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Question Paper Code: 53702

B.E./B.Tech. DEGREE EXAMINATION, APRIL 2019

Third Semester

Mechanical Engineering

15UME302 -MANUFACTURING TECHNOLOGY-I

(Regulation 2015)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. The ability of the moulding sand to withstand the heat of melt without showing any sign of softening is called as CO1- R
(a) Strength or cohesiveness (b) refractiveness
(c) collapsibility (d) adhesiveness
2. Which of the following defects in casting can occur when there is low permeability in sand? CO1- R
(a) Rough surface (b) Blow holes (c) Hot tears (d) Drop
3. Which one among the following welding process uses non consumable electrode? CO2-U
(a) Only A.C. (b) Only D.C (c) Both A.C and D.C (d) None of the above
4. Heat is created by the chemical reaction in CO2- U
(a) Resistance welding (b) Oxyacetylene welding
(c) Tungsten arc welding (d) Thermit welding
5. The cold working of metal is accomplished at CO3- U
(a) Below recrystallization temperature (b) Above recrystallization temperature
(c) Recrystallization temperature (d) Any of the above

6. The volume of metal that enters the rolling stand CO3- R
 (a) should increase after rolling process
 (b) should decrease after rolling process
 (c) should remain same after rolling process
 (d) Unpredictable
7. Punching a number of holes in a sheet is known as CO4- R
 (a) Perforating (b) Parting (c) Notching (d) Lancing
8. As the thickness of sheet is increased the clearance needed will also CO4- R
 (a) increase (b) decrease
 (c) no effect (d) first decrease then increase
9. Injection moulding is a type of CO5- R
 (a) Die casting (b) Centrifugal casting
 (c) Squeeze casting (d) Investment casting
10. Plastic bottles are manufactured using the process of CO5- R
 (a) blow moulding (b) injection moulding
 (c) atomizing (d) die casting

PART – B (5 x 2= 10Marks)

11. Mention few applications of centrifugal casting CO1- R
12. Why shielding of weld area during welding is required? CO2- R
13. Define metal forming CO3- R
14. List down some of the special forming process? CO4- R
15. Define film blowing process. CO5- U

PART – C (5 x 16= 80Marks)

16. (a) Explain about various properties required for the moulding sand CO1- U (16)
 Or
 (b) Explain about various sand casting defects and explain the remedies for those defects CO1- U (16)
17. (a) Explain about submerged arc welding process with neat sketch CO2- App (16)
 Or
 (b) Explain about various welding defects and explain the remedies for those defects. CO2- App (16)

18. (a) With a neat sketch, explain about the extrusion process and its types. CO3-U (16)
- Or
- (b) (i) Distinguish between wire drawing and tube drawing with a neat sketches. CO3- U (8)
- (ii) Explain the types of rolling mills with neat sketches. CO3- U (8)
19. (a) Explain about different stretch forming operations in sheet metal work with figure. CO4- U (16)
- Or
- (b) Enumerate rubber pad forming process with suitable sketch. CO4- U (16)
20. (a) Sketch and explain the principle and working of injection moulding process and its types. CO5- U (16)
- Or
- (b) Explain about thermoforming process and its types with neat sketch CO5- U (16)

