

**Total No. of Questions: 08**

**[211103]**

**S.E. Production (2015 Course)**

**WELDING AND FOUNDRY**

**[Time: 2 Hours]**

**[Maximum Marks: 50]**

- Instructions:** (i) Attempt Q1 or Q2, Q3 or Q4, Q5 or Q6 and Q7 or Q8  
(ii) Neat Diagrams must be drawn whenever necessary.  
(iii) Figures to the right indicate full marks.  
(iv) Assume suitable data, if necessary.  
(v) Use of Electronic pocket calculator and logarithmic tables is allowed.
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- Q.1 (a) Describe coding of electrodes with suitable example. (6)  
(b) Discuss on welding torch/ blow pipes and welding tips with suitable figures. (6)
- OR**
- Q.2 (a) Describe Plasma arc welding process with its advantages and disadvantages. (6)  
(b) Explain Percussion welding process along with its advantages and applications. (6)
- Q.3 (a) Explain with neat sketch Diffusion welding process with its advantages and applications. (6)  
(b) Write in brief on working of Cupola furnace with suitable sketch. (6)
- OR**
- Q.4 (a) Explain with neat sketch Electron beam welding Equipment. (6)  
(b) Describe any three types of cores with suitable sketch. (6)
- Q.5 (a) Discuss on Semi-Centrifugal casting and Centrifuging with suitable sketch. (6)  
(b) Explain Shell moulding process with advantages, limitations and applications. (7)
- OR**
- Q.6 (a) Explain with neat sketch Continuous casting process. (6)  
(b) Explain Investment Casting process with advantages, limitations and applications. (7)
- Q.7 (a) Discuss on various components of gating systems and their functions. (6)  
(b) Calculate the choke area of a Cast iron casting having dimensions 650 X 200 X 80 mm. Consider efficiency coefficient of gating system as 0.90 with cope height 150 mm. Consider Fluidity of cast iron is 28 inches and mass density of molten CI is  $6.09 \times 10^{-6} \text{ kg/mm}^3$ . (7)
- OR**
- Q.8 (a) Differentiate between Pressurized and Non Pressurized gating system. (6)  
(b) Using Modulus method calculate the size of cylindrical riser (height = diameter) necessary to feed a steel slab casting 40 X 40 X 10 cm, it can considered as a long bar. Also Calculate the Shape factor for above component. (7)

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