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**Reg. No. :**

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**Question Paper Code: U3706**

B.E./B.Tech. DEGREE EXAMINATION, NOV 2023

Third Semester

Mechanical Engineering

21UME306 - MANUFACTURING PROCESSES

(Regulations 2021)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. The function of cores in casting is to CO1-U  
(a) form extended parts (b) form internal cavities  
(c) used for directional solidification (d) none of these
2. The sand in its natural or moist state is called as CO1-U  
(a) green sand (b) loam sand  
(c) dry sand (d) none of the above
3. The welding process used for weld the non-metal is CO1-U  
(a) Gas welding (b) Arc welding  
(c) Ultrasonic welding (d) Resistance welding
4. In resistance welding, two electrodes are made of CO1-U  
(a) Aluminum (b) Copper (c) Iron (d) Bronze
5. Castings are usually CO1-U  
(a) costlier than forgings (b) cheaper than forgings  
(c) at the same rate as forging for similar metal (d) none of the above
6. Good surface finish and better dimensional accuracy can be achieved in CO1-U  
(a) cold working process (b) hot working process  
(c) both (a) and (b) (d) none of the above

7. Which of the following is a type of die? CO1-U  
 (a) Simple dies (b) Progressive dies  
 (c) Compound die (d) All of the Mentioned
8. Cutting a whole piece of the sheet metal is called \_\_\_\_ CO1-U  
 (a) Piercing (b) Shearing (c) Blanking (d) Trimming
9. Which plastic materials contain strong cross linkings in their molecular structure? CO1-U  
 (a) Thermoplastic materials (b) Thermosetting materials  
 (c) Both (a) and (b) (d) None of the above
10. Plastic bottles are manufactured using the process of CO1-U  
 (a) blow moulding (b) injection moulding  
 (c) atomizing (d) die casting

PART – B (5 x 2= 10 Marks)

11. Outline any four types of pattern allowances. CO1-U
12. Demonstrate the term “electrode” and mention its major classifications. CO1-U
13. Outline some basic forging operations. CO1-U
14. Compare between hydro forming and rubber pad forming. CO1-U
15. Illustrate the parts made by rotational moulding. CO1-U

PART – C (5 x 16= 80 Marks)

16. (a) Identify and explain with neat sketch of Continuous casting process. CO1-U (16)  
 Or  
 (b) Identify the steps required to carry out green sand moulding. CO1- U (16)
17. (a) Identify and explain about submerged arc welding process with neat sketch. CO1-U (16)  
 Or  
 (b) Identify and explain about various welding defects and explain the remedies for those defects. CO1- U (16)
18. (a) Identify the various extrusion process and explain anyone extrusion process with a neat sketch. CO1-U (16)

Or

- (b) Identify and describe deep drawing process with neat sketch and list its advantages, disadvantages and applications. CO1- U (16)
19. (a) Identify and explain in details about the principle of operation of super plastic forming with a neat sketch. CO1-U (16)
- Or
- (b) Identify and explain with a neat sketch about deep drawing operation. CO1- U (16)
20. (a) Develop the explosive forming process with schematic illustration and list its applications. CO1-U (16)
- Or
- (b) Identify the various methods of injection moulding in the processing of plastics. CO1- U (16)

