

**VIT**Vellore Institute of Technology
Vellore - 620 015**Continuous Assessment Test – I**

Programme Name & Branch: B.Tech. (BME/BCL)

Course Name & Code: Manufacturing Process MEE1007

Faculty In charge- Prof. Subdermal G , Prof. Chinmaya P Mohanty, Prof. Sreethul Das

Class Number: 2193/2211/2197 Slot: G2

Exam Duration: 90mints

Maximum Marks: 50

Answer all questions**Section – A (1 x 20) = 20 Marks)**

S.No. Question

Figure 1 shows the design of the pattern. Write the procedural step required to complete the product by sand casting process. Consider the dimensions and allowances given below while designing. Draw neat sketches for cope and drag box at ready to pour condition to prepare the product.

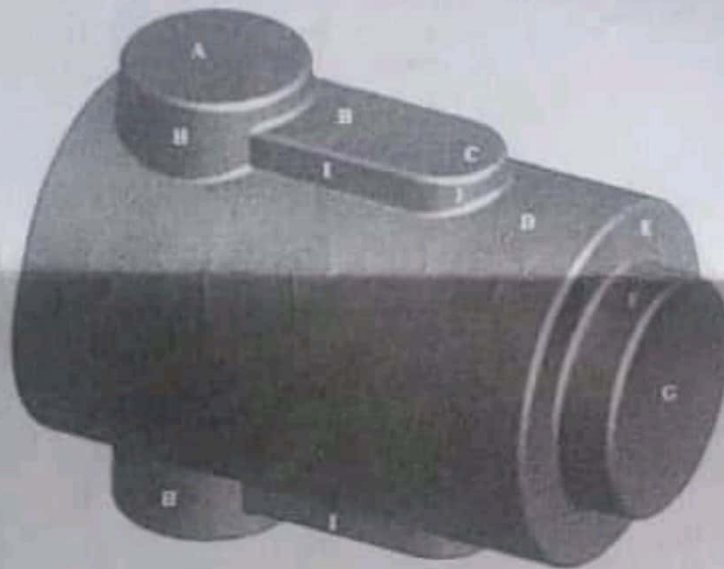


Figure 1

Sections Dimension:

All dimensions are in mm

A: Diameter $\Phi = 15$

B: length = 20

C: Radius = 5

D: Diameter = 40 and Length = 65

E: Length = 5

F: Length = 5

G: Diameter = 30

H: Length = 10

I: Length = 5

Material used is aluminum has 7-1% contraction and shake allowance as 0.5 mm.

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Section – B (2 x 15 = 30 Marks)

✓ 1. Write the procedural step to prepare a product by investment casting process with figure. List the applications and advantages of the process over sand casting process.

✓ 2. Explain the principle of the welding technique which uses non consumable electrode to join two metal plates together with figure. Discuss how it is different from metal inert gas welding technique. List out specific applications and limitations of the process.

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