be/Fbuhhhb_X0I?si=wB7L2k1lhDod-Nuj	Sculpting, Colouring, Shading
Water	By Own	Sculpting, Colouring, Shading and Texturing
Lotus	Lab Assignment: https://sadbhawnathakur.github.io/data/CG_lab/Lab_Assignment-8.pdf	Sculpting, Colouring, Shading and Texturing

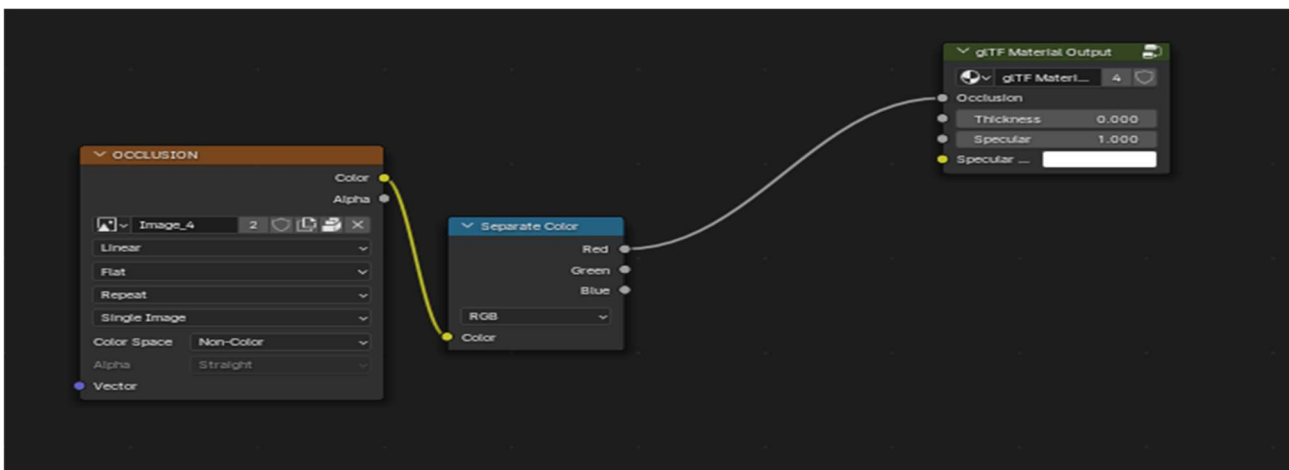3. Additional Resource: HDRI is used for the background (BlenderKit)
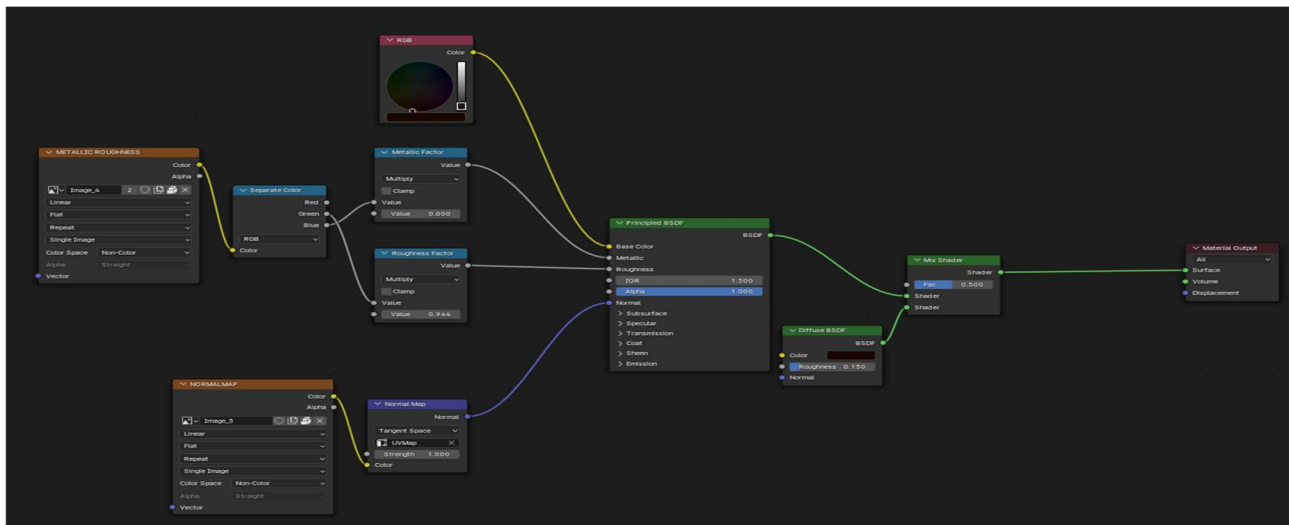
Shading and Texture Nodes:

