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16/05/18 (AN)

Question Paper Code : 41387

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2018

Third Semester

Mechanical Engineering

ME 6302 – MANUFACTURING TECHNOLOGY – I

**(Common to Mechanical Engineering (Sandwich)/Industrial Engineering/Industrial Engineering and Management/Mechanical and Automation Engineering)
(Regulations 2013)**

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions.

PART – A

(10×2=20 Marks)

1. List out the various materials used for pattern making.
2. State the advantages of investment casting.
3. What is the principle of thermit welding ?
4. How do you specify an electrode ?
5. Name the defects in rolled parts.
6. What is piercing operation ?
7. What is shear angle in sheet forming ?
8. What are the applications of super plastic forming process ?
9. Write any four thermosetting plastics, used in industries.
10. What is film blowing ?



PART – B

(5×13=65 Marks)

11. a) i) Explain the different moulding sand and its properties. (6)
ii) Write a note on defects in sand casting. (7)
(OR)
- b) Explain the principle of shell molding process with a neat sketch. Also write its merits and demerits. (13)
12. a) Describe the Gas Tungsten Arcs welding process with a neat sketch. Write its applications. (13)
(OR)
- b) Explain the principle of Electron beam welding with sketch. What are the characteristics and advantages of electron beam welding? (13)
13. a) What are the types of power hammers available? Explain the pneumatic hammer with a neat sketch. (13)
(OR)
- b) Explain the principle of extrusion process. Compare the hot and cold extrusion process. (13)
14. a) How curvatures are made on thin sheet metals, explain the suitable process with a neat sketch? (13)
(OR)
- b) With a neat sketch, explain the rubber pad forming process. How does it differ from rubber hydro forming process? (13)
15. a) With a suitable sketch, describe the injection moulding process. (13)
(OR)
- b) Explain the following :
i) Film blowing. (7)
ii) Bonding of thermoplastics. (6)

PART – C

(1×15=15 Marks)

16. a) Suggest a suitable process for making of a bolt and elaborate the procedure.
(OR)
- b) Why the solid state welding process are preferred over fusion welding process during the joining of dissimilar metals? Explain any one of the solid state welding process and highlight their specific advantages.