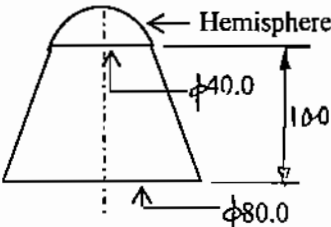


CASTING AND WELDING (MEL231)

B. TECH. (Prod. & Ind. Engg.) Major Examination, I Sem., 2005-06
Max. Marks: 210 Time: Two hrs. Date: 30.11.06 Venue: III-339

Neat sketching describing the processes / systems is mandatory.

1	<p>i. Discuss the essentials for a riser to function as a riser.</p> <p>ii. Calculate the solidification time for the given casting. Also calculate the size and shape of a riser suitable for rising this casting. Take riser solidification time 1.5 times the casting time and the solidification constant = 1.0 s mm^{-2}</p>		<p>5 + 20 = 25</p>
2	<p>Write a paragraph not exceeding 20 lines for each process and covering salient features for the following processes:</p> <p>i. Electron beam welding</p> <p>ii. High frequency resistance welding</p>		<p>15*2 = 30</p>
3	<p>i. Discuss the importance of melting of metals in a foundry.</p> <p>ii. Name the different type of induction furnaces and explain the working principle of coreless induction furnace.</p> <p>iii. Discuss the various treatments given to steels and aluminium during the melting of these metals.</p>		<p>10 + 15 + 15 = 40</p>
4	<p>'Friction stir welding is regarded a green welding process.' Explain.</p>		15
5	<p>True false statements. '+1 / -2' for each 'correct / wrong' response. It is mandatory to underline the wrong portion in the statement if your response is wrong, failing no marks will be awarded.</p>		100