

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION)**

**CLASS: BE
BRANCH: PROD.**

**SEMESTER: VII
SESSION : MO/2019**

SUBJECT : PE7011 ADVANCED MANUFACTURING PROCESSES

TIME: 2.00 HOURS

FULL MARKS: 25

INSTRUCTIONS:

1. The total marks of the questions are 30.
2. Candidates may attempt for all 30 marks.
3. In those cases where the marks obtained exceed 25 marks, the excess will be ignored.
4. Before attempting the question paper, be sure that you have got the correct question paper.
5. The missing data, if any, may be assumed suitably.

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- Q1 (a) What are differences between sand mould casting and plaster mould casting? What are Advantages of Plaster Mold Casting Process. [2]
(b) Explain briefly Semisolid-Metal casting. What are the types of Semisolid-Metal casting? Explain any one with neat sketches. [3]
- Q2 (a) What is Ceramic-shell Investment Casting? Explain. [2]
(b) Explain briefly the methods and procedure of Pattern production and Pattern assembly. [3]
- Q3 (a) Classify the solid-state welding processes. [2]
(b) Cold welding is used for cladding and joining many similar and dissimilar metals. Justify and explain briefly cold-welding processes. [3]
- Q4 (a) What is theory of Diffusion welding? [2]
(b) Explain the Friction Stir welding (FSW) with neat sketches. [3]
- Q5 (a) What is high energy rate forming processes (HERF)? [2]
(b) Explain briefly with neat sketches the Electro Magnetic Forming. [3]
- Q6 (a) What is Rubber forming? [2]
(b) Explain hot isostatic pressing (HIP). [3]

:::: 23/09/2019M ::::