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BME-008

B.Tech. MECHANICAL ENGINEERING (COMPUTER INTEGRATED MANUFACTURING) / (BTMEVI)

00432 **Term-End Examination**

December, 2016

BME-008 : MACHINING TECHNOLOGY

Time : 3 hours *Maximum Marks : 70*

Note : *Attempt any **five** questions. All questions carry equal marks. Use of scientific calculator is permitted.*

1. (a) Which cutting tool will be best suited for mass production of aluminum parts ? Why ?

(b) A cutting tool cutting at 25 m/minute gave a life of 1 hour between regrinds when operating on roughing with mild steel. What will be its probable life engaged on light finishing ? Assume n = 1/8 for roughing and n = 1/10 for finishing. 7+7

2. (a) Explain the mechanism of chip formation.

(b) Discuss the effect of tool angles on quality of metal machining. 7+7

3. (a) How are the grains of abrasives classified ?

(b) Is honing a material removal process ? What inaccuracies does the honing process eliminate ? 7+7

4. (a) Why do you observe sparks when the sharpening of scissors is done ? Explain.

(b) List the factors to be kept in mind while selecting a grinding wheel. 7+7

5. (a) Explain metal spraying process with neat sketch.

(b) In lapping process, what would be the consequence if the workplace is softer than the lap ? 7+7

6. (a) Under what conditions can abrasive machining be used ? State the limitations of natural abrasives.

(b) Explain the electroplating process with neat sketch. 7+7

7. (a) Give possible technical and economical reasons why non-conventional machining processes are necessary.

(b) Explain the laser beam machining process with neat sketch. 7+7

8. (a) Why is chemical machining process a selective material removal process ? Explain.

(b) How is the electrochemical machining process different from electroplating ? 7+7