

G 1553

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Reg. No.....

Name.....

**B.TECH. DEGREE EXAMINATION, MAY 2016**

**Fourth Semester**

Branch : Automobile Engineering/Mechanical Engineering

AU 010 404/ME 010 404—MANUFACTURING PROCESS (AU, ME)

(New Scheme—2010 Admission onwards)

[Regular/Improvement/Supplementary]

Time : Three Hours

Maximum : 100 Marks

**Part A**

*Answer all questions.*

*Each question carries 3 marks.*

1. What is gating ? Explain the term gating ratio.
2. Explain fusion as it related to welding.
3. What are the advantages of tandem rolling ?
4. What is the difference between Piercing and punching ?
5. Discuss the difference between Fullering, edging and blocking.

(5 × 3 = 15 marks)

**Part B**

*Answer all questions.*

*Each question carries 5 marks.*

6. What are the advantages and Pressure Casting ?
7. Explain, why the quality of submerged arc welding is very good.
8. Discuss how the seamless tubes are produced.
9. Why is Hubbing an attractive alternative to producing simple dies ?
10. Discuss the different types of forging defects.

(5 × 5 = 25 marks)

**Part C**

*Answer all questions.*

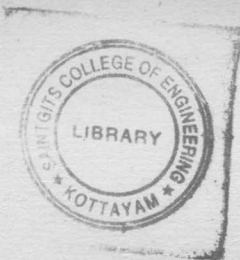
*Each full question carries 12 marks.*

11. Describe the advantages and limitations of hot chamber and cold chamber die casting process with examples.

*Or*

12. Explain why squeeze casting produces parts with better mechanical properties, dimensional accuracy and surface finish than expandable mold process.

**Turn over**



13. Illustrate the Gas Metal arc welding with suitable sketch and its major applications.

*Or*

14. Explain about the Flux cored arc welding with a schematic illustration and discuss the process capabilities.

15. What are the advantages of ring rolling ? Explain the ring rolling process with a schematic illustration.

*Or*

16. Explain the technical and economic reasons for taking larger rather than smaller reductions per pass in flat rolling.

17. What are the sequence of operations in a typical forging process ? Give a brief note about the automation in forging.

*Or*

18. Explain the open-dig forging process with schematic illustration and explain the terms upsetting, Barreling and cogging.

19. Discuss the features of Progressive, compound and combination die with suitable sketches.

*Or*

20. Write short notes on the following :—

(a) Electromagnetic forming ;

(b) Explosive forming.

(5 × 12 = 60 marks)

