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**Question Paper Code: 43702**

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2018

Third Semester

Mechanical Engineering

14UME302 – MANUFACTURING TECHNOLOGY - I

(Regulation 2014)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. Cast iron and steel pipes are produced by
  - (a) Slush casting
  - (b) Investment casting
  - (c) True centrifugal casting
  - (d) Die casting
2. Chills are used in moulds to
  - (a) Achieve directional solidification
  - (b) Increase freezing zone
  - (c) Reduce freezing zone
  - (d) Smoothen metal flow for reducing spatter
3. The welding process used for weld the non metal is
  - (a) Gas welding
  - (b) Arc welding
  - (c) Ultrasonic welding
  - (d) Resistance welding
4. The ratio of acetylene to oxygen is approximately \_\_\_\_ for neutral flames used in gas welding.
  - (a) 1:1
  - (b) 2:3
  - (c) 3:2
  - (d) 2:5

5. The connecting rods of IC engines are manufactured using the process of
- (a) extrusion (b) drop forging  
(c) rolling (d) metal spinning
6. In deep drawing of sheets, the value of limiting draw ratio depends on
- (a) % elongation of sheet metal (b) Yield strength of the sheet metal  
(c) Type of press used (d) Thickness of the sheet
7. Annealing leads to
- (a) Relieve internal stress (b) Improve surface finish  
(c) Improve hardness (d) Improve strength
8. Metal extrusion process is generally used for producing
- (a) Uniform solid sections (b) Uniform hollow sections  
(c) Uniform solid and hollow sections (d) Varying solid and hollow sections
9. Plastic bottles are manufactured using the process of
- (a) blow moulding (b) injection moulding  
(c) atomizing (d) Roto moulding
10. Parison is the term used in
- (a) Injection moulding (b) Shell moulding  
(c) Compression moulding (d) Blow moulding

PART - B (5 x 2 = 10 Marks)

11. What are the causes for the formation of blow holes in the sand casting?
12. What is the principle of Thermit welding?
13. What is meant by fullering?
14. Give the difference between punching and blanking.
15. What is film blowing?

PART - C (5 x 16 = 80 Marks)

16. (a) Select the suitable casting process to cast intricate components and explain it with neat sketches. (16)

Or

- (b) Illustrate about the lost wax method of moulding to cast quality product. Also state their advantages and disadvantages. (16)

17. (a) Explain the TIG welding process. Give its application. (16)

Or

- (b) Explain the principle of thermit welding with a neat sketch. Also mention its advantages, disadvantages and applications. (16)

18. (a) List out various extruding operations to make hollow tubes with necessary sketches. (16)

Or

- (b) Enumerate the various hammers used for forging operations. (16)

19. (a) Describe shearing operation in a sheet metal work with a neat sketch. (16)

Or

- (b) Explain super plasticity forming and its types with neat sketch. (16)

20. (a) Give the schematic illustration of the explosive forming process and list its applications. (16)

Or

- (b) Illustrate about the various methods of injection moulding in the processing of plastics. (16)

