No. of Printed Pages : 3

BME-003

B.Tech. MECHANICAL ENGINEERING (COMPUTER INTEGRATED MANUFACTURING)

BTCLEVI/BTMEVI/BTELVI/BTCSVI/BTECVI

Term-End Examination

00123

June, 2018

BME-003 : MANUFACTURING TECHNOLOGY

Time : 3 hours *Maximum Marks : 70*

Note : *Attempt any **seven** questions. All questions carry equal marks. Use of calculator is allowed. Assume any suitable data, if missing.*

1. (a) What is the purpose of adding flux in case of cupola ? *5*

(b) What are the basic requirements of a proper moulding sand ? *5*

2. Explain centrifugal casting. Give its advantages, limitations and applications. *10*

3. (a) What is the difference between hot working and cold working processes ? Give the advantages and disadvantages of hot working process. *5*

(b) Describe a drawing die. *5*

4. (a) What is meant by formability of a sheet metal ? What are the factors that affect formability ? 5

(b) What is the spring back in bending ? How is it to be compensated ? 5

5. (a) What is the difference between drop forging and press forging ? 5

(b) Why is it necessary to provide a clearance between the punch and the die in a shearing operation ? 5

6. (a) Explain the advantages of an indexable insert as compared to solid cutting tool. 5

(b) With the help of a neat sketch, compare up milling and down milling. 5

7. (a) Draw and discuss the relationship between cutting force and rake angle during turning and explain the nature of curve. 5

(b) With the help of suitable notations give the generalized tool life equation for a turning operation. 5

8. (a) What is the difference between melting and fusion and what is necessary to get a weld ? 5

(b) Explain the role of electrode coating in SMAW. 5

9. (a) How do the coefficient of thermal expansion, thermal conductivity and yield strength of a material affect distortion ? *5*

(b) Describe the submerged arc welding with its applications. *5*

10. Write short notes on any ***two*** of the following : *5×2=10*

(a) Electric Arc furnace

(b) Extrusion

(c) Single-point cutting tool

(d) Tungsten Inert Gas (TIG) welding