

**B.Tech. (AEROSPACE ENGINEERING)
(BTAE)**

Term-End Examination

June, 2018

00193

BAS-004 : WORKSHOP TECHNOLOGY

Time : 3 hours

Maximum Marks : 70

Note : Answer any *seven* questions. All questions carry equal marks.

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1. Explain the influence of the following constituents on steel : 10
 - (a) Carbon
 - (b) Silicon
 - (c) Manganese
 - (d) Sulphur
 - (e) Phosphorus

 2. (a) Draw a neat sketch of a simple twist drill with tapered shank and show its various elements. 6
 - (b) Distinguish between drilling and boring. 4

3. (a) Name the basic tools used in sheet metal work. 4
- (b) Explain the following sheet metal operations : 6
- (i) Shearing
 - (ii) Bending
 - (iii) Drawing
4. Describe the following with the help of suitable sketches : 10
- (a) Limits
 - (b) Fits
 - (c) Tolerances
5. (a) Discuss the principle of operation of Electric Arc Welding. 4
- (b) Describe and explain the following welding methods giving their advantages, limitations and applications : 6
- (i) MIG Welding
 - (ii) TIG Welding
6. Explain the following operations on lathe machine with the help of sketches : 10
- (a) Facing
 - (b) Knurling
 - (c) Grooving
 - (d) Spinning
 - (e) Forming

7. Sketch and describe in brief, a Radial Drilling Machine. List various drilling machine operations. 10
8. Explain in brief, the following welding processes : 10
- (a) Arc Welding
 - (b) Gas Welding
 - (c) Thermit Welding
9. Explain the following with the help of sketches in connection with moulding/casting : 10
- (a) Gate
 - (b) Riser
 - (c) Use of Chills
 - (d) Use of Padding
 - (e) Use of Exothermic Materials
10. (a) Classify milling machines and list them accordingly. How does milling differ from turning? 5
- (b) Name and describe the principal parts of a milling machine. 5
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