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B.Tech. (Sem. - 4th)

MANUFACTURING PROCESSES - II

SUBJECT CODE : ME - 210

Paper ID : [A0812]

[Note : Please fill subject code and paper ID on OMR]

...Hours Maximum Marks : 60

...tions to Candidates:

- Section - A is **Compulsory**.
- Attempt any **Four** questions from Section - B.
- Attempt any **Two** questions from Section - C.

Section - A

(10 × 2 = 20)

- **Explain** the difference between positive and negative rake angles.
- **Briefly** explain the term machinability.
- **List** the major elements in cost - cobalt tools.
- **Explain** how cutting fluids penetrate the cutting zone?
- **What** is broaching?
- **What** is down milling?
- **List** the characteristics of sheet metals that are important in sheet forming operations.
- **Why** are continuous chips not always desirable?
- **What** is centreless grinding?
- **What** factors contribute to spreading in flat rolling?

Section - B

(4 × 5 = 20)

Q2) List the advantages of forging of metals. Why is press forging preferred over hammer forging process?

Q3) Distinguish between wire drawing and tube drawing with the help of neat sketches.

Q4) How will you specify a press required for sheet metal operations?

Q5) Sketch the geometry of a single point cutting tool and mark the important angles on it.

Q6) Explain differential indexing with the help of a suitable example.

Section - C

(2 × 10 = 20)

Q7) What is powder metallurgy? Briefly explain the various steps involved in powder metallurgy process. What are the effects of the different shapes and sizes of metal particles in powder metallurgy processing?

Q8) What is a milling cutter? List down the various types of milling cutters and explain any two of them with the help of neat sketches. What determines the selection of the number of teeth on a milling cutter?

Q9) Write short notes on :

(a) Impact extrusion.

(b) High velocity forming.

(c) Sawing.

(d) Quick return mechanism.

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