

**Time Allowed: 3 Hrs.****MM:100****Section -A**

- Note: Multiple Choice questions. All questions are compulsory. 10x1=10**
- Q.1 In core making operation, core sand without binder and moisture is used to increase hardness.  
 a) True      b) False      c) none of the above      d) both a and b
- Q.2 Which of the following hazards presence in the foundry is responsible for lung disease to the workers?  
 a) Noise      b) Metal splashes      c) Heat      d) Dust
- Q.3 Which of the following is not measuring, marking or layout tools?  
 a) Caliper      b) Trisquare      c) T-bevel      d) Compass Saw
- Q.4 Which of the following is not a sawing tool?  
 a) Coping saw      b) Pinch dog      c) Panel saw      d) Bow saw
- Q.5 The permeability of core sand is generally kept higher as compared to that of moulding sand in core making operation.  
 a) True      b) False      c) both a and b      d) All of the above
- Q.6 Sprue in casting refers to.....  
 a) Gate      b) Runner      c) Riser      d) Vertical passage
- Q.7 Investment casting is used for.....  
 a) Shapes which are made by difficulty using complex patterns in sand casting  
 b) Mass production  
 c) Shapes which are very complex and intricate and can't be cast by any other method  
 d) Stainless steel
- Q.8 Large and heavy castings are made by.....  
 a) Green sand moulding      b) Pit moulding      c) Dry sand moulding      d) Pressure moulding
- Q.9 The sand has to undergo \_\_\_\_\_ process before it is called green and is ready for molding.  
 a) Mulling      b) Cooling      c) Heating      d) Drying
- Q.10 Which of the following characteristic is not expected in the green sand in the green sand molding process?  
 a) Flowable nature      b) Plastic Nature      c) Reactivity      d) Permeability

**Section-B**

**Note: Objective type questions. All questions are compulsory. 10x1=10**

- Q.11 What is shatter index?  
 Q.12 Name any two material used for making moulds.  
 Q.13 Write the functions of chills.  
 Q.14 Write two foundry tools.  
 Q.15 What are core prints?  
 Q.16 What is machine allowance ?  
 Q.17 What are trammels?  
 Q.18 Define casting?  
 Q.19 What is coloring coding for patterns?  
 Q.20 Define Hot tears.

**Section -C**

**Note: Short answer type Questions. Attempt any twelve questions out of fifteen questions.**

**12x5=60**

- Q.21 What is meant by green strength and dry strength as applied to molding sand?  
 Q.22 What are shell moulds?  
 Q.23 Explain the term Directional Solidification.  
 Q.24 Explain any two pattern making tools with their uses.  
 Q.25 What is effect of grain distribution on castings?  
 Q.26 What is Cold shuts and Misruns?  
 Q.27 What are the main core binders? Explain with the suitable example.  
 Q.28 Why are risers used on moulds?  
 Q.29 What are different stages in ore making?  
 Q.30 How the grain size and shape effect the performance of foundry sand?  
 Q.31 Differentiate between Natural Sand and Synthetic sand?  
 Q.32 What is blasting in surface clearing of casting?  
 Q.33 Explain gating system in detail.  
 Q.34 Explain the construction of metallic mould.  
 Q.35 What is directional Solidification? Explain in detail

**Section-D**

**Note: Long answer questions. Attempt any two questions out of three questions. 2x10=20**

- Q.36 With a sketch explain pit furnace.  
 Q.37 Describe the essential requirements of an idea gating system.  
 Q.38 Write short notes on  
 a. Sand Reclamation  
 b. Salvaging of Castings