M. TECH.-IV (MECHANICAL CAD/CAM) (CBCS – 2015 COURSE) : SUMMER - 2018

SUBJECT : SELF STUDY PAPER - II - RAPID PROTOTYPING

Day : **Tuesday** **S-2018-3135** Time : **11.00 AM TO 02.00 PM**
Date : **19/06/2018** Max. Marks : 60

N.B.:

1) All questions are **COMPULSORY**.
2) Figures to the right indicate **FULL** marks.
3) Answers to both the sections should be written in the **SEPARATE** answer books.

SECTION - I

Q.1 Explain the need and development of Rapid Prototyping systems. **[10]**

OR

Briefly explain benefits, applications and materials used in Rapid Prototyping.

Q.2 Explain the data processing required for Rapid Prototyping. **[10]**

OR

Explain different geometric modeling techniques Wire frame, Surface and Solid modeling.

Q.3 What is Stereolithography (SL)? Describe the SL principle and process in detail. **[10]**

OR

What are different materials used for SL? Explain issues with SL.

SECTION - II

Q.4 Explain the working principle and process of Solid Ground Curing (SGC). **[10]**

OR

Explain the working principle and process of Fused Deposition Modeling (FDM).

Q.5 Write a short note on modeling of Selective Laser Sintering (SLS). Clearly explain the materials used. **[10]**

OR

Describe the Laser Engineered Net Shaping process with help of a case study. **[10]**

Q.6 Explain the principle and basic process of three dimensional printing (3DP). **[10]**

OR

Differentiate between solid based, liquid based and powder based 3DP systems.

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