A. Idle of Gautam Buddha:
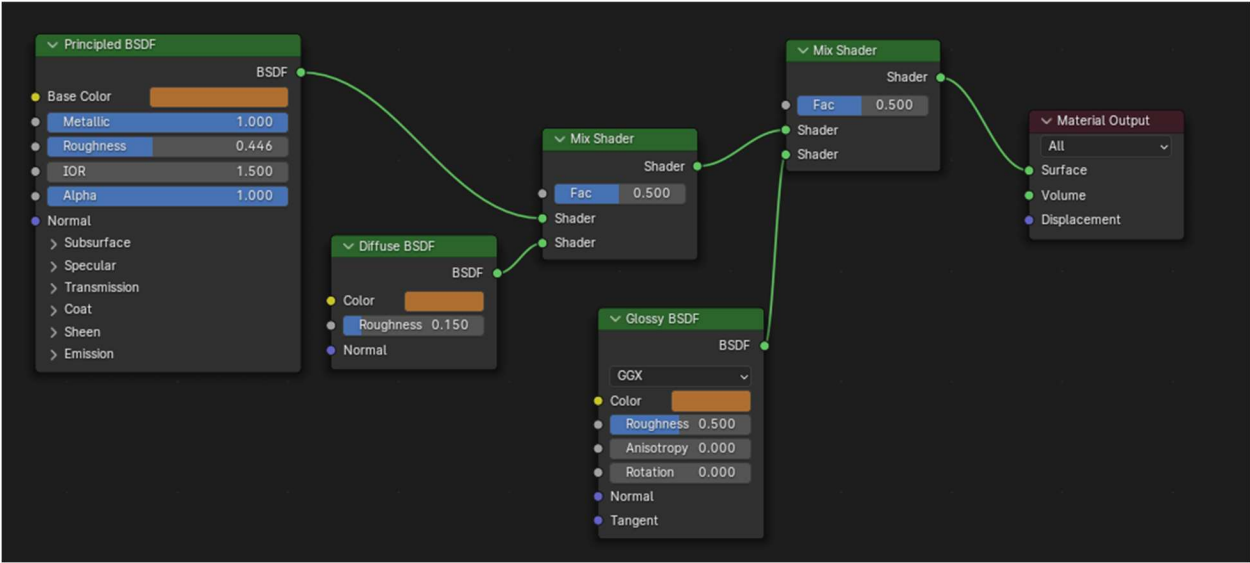
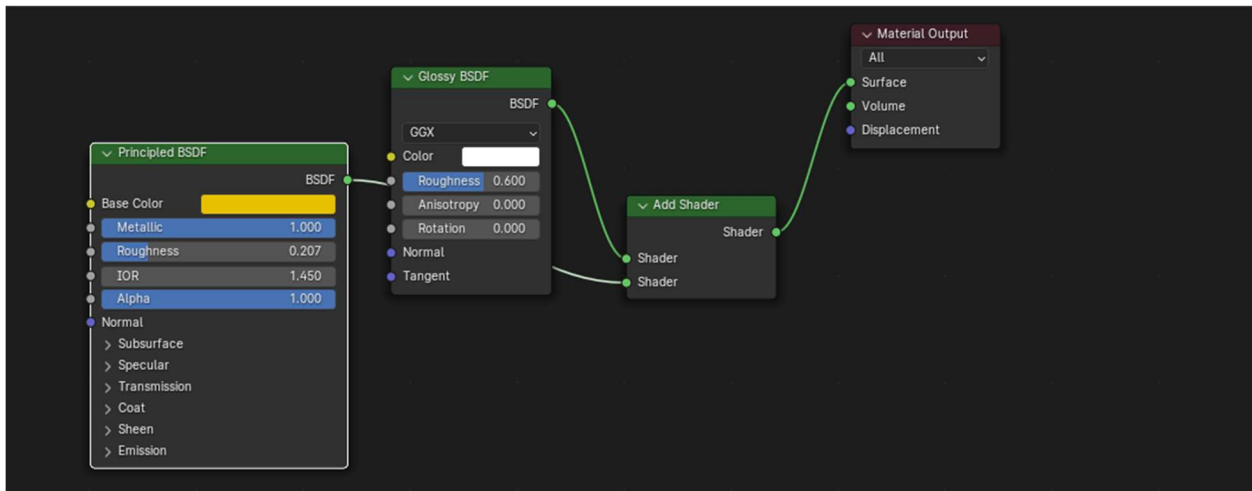