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Question Paper Code : X 60838

B.E./B.Tech. DEGREE EXAMINATIONS, NOV./DEC. 2020

Third/Fifth Semester

Mechanical Engineering

ME 2201/10122 ME 302/PR 1204/ME 32/080120005 – MANUFACTURING

TECHNOLOGY – I

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

(Regulations 2008/2010)

(Also common to PTME 2201/10122ME302 – Manufacturing Technology – I for B.E. (Part-time)

Second Semester – Mechanical Engineering – Regulations 2009/2010)

Time : Three Hours

Answer ALL questions.

Maximum : 100 Marks

PART – A

(10×2=20 Marks)

1. Compare the advantages of metal moulds over sand (expendable) moulds.
2. What are the functions of flux in melting metals and alloys ?
3. What are the functions of a good flux in welding ?
4. What is a spelter and give the composition of some commonly used splinters ?
5. What is the difference between hot and cold forging ?
6. Differentiate extrusion and forging.
7. What is 'Lancing' operation that is done on sheet metals ?
8. What are the limitations of explosive forming ?
9. Name two important differences between thermoplastics and thermosetting plastics.
10. What is film blowing ?

PART – B

(5×16=80 Marks)

11. a) i) Explain any four casting defects and its remedies. (8)
ii) Explain shell moulding with sketches and also list the advantages over other casting methods. (8)
- (OR)
- b) i) Explain how pipes and cylinder liners are made by centrifugal casting process. (8)
ii) Explain Lost Wax processes with neat sketch. (8)



12. a) i) Explain in brief the functions of various coatings on a welding rod. (6)
ii) Explain in detail the plasma arc welding process and write its applications and demerits. (10)
- (OR)
- b) i) Explain with neat sketch the principle of resistance welding. Differentiate between upset welding and flash welding. (8)
ii) Enumerate the various welding defects with causes of occurrence and describe a method of detecting cracks on a weld surface. (8)
13. a) i) How are forging processes classified and explain with sketches the various forging processes ? (10)
ii) Explain with neat sketches the process of tube drawing of metals. (6)
- (OR)
- b) i) Describe the principle of rolling and the various sequence of operation of production of V-shape angles. (8)
ii) Classify the extrusion processes and explain with sketches the various extrusion processes. (8)
14. a) i) Explain the basic nomenclature of tube bending with a simple sketch. (8)
ii) Discuss Super plastic forming with necessary sketches. (8)
- (OR)
- b) i) What are the different types of stretch forming ? Explain any one. (8)
ii) Explain with a neat sketch the principle and operation of magnetic pulse forming. (8)
15. a) i) Describe briefly the plunger type injection moulding process for producing plastic components. (8)
ii) Explain with neat diagrams, the thermoforming process. State its advantages over other processes. (8)
- (OR)
- b) With neat sketches, explain the working principle and applications of the following moulding processes for plastics :
- i) Compression moulding. (8)
ii) Transfer moulding. (8)
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