

B.E. DEGREE EXAMINATIONS: JUNE 2013

Second Semester

MEC103: MANUFACTURING TECHNOLOGY

(Common to AUTO & ME)

Time: Three Hours

Maximum Marks: 100

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. Pit furnace can be used for the melting of
 - a) Cast Iron
 - b) Cast Steels
 - c) Aluminium
 - d) Zinc
2. Plaster patterns and core boxes are made of
 - a) Plaster of Paris
 - b) Gypsum Cement
 - c) Bone China Clay
 - d) White Powder
3. During arc welding eyes need to be protected against
 - a) Intense glare
 - b) Microwaves
 - c) High frequency wave
 - d) X-rays and gamma rays
4. A non consumable electrode is used in
 - a) Gas welding
 - b) DC arc welding
 - c) AC arc welding
 - d) Argon arc welding
5. Seamless tubes are produced by the following process
 - a) Deep drawing
 - b) Extrusion
 - c) Piercing
 - d) Plug rolling
6. Bolt heads of large size are made by
 - a) Roll forging
 - b) Swaging
 - c) Upsetting
 - d) Extrusion
7. Planishing is done with
 - a) Mallet
 - b) Round been hammer
 - c) Panel hammer
 - d) Claw hammer
8. Which one of the following is not a press working die.
 - a) Vee bending die
 - b) Deep drawing die
 - c) Extrusion die
 - d) Progressive die

9. Taper generally used in the lathe now a days is
- | | |
|--------------------|--------------|
| a) Brown and shape | b) Morse |
| c) Jarno | d) Parkinson |
10. The included angle of a lathe centre is generally
- | | |
|--------|----------|
| a) 15° | b) 22.5° |
| c) 30° | d) 45° |

PART B (10 x 2 = 20 Marks)

11. What is green sand?
12. What are the factors to be considered for selection of patterns?
13. What is brazing?
14. What are the components of resistance welding?
15. What are the defects in forging processes?
16. Write down the classification of extrusion processes.
17. List the applications of sheet metal forming methods.
18. Write down the components of shearing operations.
19. How do you specify lathe?
20. Write the purpose of angle plates and face plates used in lathe.

PART C (5 x 14 = 70 Marks)

21. a) What are the types of moulding sand? List the properties of moulding sand.
- (OR)**
- b) Explain investment casting method with neat sketches. List the advantages and disadvantages of the process.
22. a) What is solid state welding? Explain any two solid state welding process in detail.
- (OR)**
- b) Explain TIG and MIG welding processes with neat sketches.
23. a) Discuss in detail about two and three high rolling mills with suitable examples.
- (OR)**
- b) Explain in detail about stretch forming and blanking with suitable examples.

24. a) Write in detail about the working principle and application of special forming processes.

(OR)

b) Discuss in detail about the explosive forming with neat sketch and write its advantages and disadvantages.

25. a) Explain any three work holding devices used in lathe with neat diagram.

(OR)

b) Explain the construction and working principle of apron mechanism with neat sketch.
