



(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 140503

Roll No.

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B. Tech.

(SEM. V) (ODD SEM.) THEORY
EXAMINATION, 2014-15

MANUFACTURING SCIENCE-II

Time : 3 Hours]

[Total Marks : 100

- 1 Attempt any **FOUR** parts of the following : **5x4=20**
- a) Differentiate between orthogonal and oblique cutting.
 - b) Describe twist drill nomenclature using sketches.
 - c) What is the function of bonds in grinding wheel? Indicate bonding materials and name their corresponding grinding wheel.
 - d) What is limit, fit and tolerance? Discuss.
 - e) Differentiate TIG welding and MIG welding.
 - f) Write short notes on explosive cladding.
- 2 Attempt any **TWO** parts of the following : **10x2=20**
- a) Consider the various forces acting on the chip, draw merchant force diagram. State the assumptions.
 - b) What are the purposes of cutting fluids? What are the types?

- c) What are the desirable characteristics of cutting tool materials? Describe them briefly.
- 3 Attempt any TWO parts of the following : 10x2=20**
- a) Describe in brief various parts of capstan and turret lathes.
- b) What are the different horizontal boring machines? List them and specify their suitability.
- c) Describe with a line diagram of withworth quick return mechanism used in Slotter.
- 4 Attempt any TWO parts of the following : 10x2=20**
- a) What is meant by Grit, Grade and Structure of grinding wheel?
- b) Discuss the honing process in detail with neat sketch.
- c) Briefly describe the main features of surface grinding.
- 5 Attempt any TWO parts of the following : 10x2=20**
- a) Briefly describe the main features of resistance welding process with a neat sketch.
- b) Explain how the operation of AJM is carried out. What are the limitations of AJM?
- c) Discuss diffusion welding process in detail with a neat sketch.
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