

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

**CLASS: BE  
BRANCH: PRODUCTION**

**SEMESTER: VII  
SESSION: MO/2018**

**SUBJECT: PE7011 ADVANCED MANUFACTURING PROCESSES**

**TIME: 1.5 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) While casting using evaporative pattern casting technique, would you prefer to use low density polystyrene or high density polystyrene. Justify. [2]  
(b) Differentiate between sand mould casting and plaster mould casting process. [3]
- Q2 (a) What is the requirement of primary and secondary coating in ceramic shell investment casting? [2]  
(b) Differentiate between thixocasting and rheocasting. [3]
- Q3 (a) What are the major process parameters in friction welding process? [2]  
(b) Which welding process is used for under water wet welding? Discuss how that process is adopted for wet welding. [3]
- Q4 (a) Enlist some advantages of cold welding process. [2]  
(b) While welding using EBM, when to use high voltage gun and when to use low voltage gun? [3]
- Q5 (a) Why explosive forming is carried out under water? [2]  
(b) With a neat diagram explain the process of super plastic forming. [3]
- Q6 (a) What are advantages of rubber pad forming? [2]  
(b) What are advantages of incremental forming over conventional forming? [3]

::: 13/09/2018 :::M