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**Question Paper Code : 42838**

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

Third Semester

Mechanical Engineering

ME 2201 – MANUFACTURING TECHNOLOGY – I

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

(Regulations 2008)

(Also common to PTME 2201 – Manufacturing Technology – I for BE (Part-Time)  
Third Semester – Mechanical Engineering – Regulations 2009)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions

PART – A

(10×2=20 Marks)

1. Mention the main ingredients of moulding sand.
2. Why are chaplets used in sand moulding process ?
3. What is diffusion welding ?
4. What do you understand by soldering ?
5. List any four forging defects.
6. Define Extrusion ratio.
7. Define springback effect.
8. What are the different types of dies used in sheet metal operations ?
9. Mention the common additives used in plastics ?
10. Distinguish between thermoplastics and thermosetting plastics.



## PART - B

(5×16=80 Marks)

11. a) i) Explain any two types of patterns used in sand casting process. (8)  
ii) Enumerate the various properties to be considered for sand testing. (8)  
(OR)
- b) i) Describe the step by step procedure involved in investment casting process. (8)  
ii) Explain any four defects in casting process. (8)
12. a) i) Explain the types of flame with its characteristics used in gas welding. (8)  
ii) Describe submerged arc welding process with neat sketch. (8)  
(OR)
- b) i) Enumerate with neat sketch resistance seam welding process. (8)  
ii) Describe with neat schematic diagram electron beam welding process. (8)
13. a) i) Compare hot working and cold working of metals. (8)  
ii) Describe open die hammer forging process. (8)  
(OR)
- b) i) Enumerate with neat sketches different types of rolling mills. (8)  
ii) Explain tube drawing process with neat sketch. (8)
14. a) i) Explain any four shearing operations in detail. (8)  
ii) Describe the metal spinning process. (8)  
(OR)
- b) Write short notes on :  
i) Hydroforming (8)  
ii) Explosive forming. (8)
15. a) i) Explain the working principle of injection moulding process. (8)  
ii) Describe compression moulding process. (8)  
(OR)
- b) i) Explain pressure and vacuum thermoforming process. (8)  
ii) Describe injection blow molding process. (8)