



B.E DEGREE EXAMINATIONS: JUNE 2015

(Regulation 2013)

Third Semester

MECHATRONICS ENGINEERING

U13MCT306: Manufacturing Technology

Time: Three Hours

Maximum Marks: 100

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. Select the percentage of silica in green sand
 - a) 8 to 15 percent
 - b) 5 to 10 percent
 - c) Up to 75 percent
 - d) Below 5 percent
2.casting is also known as the “lost wax” process or “precision casting”
3. While cold forging is done at room temperatures, hot forging occurs at:
 - a) 100 to 500 degrees
 - b) 500 to 1000 degrees
 - c) 1000 to 2000 degrees
 - d) 200 to 3000 degrees
4. The cold working of metal is carried out at temperature
5. Drilling is an example of
 - a) orthogonal cutting
 - b) oblique cutting
 - c) simple cutting
 - d) uniform cutting
6. The heavy and irregular jobs can be suitably held in _____ chuck
7. The method of grinding used to produce a straight or tapered surface on a workpiece, is
 - a) Cylindrical grinding
 - b) Internal grinding
 - c) Centerless grinding
 - d) Surface grinding
8. Broaches are made up of Material.
9. The maximum temperature in gas welding flame occurs
 - a) At the outer cone
 - b) At the torch tip
 - c) At the inner cone
 - d) Between the outer and inner cones
10. Maximum thickness possible in spot welding is

PART B (10 x 2 = 20 Marks)

(Not more than 40 words)

11. Differentiate the terms 'mould' and 'core'.
12. State any four types of patterns.
13. List out any four parts that can be manufactured by shape rolling operation.
14. Classify types of extrusion.
15. Name any five tools used in lathe.
16. Write any five work holding devices used in drilling.
17. Define lapping.
18. Choose the appropriate abrasives used as artificial or manufactured.
19. Define brazing.
20. What is the function of flux in welding?

PART C (5 x 14 = 70 Marks)

(Not more than 400 words)

Q.No. 21 is Compulsory

21.
 - i) What are the different types of furnace used in foundry? Describe anyone type (7)
with a neat sketch.
 - ii) Describe the steps involved in the preparation of green sand mould with cope (7)
and drag pattern

22. a)
 - i) Describe hydrostatic extrusion process (10)
 - ii) List out various forging defects (4)

(OR)

 - b)
 - i) Distinguish between hot and cold extrusion process and briefly explain both the (7)
processes with neat sketches.
 - ii) Explain with a neat sketch the drop forging process. (7)

23. a) Why chucks are used? List various types of chucks used in lathes and describe
any two in brief.

(OR)

 - b) List the different types of drilling machines? Explain any drilling machines with
a neat sketch.

24. a) Describe the principle of quick return mechanism as used in shapers.

(OR)

b) Explain the principal parts of shaping machine with a neat sketch

25. a) i) Explain the electron beam welding process with a neat sketch (10)

ii) Write a brief note on “Welding defects” (4)

(OR)

b) i) Give a brief account of classification of welding processes? (4)

ii) Explain TIG welding process and enumerate its advantages (10)
