

M. TECH.-III (MECHANICAL CAD/CAM) (CBCS – 2015 COURSE) :
WINTER - 2017

SUBJECT : SELF-STUDY PAPER – I ADVANCED MANUFACTURING PROCESSES

Day : **Thursday**
Date : **25/01/2018**

W-2017-2928

Time : **11.00 AM TO 02.00 PM**
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 **SEPARATE** answer books.
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SECTION – I

Q.1 Define the term 'metal cutting'. Explain the different types of forces acting in a cutting processes. [10]

OR

Explain merchant circle diagram and write different relations for cutting forces.

Q.2 Write classification of grinding machine. Differentiate between dressing and truing of grinding wheel with respect to need, tools and effects of not doing it. [10]

OR

What is abrasive bonding? Where do we use such a process, give at least two examples?

Q.3 Explain injection moulding process with schematic diagram and write advantages. [10]

OR

What are types of punches? How are punches classified? Explain the working of various types of punches used in press working.

SECTION – II

Q.4 What is an electron beam machining process? What are the applications, advantage and disadvantages? [10]

OR

Describe briefly the process of laser beam machining. What are its advantages, disadvantages and its applications?

Q.5 Discuss in detail economics of high speed machining. [10]

OR

How can the value of Break Even Point reduced in case of a single product?

Q.6 Describe the process of photo polymerization of stereo lithography resins. [10]

OR

What are the different types of printing? Explain the physics behind Three Dimensional Printing.

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