

B.E. / B.Tech. DEGREE EXAMINATION, APRIL/ MAY 2011

Third Semester

Manufacturing Engineering

MN 273 MANUFACTURING PROCESSES - I

Time: 3 Hours

Maximum: 100 Marks

Answer ALL questions

PART A - (10 X 2 = 20 marks)

1. What are the principal constituents of moulding sand?
2. What are the types of core?
3. What is meant by forgeability?
4. Distinguish between piercing and blanking.
5. What is meant by arc blow?
6. Distinguish between soldering and brazing.
7. Distinguish between thermoplastics and thermosetting plastics.
8. What is a hybrid composites?
9. Distinguish between electroplating and electro-less plating.
10. What is polymerization?

PART B – (5X16=80 Marks)

- 11 i) Enumerate with neat sketch principle of flame spraying technique. (8)
- ii) Describe with neat sketch the principle of PVD process. (8)
- 12a i) List out various types of sand mould. Describe any two. (8)
- ii) Enumerate with neat sketches various steps in investment casting. (8)
- (Or)**
- 12b i) Describe with neat sketch the operation of blast furnace. (8)
- ii) Enumerate with neat sketch gravity die casting process. (8)
- 13a i) Explain hot working and cold working with their advantages and limitations. (8)
- ii) Describe progressive and compound die. (8)

(Or)

- 13b i) Compare direct and indirect extrusion. (8)
ii) Enumerate with neat sketches different types of rolling mills. (8)

- 14a i) Enumerate with neat sketches the principle and cycle of operation of a resistance spot welding process. (8)
ii) Explain the principle of operation, advantages and limitations of plasma arc welding. (8)

(Or)

- 14b i) Describe the technique of welding in TIG process. (8)
ii) Explain the process of electro-slag welding and identify their major applications. (8)

- 15a i) Describe with neat sketch the principle of transfer moulding process. State its advantages and applications. (10)
ii) Enumerate with neat sketch the principle of vacuum thermoforming process. (6)

(Or)

- 15 b) Write short notes on
i) Laminated plastics (6)
ii) Ceramic Matrix Composite (5)
iii) Honeycomb structure (5)