



Register Number:.....

B.E DEGREE EXAMINATIONS: JUNE 2015

(Regulation 2013)

Third Semester

MECHANICAL ENGINEERING

U13MET305: Manufacturing Technology

Time: Three Hours

Maximum Marks: 100

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. Which of the following property is important requirement of Pattern
 - a) Strength
 - b) Tensile strength
 - c) Compressibility
 - d) collapsibility
2. _____ is the purpose of providing coating on mould
3. Friction welding is a
 - a) Arc welding
 - b) Solid state welding
 - c) Gas welding
 - d) Adhesive joining process
4. Maximum temperature obtained in flame of Gas welding is _____
5. Cold working process produces
 - a) Hard surface
 - b) Tough surface
 - c) Uniform grain structure
 - d) Rough surface
6. Extrusion is more widely used in manufacturing of _____ components
7. Nibbling process is
 - a) Cutting flat parts from sheet metal
 - b) Twisting sheet from sheet metal
 - c) Cutting blanks from sheet metal
 - d) Bending sheet from sheet metal
8. Metal spinning process is _____ type of process
9. Lathe bed is made of
 - a) Steel
 - b) Cast steel
 - c) Cast Iron
 - d) Alloy steel
10. Main application of live centre in lathe is _____

PART B (10 x 2 = 20 Marks)

(Not more than 40 words)

11. Why the riser should be made with high volume/surface area ratio?
12. Outline the properties required for die material for die casting process.
13. Analyze the purpose of coating on welding electrode in brief.
14. Specify the reason for porosity in the weld and method to rectify it.
15. Define forgeability and give the factors affecting it.
16. What is degree of drawing and what are their normal values.
17. Develop an expression to find out the cutting force required for shearing operation.
18. List the merits of explosive forming process.
19. Mention the application of split nut or half nut available in the lathe.
20. Compare the merits of using multi-spindle automat over single spindle automatic lathe.

PART C (5 x 14 = 70 Marks)

(Not more than 400 words)

Q.No. 21 is Compulsory

21. With the help of neat diagram, explain the process of preparing a sand mould for a typical component using hand moldings process.
22. a) Sketch the three type of flames used in oxy- acetylene welding process and give its application.

(OR)

- b) (i) With the neat sketch, explain the percussion butt welding process. (7)
- (ii) Distinguish between brazing and soldering process. (7)
23. a) Compare and contrast the open and close Die forging process.

(OR)

- b) Compare extrusion process and rolling process in terms of principle of operation, characteristic and its applications.
24. a) (i) Sketch a blanking process, label it and write the functions of each part. (7)
- (ii) Explain the super plastic forming process and mention its merits. (7)

(OR)

- b) (i) Explain with suitable sketch the deep drawing process. (7)
- (ii) Illustrate the applications of hydro forming process. (7)

25. a) With suitable sketch explain the various operations carried out in lathe.

(OR)

- b) Discuss the working principle of single spindle automat and list their merits and demerits.
