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Roll No. of candidate

BINA CHOWDHURY CENTRAL LIBRARY  
(GIMT & GIPS)

Azara, Hatkhowapara,  
Guwahati -781017

2019

B.Tech. (ME) 3rd Semester End-Term Examination

PRIMARY MANUFACTURING

(New Regulation)

(w.e.f. 2017 – 2018)

Full Marks – 70

Time – Three hours

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The figures in the margin indicate full marks  
for the questions.

Answer Question No. 1 and any *FOUR* from the rest.

1. Fill in the blanks : (10 × 1 = 10)
- (i) The lower moulding flask used in sandcasting is called \_\_\_\_\_
  - (ii) Risers are added to the mould cavity to take care of \_\_\_\_\_
  - (iii) The \_\_\_\_\_ acts as a reservoir of molten metal in casting.
  - (iv) Flattened or elongated cavities formed on the surface of the casting due to presence of moisture are called \_\_\_\_\_

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- (v) Upsetting is a forging operation used to \_\_\_\_\_ the cross-section of the part.
- (vi) Gun shells are manufactured by \_\_\_\_\_
- (vii) \_\_\_\_\_ is the process where a punch removes a portion of material from a metal strip and the portion removed is the scrap.
- (viii) Processes where working on metal is done above the recrystallization temperature are called \_\_\_\_\_ processes.
- (ix) \_\_\_\_\_ is the depth up to which the weld metal combines with the base metal.
- (x) \_\_\_\_\_ welding is used to join thick plates in a single pass.
2. (a) Name and explain the desirable properties of moulding sand. (5)
- (b) Name and explain the different casting defects. (10)
3. (a) Explain the process of Hot-chamber and cold-chamber die casting. (10)
- (b) What is true-centrifugal casting? (5)
4. (a) What are forehand and backhand welding techniques in gas welding? (4)
- (b) How is acetylene made available for gas welding? Explain. (6)
- (c) Explain the working of the welding torch used in gas welding. (5)

5. (a) What are the functions of consumable electrodes? (5)
- (b) What are the polarities used in electric arc welding? (4)
- (c) Name and explain the various metal transfer methods in MIG. (6)
6. (a) Name and explain the different types of rolling stand arrangements. (5)
- (b) Explain the different types of extrusion processes. (10)
7. (a) Explain the process of deep drawing (4)
- (b) What is Resistance welding? How is heat balance achieved in resistance welding. (6)
- (c) Explain the process of sintering in powder metallurgy. (5)
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