

**B.Tech. - VIEP - MECHANICAL ENGINEERING
(BTMEVI)**

Term-End Examination

December, 2016

BIMEE-024 : WELDING ENGINEERING

Time : 3 hours

Maximum Marks : 70

***Note :** Attempt any **five** questions. All questions carry equal marks. Standard notations and symbols have their usual meaning.*

1. (a) Explain oxy-acetylene welding process with neat sketch. 7
- (b) Differentiate between TIG and MIG welding processes. 7
2. (a) Explain the radiant energy and solid phase welding process with neat sketch. 7
- (b) Discuss underwater welding process. 7
3. (a) Explain the principle and operation of flame spraying with neat sketch. 7
- (b) Explain the weld thermal cycles and their effects in welding process. 7

4. (a) What are the aims of preheating in welding ?
Enlist the different methods of preheating. 7
- (b) Explain the metallurgical after-effects of welding. 7
5. (a) Explain the principle of operation of friction welding process with neat sketch. 7
- (b) Define weldability of materials. Mention the factors on which weldability depends. 7
6. (a) Explain the resistance spot welding process with neat sketch. Give its specific applications. 7
- (b) Explain the ultrasonic and magnetic particle inspection as applied to welds. 7
7. Write short notes on the following : $4 \times 3 \frac{1}{2} = 14$
- (a) Welding of Ceramics
- (b) Edge Preparation
- (c) Weld Size Calculations
- (d) Notch and Fatigue Tests
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