

20008

2008 PUNJAB TECHNICAL UNIVERSITY
B.E MECHANICAL ENGINEERING
MANUFACTURING TECHNOLOGY-I

TIME: 3 HOUR
MARK: 100

Answer ALL questions.

PAR T A - (10×2=20 marks)

1. What are the different ingredients of core sand?
2. Differentiate the terms 'mould' and 'core'.
3. What are the limitations of friction welding process?
4. Write short notes on diffusion welding.
5. What do you understand by forging? What are the advantages of forgings?
6. Write a short note on wire drawing.
7. What is fettling process?
8. What will be effects of cold working on metals?
9. What is the difference between compression moulding and transfer moulding?
10. What are the advantages of metal spinning?

PART B - (5 x 16 = 80 marks)

- 11.(a) What are the factors which govern the selection of a proper material for pattern making?
(b) What are the specific advantages of match plate patterns? Explain how they are used for making mould.
OR
- 12.(a) Sketch and discuss the uses and advantages of a gated pattern.
(b) Describe the procedure of making castings by the investment casting process.
- 13.(a) Briefly explain the working principle of the plasma arc welding process and mention their applications.
(b) What are advantages of friction welding process?
OR
14. (a) Briefly explain the working principle of the Electro gas welding process and mention their applications.
(b) What are the functions of flux coating?
- 15.(a) Describe the principle of rolling. Write the various kinds of rolling mills along with their applications.
(b) Sketch and discuss the process of rolling of channels and angles.
OR
- 16.(a) How are forging processes classified? Explain with sketches the various forging processes.
(b) Write short notes on, hot and cold extrusion.
- 17.(a) Describe the process of hydro forming.
(b) Describe the shearing, bending operations with suitable examples.

OR

18.(a) Describe the process of metal spinning.

(b) Describe the deep drawings operations with suitable examples.

19.(a) Describe briefly the process of injection moulding as used for producing plastic components.

(b) What is film blowing? What are its relative merits and demerits?

OR

20. Describe the working principle and typical applications of the following moulding process:

(a) Compression moulding.

(b) Transfer moulding.

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