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Question Paper Code: 93702

B.E./B.Tech. DEGREE EXAMINATION, NOV 2025

Third Semester

Mechanical Engineering

19UME302 – FUNDAMENTAL OF MANUFACTURING

(Regulation 2019)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. The low permeability in sand can cause which of the following defects in casting CO1- U
(a) Rough surface (b) Blow holes (c) hot tears (d) Drop
2. The directional solidification in casting can be improved by using CO1- U
(a) chaplets and riser (b) chills and padding
(c) chaplets and padding (d) chills and riser
3. Heat is created by the chemical reaction in _____ CO2- U
(a) Resistance welding (b) Oxyacetylene welding
(c) Tungsten arc welding (d) Thermit welding
4. The welding process used for weld the non-metal is CO2- U
(a) Gas welding (b) Arc welding (c) Ultrasonic welding (d) Resistance welding
5. Good surface finish and better dimensional accuracy can be achieved in CO3- U
(a) cold working process (b) hot working process
(c) Both (a) and (b) (d) None of the above
6. In circular drawing process, when the depth of drawing is more than the diameter of the die, then the process is called as CO3- U
(a) forced drawing (b) hollow drawing (c) deep drawing (d) all of the above

7. Punching a number of holes in a sheet is known as? CO4- U
 (a) Perforating (b) Parting (c) Notching (d) Lancing
8. Cutting a whole piece of the sheet metal is called ____ CO4- U
 (a) Piercing (b) Shearing (c) Blanking (d) Trimming
9. For The process of combining two or more distinct polymer molecules to form a new product with different characteristics is called as CO5- U
 (a) binding (b) stabilizing (c) filling (d) blending
10. The plastics which soften when heat is applied with or without pressure, but requires cooling to set them to shape are called as CO5- U
 (a) thermosetting materials (b) thermosetting materials
 (c) thermoplastic materials (d) thermostating materials

PART – B (5 x 2= 10Marks)

11. Mention any two advantages and disadvantages of die casting CO1- U
12. Distinguish MIG and TIG welding process. CO2- U
13. What is wire drawing? CO3- U
14. List down some of the special forming process? CO4- U
15. State the differences between thermosetting and thermoplastic polymers. CO5- U

PART – C (5 x 16= 80 Marks)

16. (a) Sketch the Investment casting process and explain its working CO1-U (16)
 Or
 (b) Explain with neat sketch of Shell moulding process CO1-U (16)
17. (a) Explain about submerged arc welding process with neat sketch CO2-App (16)
 Or
 (b) Explain the working principle of ultrasonic welding machine. CO2-App (16)
18. (a) Define Rolling and explain the different types of rolling with neat Sketch. CO3-App (16)
 Or
 (b) Discuss the various forging operations with suitable sketch. CO3-App (16)

19. (a) Explain about metal spinning process with neat sketch. CO4-App (16)
- Or
- (b) Briefly explain about explosive forming processes with the help of neat diagram CO4-App (16)
20. (a) Explain about thermoforming process and its types with neat sketch CO5-App (16)
- Or
- (b) Explain any one process of thermo plastic with suitable sketches CO5-App (16)

