

Code No: 56063

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year II Semester Examinations, April - 2018

FOUNDRY TECHNOLOGY

(Metallurgical and Materials Engineering)

Time: 3 hours

Max. Marks: 75

Answer any five questions  
All questions carry equal marks

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- 1.a) What is a master pattern? Why should double allowance be given to a master pattern?  
b) What are the characteristics features core and their making? [8+7]
- 2.a) Describe the various steps in the investment casting process.  
b) Distinguish between Shell moulding and CO<sub>2</sub> moulding. [8+7]
- 3.a) Explain briefly about Centrifugal casting.  
b) List out the types of moulding equipment and explain. [8+7]
- 4.a) Explain about gating ratio and gating system.  
b) Why are the risers required for the casting? Explain it with example. [7+8]
- 5.a) Differentiate between progressive solidification and directional solidification.  
b) What is coring? How it is minimised? [8+7]
- 6.a) Discuss the problems associated with the copper alloy casting and mention the remedial measures.  
b) Write short notes on gating and risering of Al- Alloy casting. [8+7]
- 7.a) What are the modern developed processes in foundries and give advantages.  
b) Distinguish between Cold setting and Self setting processes. [8+7]
8. Enumerate the causes behind the formation of the following defects in casting and suggest remedial methods. [15]  
a) Blow holes  
b) Hot tears  
c) Misrun  
d) Scab  
e) Cold shut  
f) Mismatch

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