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Question Paper Code : 41389

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2018
Third/Fourth Semester
Mechatronics Engineering
ME 6352 – MANUFACTURING TECHNOLOGY
Common to : Aeronautical Engineering/Automobile Engineering
(Regulations 2013)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions

PART – A

(10×2=20 Marks)

1. Name any four allowances in the pattern making.
2. List the advantages of Die casting.
3. What is the purpose of flux ?
4. Show the application of carburizing flame.
5. Mention any four operations that can be performed using the milling machine.
6. What is film blowing and write its application ?
7. Write the classification of CNC machine.
8. Define ultrasonic plastic welding.
9. Compare open die forging and closed die forging.
10. State the advantage of spinning over other forming processes.

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PART - B

(5×13=65 Marks)

11. a) In context of sand casting describe the following :
- i) Outline the procedure to make sand mould with the steps involved in it. (8)
 - ii) Enumerate the desirable mould properties in sand casting . (5)
- (OR)
- b) i) Illustrate the working principle of investment casting and list advantages and disadvantages also. (7+2)
- ii) Draw the schematic diagram for shell moulding process. (4)
12. a) i) Classify the various types of welding process with flow chart. (5)
- ii) Explain the working mechanism of resistance welding with simple sketch. (4+4)
- (OR)
- b) i) List the various welding defects in manufacturing and explain any two. (6)
- ii) Explain the working mechanism of Thermit welding with the neat sketch. (7)
13. a) Outline the common operations performed in the following machine with simple sketches :
- i) Lathe (8)
 - ii) Shaper. (5)
- (OR)
- b) Discuss the working principle of the Abrasive jet machining process. Let its merits and demerits. (11+2)
14. a) i) Summarize the working principle of injection moulding with neat sketch. (8)
- ii) Compare thermo set curing process and thermoplastic curing process. (5)
- (OR)
- b) Demonstrate the following processes with neat sketches.
- i) Blow moulding. (7)
 - ii) Metal extrusion process. (6)



15. a) With the help of neat sketch describe the following process :

- i) Flat rolling process. (7)
- ii) Forging process. (6)

(OR)

b) Describe the principle steps involved in powder metallurgy process with simple sketch and list its applications also.

PART – C

(1×15=15 Marks)

16. a) i) Categorize the characteristics of the forming and shaping processes. (7)

ii) Interpret the methods of production for the following shapes :

- 1) Parts with cavities
- 2) Thin hollow shapes
- 3) Curvature on thin sheets
- 4) Reducing cross sections.

(4×2=8 Marks)

(OR)

b) Analyse the case study of welding process for industrial purposes.

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