M. Tech.-III (Mechanical CAD/CAM) (CBCS – 2015 Course) :
WINTER - 2018

SUBJECT : SELF STUDY PAPER – I : ADVANCED MANUFACTURING PROCESSES

Day : Saturday **W-2018-3260** Time : 11.00 AM TO 02.00 PM
Date : 08/12/2018 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 **SEPARATE** answer books.
4) Assume suitable data, if necessary.

SECTION – I

Q. 1 Derive the relation for mean angle of friction and mean normal stress on tool face. **(10)**

OR

Define the term metal cutting. Explain the different types of force acting in a cutting processes.

Q. 2 Discuss in detail of dressing and truing of grinding wheel with respect to need, tools and effects of not doing it. **(10)**

OR

Discuss various factors considered while selecting abrasives for grinding operation.

Q. 3 Enumerate with neat sketch the principle of reciprocating screw injection moulding process. State its advantages and applications. **(10)**

OR

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

SECTION – II

Q. 4 Discuss the characteristics features of modern machining processes that distinguish them from conventional machining process. **(10)**

OR

How the following parameters affect the machining rate is EDM process?

i) Capacitance
ii) Pulse energy
iii) Spark gap
iv) Current density

Q. 5 Discuss about high speed machining in contact with conventional machining. Also write the applications of high speed machining. **(10)**

OR

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

Q. 6 Write in detail general features and classifications of Generative Manufacturing processes (GMP). **(10)**

OR

Define rapid prototyping. Explain the physics behind two dimensional layer by layer techniques.

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