

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

00576 **Term-End Examination
June, 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 submerged arc welding process with a neat sketch and state its applications in industry. 7
- (b) Discuss the advantages, limitations and applications of electro-gas welding. 7
2. (a) Discuss the diffusion welding and list out the merits and demerits of diffusion welding. 7
- (b) Explain the working principle of laser beam welding with a neat sketch. 7
3. (a) Classify various surfacing methods and explain the working of plasma spraying with a neat sketch. 7
- (b) Compare the processes of Brazing, Soldering and Welding. 7

4. (a) How does the micro-structure change in different materials due to heating ? Explain with a suitable diagram. 7
- (b) Explain the effect of pre and post heat treatment. 7
5. (a) How do you control the quality of weld ? Discuss. 7
- (b) Describe any two methods of non-destructive testing. 7
6. (a) How do you perform the visual examination and liquid penetration test ? Explain with suitable examples. 7
- (b) What tests do you suggest to evaluate the mechanical properties of welded joints ? Explain any one in detail. 7
7. Write short notes on the following : $4 \times 3 \frac{1}{2} = 14$
- (a) Welding of Plastics
- (b) Underwater Cutting
- (c) Weld Symbols
- (d) Flame Spraying
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