

## **MF 5103 Advances in Casting and Welding**

### **Important 2 Marks Questions**

#### **Unit I**

1. Name any four factors that have to be considered while designing for minimum stresses.
2. What is meant by solidification time?
3. State Chvorinov's rule for casting.
4. Mention the main requisites of a gating system.
5. What is the effect of cooling rate on the properties of casting?
6. Define the term 'Fettling'.
7. What are the functions of riser used in casting?
8. What are the importance which be placed by the well-designed gating system in casting?
9. What are the effects of mould materials of fluid flow and heat transfer?
10. Why is Bernoulli's equation important in casting?

#### **Unit II**

1. State any four differences between progressive and directional solidifications.
2. Name any four casting defects, their causes and remedies.
3. Define shrinkage in cast metals.
4. List the defects caused by the molten metal in casting.
5. Define the term Alloy.
6. What is meant by Castability?
7. Draw the casting curve of a pure iron.
8. Discuss sand reclamation briefly.
9. How centrifugal casting differs from gravity die casting?
10. What is the difference between the solidification of pure metals and metal alloys?

#### **Unit III**

1. List any four applications of centrifugal casting.
2. State any four advantages of CAD in casting.
3. Name any four dust collecting equipment used in foundry.
4. Name any two advantages of co2 moulding.
5. What are the three methods of centrifugal casting?
6. What are the limitations of die casting?
7. Mention any three-material handling equipments used in a mechanized foundry.
8. When does casting become inevitable?
9. List out the various types of allowances of casting during solidification.
10. Why are cast irons easy to cast than steels?

#### **Unit IV**

1. Name any four methods of testing weldment.
2. State any four differences between electron welding and laser beam welding.

3. List out the various zones found in a typical fusion weld.
4. Enlist the reasons for conducting mechanical tests on weldments or weld joints.
5. What is Lamellar tearing?
6. Define weldability and list the factors affecting weldability of steels.
7. What is hydrogen embrittlement?
8. What is meant by degasification in metal casting process?
9. What are the functions of a riser?
10. What are the importance of stress-relief heat treatment on weldments?

### **Unit V**

1. State any four disadvantages of laser beam welding.
2. Name any four welding defects, their causes and remedies.
3. Compare electron beam welding with laser beam welding.
4. Difference between wet underwater and dry underwater welding.
5. What are the differences between TIG and MIG welding?
6. State the principle of 'Plasma welding'.
7. Mention any two advantages and limitations of explosive welding.
8. What is vapour phase soldering?
9. Why risers are not used in the die casting?
10. What is meant by progressive solidification?