



3D PRINTING FOR CIVIL ENGINEERS

QUESTION BANK – 16 MARKS

UNIT I - INTRODUCTION TO 3D PRINTING

- 1. Explain about 3D Printing Technology in detail. Why 3D printing technology is important?**
- 2. Explain the advantages, disadvantages and limitations of 3D printing in detail.**
- 3. Explain the fusion deposition modelling in detail.**
- 4. Explain selective laser sintering in detail.**
- 5. Explain stereolithography in detail.**
- 6. Explain the different parts in 3D printer.**

UNIT II - DESIGN SKETCHING FOR 3D PRINTING

- 1. What are the different types of 3D printing materials.**
- 2. Draw the layout of sketchbook. Explain the important tools in sketchbook?**
- 3. Describe the step by step procedure to create a rocket 3D model.**
- 4. Explain the following in detail.**
 - i. What is the procedure to move a shape in the workplane.**
 - ii. What is the procedure to resize the shape in the workplane.**
 - iii. What is the significance of ruler button.**
- 5. Explain the procedure to create a keychain model in tinkercad.**

UNIT III - DESIGN SKETCHING FOR 3D PRINTING

- 1. Explain the tools in the fusion 360 in details.**
- 2. Explain with an example the procedure to create sketch geometry, dimension sketches and constrain sketches in fusion 360.**



3. Explain with an example the procedure to design a geometry in fusion 360.
4. Explain in detail about preferences and user interface in Fusion 360.
5. Explain the process of rendering in Fusion 360.

UNIT IV – 3D SCANNING

1. Explain the different types of 3D scanners.
2. What are the advantages and disadvantages of each type of 3d scanning technology?
3. What are the applications of 3d scanning.
4. Explain in detail about 3D reconstruction.
5. Explain the working principle of scanner.

UNIT V – APPLICATIONS OF 3D PRINTING

- 1.Explain the application of 3D printing in construction industry with a case study.
2. Explain the application of 3D printing in biomedical industry with a case study.
3. Explain the application of 3D printing in aerospace industry with a case study.
4. Explain the application of 3D printing in automobile industry with a case study.
- 5.How 3D printing is used for product prototype.