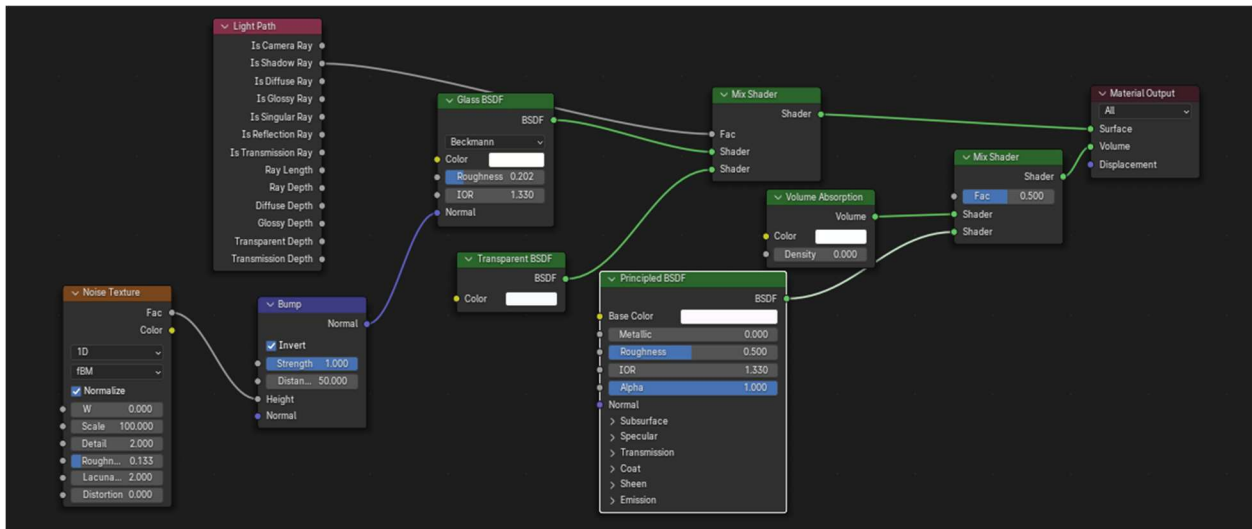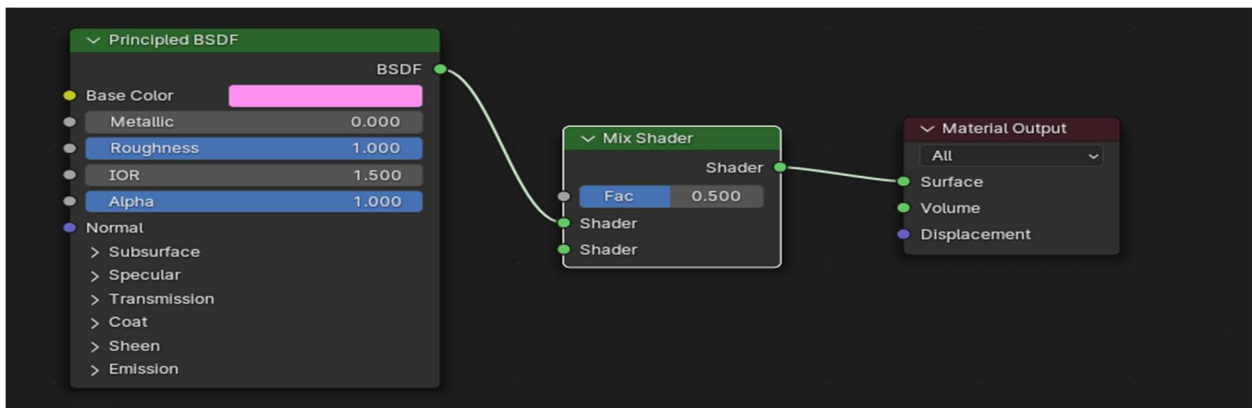## B. Blossom Trees:
