

Printed Pages : 2

TME-504

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

PAPER ID : 4077Roll No. **B. Tech.****(SEM. V) EXAMINATION, 2007-08****MANUFACTURING SCIENCE - II***Time : 3 Hours]**[Total Marks : 100*

- Note :*
- (i) Attempt all questions.*
 - (ii) All questions carry equal marks.*

- 1** Attempt any **four** parts of the following :
- (a) Explain, how chips are formed in metal cutting ? 5
 - (b) Differentiate between orthogonal and oblique cutting. 5
 - (c) Explain how metal transfer takes place during built up edge formation ? 5
 - (d) Under what machining condition, a ductile material like aluminium will give discontinuous chips ? 5
 - (e) Compare (i) merchant and (ii) Lee & Shaffer's shear angle relationships. 5
 - (f) Sketch the Merchant's circle diagram and state the assumptions made in developing their diagram. 5
- 2** Attempt any **two** parts of the following :
- (a) Draw the tool layout for manufacturing hexagonal bolt on turret lathe in mass. Assume the dimensions. 10
 - (b) Explain the Quick return mechanism used in shaper. 10

4077]  1

[Contd...

aktuonline.com (c) What are different types of milling aktuonline.com
Draw the sketch of a milling cutter and show
different angles provided on its teeth.

- 3 Attempt any **two** parts of the following :
- (a) What are the various factors to be considered in selection of a grinding wheel ? Discuss each in detail. 10
 - (b) What is super finishing operation ? Explain honning, lapping and polishing. 10
 - (c) What is fit ? Explain different types of fits. 10
- 4 Attempt any **four** parts of the following :
- (a) Compare the advantages and disadvantages of A.C and D.C supplies for metal arc welding. 5
 - (b) What is the difference between TIG and MIG welding processes ? Explain. 5
 - (c) What is HAZ ? How it affects the quality of weld ? 5
 - (d) Discuss the causes and cure for porosity, distortion and cracking in welded joints. 5
 - (e) Describe the appearance and properties of neutral flame, reducing flame and oxidising flame. 5
 - (f) What are the advantages of submerged arc welding ? Explain. 5
- 5 Attempt any **two** parts of the following :
- (a) What is the principle of EDM ? Explain the function of dielectric fluid in EDM. 10
 - (b) What is LASER ? Explain the principle of LBM. 10
 - (c) With the help of neat sketch, explain the working principle of EBM. 10