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B.E / B.Tech DEGREE END SEMESTER EXAMINATIONS, Nov / Dec 2013

MANUFACTURING ENGINEERING BRANCH

III Semester

MF 9201 MANUFACTURING PROCESSES - II

(REGULATIONS 2008)

Time: 3 Hours

Answer ALL Questions

Max. Marks 100

PART-A (10 x 2 = 20 Marks)

1. Define tool signature.
2. State any four functions of cutting fluid.
3. Distinguish between shaper and planer.
4. Differentiate between up and down milling.
5. What is dressing, in reference to grinding wheels?
6. List out any two abrasives used in lapping.
7. What are the various steps involved in milling a bevel gear?
8. State various methods of cutting gear by milling.
9. Name some of the steps that can be taken to reduce or eliminate vibrations in machining?
10. What are the advantages and limitations of single spindle automatics?

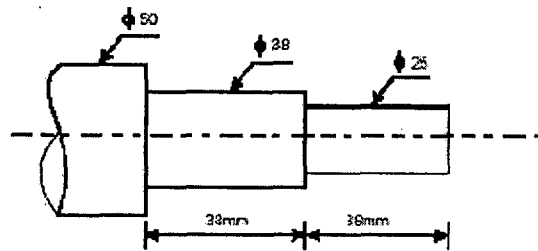
PART B – (5X16=80 Marks)

- 11 i) Enumerate the principle of gear shaping. (8)
- ii) Discuss the various gear finishing operations. (8)

12 a i) In an orthogonal cutting test with a tool of rake angle 10° , the following observations were made:

chip thickness ratio	= 0.3
horizontal components of the cutting force	= 1290 N
vertical components of cutting force	= 1650N

15. a. Determine the machining time to turn the dimensions given in figure. The material is brass, the cutting speed with H.S.S tool being 80 m/min and the feed is 0.8 mm/rev.



(or)

- b. A mild steel bar 100 mm long and 40 mm in diameter is turned to 38 mm diameter and was again turned to a diameter of 35 mm over a length of 40 mm as shown in figure. The bar was chamfered at both the ends to give a chamfer of $45^\circ \times 5$ mm after facing. Calculate the machining time. Assume cutting speed of 60 m/min and feed 0.4 mm/rev. The depth of cut should not to exceed 3 mm.