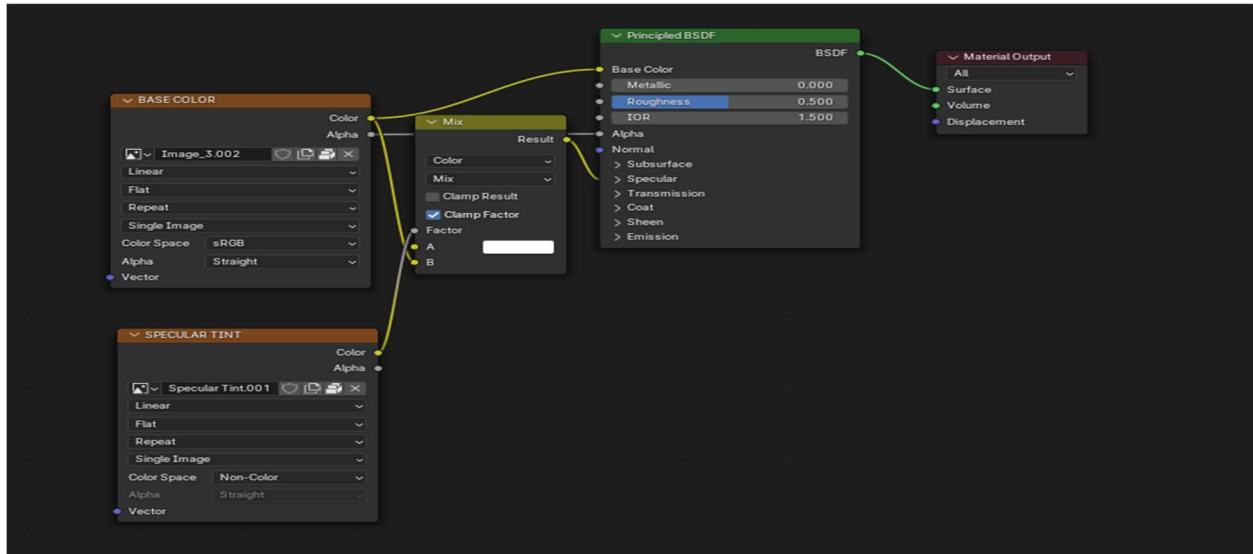
C. Rock:

D. Diya

E. Water

F. Lotus:

Final Rendered Images:

**Slightly different shading: