Final Assessment Test (FAT) - July/August 2023

Programme	**B.Tech.**	Semester	**Fall Inter Semester 22-23**
Course Title	**METAL CASTING AND WELDING**	Course Code	**BMEE302L**
Faculty Name	**Prof. Narayanan R**	Slot	**A1+TA1**
		Class Nbr	**CH2022232500214**
Time	**3 Hours**	Max. Marks	**100**

Section A (10 X 10 Marks)
Answer any 10 questions

01. Differentiate between the solidification patterns of pure metals and alloys. [10]
02. Describe the importance of pressurized and non-pressurized gating ratios. [10]
03. Describe the shell moulding process with neat sketch. [10]
04. Identify the suitable pressure die casting process for producing aluminium alloy components and explain its principle of operation. [10]
05. With a neat diagram illustrate the melting operation in an electric arc furnace. [10]
06. Differentiate between the operational characteristics of TIG and MIG welding. [10]
07. Suggest a suitable solid state welding process for car body panels and write its working principle in detail. [10]
08. Describe the metallurgical transformation in the major zones of welded joints with neat diagram. [10]
09. Compare the general weldability of carbon steels against stainless steels. [10]
10. State the reasons of formation of porosity and lack of fusion in arc welding processes. How do you combat these defects? [10]
11. Describe one radiographic testing and magnetic particle testing procedures for inspecting the welded joints. [10]

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