

Reg. No.

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B.E. / B.TECH. DEGREE EXAMINATIONS, DEC 2019

Third Semester

ME18302 – MANUFACTURING PROCESSES*(Mechanical Engineering)***(Regulation 2018)****Time: Three Hours****Maximum : 100 Marks**

Answer ALL questions

PART A - (10 X 2 = 20 Marks)

	CO	RBT
1. Aluminium alloys are preferably cast in cold chamber die casting machines, Why?	1	U
2. What are misruns? How are they caused?	1	R
3. Residual stresses are developed in the weldments, justify.	2	AP
4. What is the role of flux in welding process?	2	U
5. What are the defects encountered in forging process?	3	U
6. Metals are conditioned before hot rolling – Explain why.	3	AP
7. Differentiate blanking and punching operations.	4	U
8. What is known as spring back effect?	4	U
9. What is meant by sintering?	5	U
10. Distinguish between thermoplastic and thermoset plastics.	5	AP

PART B - (5 X16 = 80 Marks)

11. (a) (i) How are patterns classified? Explain any two with neat sketches. (8) 1 U
- (ii) What are the desired characteristics of mould sand? (8) 1 U
- (OR)**
- (b) (i) With neat sketch, explain the process of centrifugal casting and state its applications. (8) 1 U
- (ii) How are casting defects classified? Explain the causes and remedies of any four of them. (8) 1 U

12. (a) (i) Explain Electron Beam welding and Friction stir welding. (12) 2 U
(ii) Compare soldering and brazing metal joining processes. (4) 2 U
(OR)
- (b) (i) Explain gas metal arc welding process with neat sketch. (12) 2 U
(ii) Based on the working principle and application, compare MIG and TIG welding processes. (4) 2 U
13. (a) (i) Compare and contrast ring rolling and thread rolling. (8) 3 U
(ii) Explain in brief the various operations carried in forging process. (8) 3 U
(OR)
- (b) (i) Explain forward extrusion process with neat sketches. Explain how hollow sections can be manufactured by this process. (10) 3 U
(ii) List down various methods for manufacturing seamless tube. Explain any one method with neat sketch. (6) 3 U
14. (a) Explain the sequence of stretch forming process with neat sketches. Write briefly about the advantages, disadvantages and application of the process. (16) 4 U
(OR)
- (b) Write short notes on Confined explosive forming and Super plastic forming. (16) 4 U
15. (a) Explain Injection blow moulding and Rotational moulding processes. (16) 5 U
(OR)
- (b) (i) With neat sketch explain thermoforming process. (8) 5 U
(ii) Explain the sequence of operations in powder metallurgy process. (8) 5 U