(3 Hours) **Total Marks: 80**

Note:

N.B.: (1) All questions carry equal marks.
(2) Question No.1 Compulsory.
(3) Attempt any three from remaining five questions.
(3) Figures to the right indicate full marks.
(4) Draw neat sketches wherever necessary.

Q. 1. Write short notes on **any FOUR** questions. (20)

(a) Write short note on 3D Kel Tool

(b) What is Reverse Engineering? List needs of reverse engineering.

(c) Compare SLA process with FDM process.

(d) Define Rapid Prototyping. List Advantages and limitations of Rapid Prototyping.

(e) List advantages and limitations of 3D Printing.

Q. 2. (a) Explain in detail SGC Process with respect to principle of operation, possible approaches, steps, advantages and limitations. (10)

(b) Discuss Role of Medical imaging in RP (10)

Q. 3. (a) Explain in detail LOM Process with respect to principle of operation, possible approaches, steps, advantages and limitations. (10)

(b) I. Explain in detail Spray Metal Tooling (10)
II. List steps involved in Post processing of FDM Process.

Q. 4. (a) Explain in detail relationship between product development cost and selling price. (10)

(b) Explain in detail about process details and machine details of 3-D printing (10)

Q. 5. (a) Discuss about the influence of various factors in determining the part building error and data preparation error. (10)

(b) Explain the stages of product development cycle. (10)

Q. 6. Write short note on following. (20)

(a) Augmented Reality.

(b) Need of a prototype.

(c) Powder based material used in RP.

(d) Explain Technologies used in VR Virtual reality.

6528D94227498585ECD56186A559FD31