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Question Paper Code: 53702

B.E./B.Tech. DEGREE EXAMINATION, NOV 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. Core is used to make _____. CO1- R
(a) Hollow Runners (b) Hollow casting (c) Hollow Raisers (d) Hollow pattern
2. Removal of unwanted portions from the casting is called as _____. CO1- R
(a) Washing (b) Cleaning (c) Cutting (d) Fettling
3. _____ flame has equal volumes of oxygen and acetylene supply CO2- R
(a) Equalizing (b) Normalizing (c) Neutral (d) All of the above
4. Which of the following is not a fillet weld CO2- R
(a) Corner joint (b) Butt joint (c) T- Joint (d) Lap joint
5. _____ is the best suitable forming process for making wires. CO3- R
(a) Wiring (b) Rolling (c) Extrusion (d) None of the above
6. Cold working of metal, is accomplished at _____ temperature. CO3- R
(a) Room (b) Below recrystallization
(c) Above recrystallization (d) Recrystallization
7. _____ process is suitable for making utensils and cup shaped objects CO4- R
(a) Shape Rolling (b) Deep drawing (c) Swaging (d) None of the above
8. _____ is not the type of bulk forming process. CO4- R
(a) Bending (b) Rolling (c) Forging (d) Extrusion

9. Polymer materials replaces the conventional materials due to its _____. CO5- R
 (a) Light weight (b) Low cost (c) Chemical resistant (d) All of the above
10. Which process is used to manufacture plastic pipes? CO5- R
 (a) Injection moulding (b) Extrusion moulding
 (c) Blow moulding (d) Vacuum forming

PART – B (5 x 2= 10 Marks)

11. Name the various types of moulding sand. CO1- R
12. What is the role of flux in the welding rod? CO2- U
13. Differentiate between hot and cold working. CO3- R
14. Define – Formability CO4- U
15. Differentiate thermoplastic from thermo setting plastics. CO5- R

PART – C (5 x 16= 80 Marks)

16. (a) (i) Explain the shell moulding process with necessary sketches, and also explain the various process parameters in detail CO1- U (10)
 (ii) Explain any two types of pattern materials in detail. CO1- U (6)
- Or
- (b) (i) Explain the various types of pattern allowances in detail. CO1- U (10)
 (ii) Explain any two casting defects and its remedies. CO1- U (6)
17. (a) (i) Explain gas welding process in detail. CO2- U (8)
 (ii) Explain the tungsten inert gas welding process with neat sketch. CO2- U (8)
- Or
- (b) (i) With neat sketch discuss the resistance seam welding process. CO2- U (10)
 (ii) Compare plasma arc welding with electron beam welding. CO2- U (6)
18. (a) With neat sketches explain the various forging operations in detail. CO3- U (16)

Or

- (b) With necessary sketches explain the following
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|--------------------------|--------|-----|
| (i) Shaping rolling | CO3- U | (5) |
| (ii) Tube drawing | CO3- U | (5) |
| (iii) Backward extrusion | CO3- U | (6) |
19. (a) (i) Explain the various shearing operations in detail. CO4- U (10)
- (ii) Describe the stretch forming operation in detail. CO4- U (6)
- Or
- (b) (i) With suitable sketch explain the Explosive forming process. CO4- U (10)
- (ii) Discuss the electromagnetic forming process in detail. CO4- U (6)
20. (a) (i) Explain the working principle of injection moulding process in detail. CO5- U (8)
- (ii) Explain the working principle of rotational moulding process and also state its applications. CO5- U (8)
- Or
- (b) (i) With necessary illustration explain the various stages of powder metallurgy process. CO5- U (10)
- (ii) Describe about film blowing. CO5- U (6)

