

00331

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**BAS-004**

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

**Term-End Examination**

**December, 2015**

**BAS-004 : WORKSHOP TECHNOLOGY**

*Time : 3 hours*

*Maximum Marks : 70*

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

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|----|-----|---|---|
| 1. | (a) | Define and explain plain carbon steels.                                   | 4 |
|    | (b) | Write briefly the influence of the following constituents on steel :      | 6 |
|    |     | (i) Carbon  |   |
|    |     | (ii) Silicon  |   |
|    |     | (iii) Manganese   |   |
| 2. | (a) | What is the main function of a lathe ? List down various types of lathes. | 4 |
|    | (b) | Mention various parts of lathe and describe them in brief.                | 6 |
| 3. | (a) | What are the different methods of welding ? Describe them in brief.       | 6 |
|    | (b) | What is the principle of operation of electric arc welding ?              | 4 |

4. (a) Name at least three processes for each of the classification of manufacturing processes mentioned below : 4
- (i) Deforming processes
  - (ii) Machining/Removing processes
  - (iii) Joining processes
  - (iv) Surface finishing processes
- (b) Discuss the advantages and limitations of hot-rolling and cold-rolling. 6
5. Explain the following types of fits with the help of sketches : 10
- (a) Clearance fit
  - (b) Interference fit
  - (c) Transition fit
  - (d) Allowance
6. Name the different types of drilling machines. How is the size of a drilling machine specified ? List various drilling machine operations. 10
7. (a) Classify milling machines and list them accordingly. How does milling differ from turning in lathe ? 6
- (b) Name and explain in brief the three different table feeds. 4

- 8. Explain the following casting processes : 10**
- (a) Die casting
  - (b) Centrifugal casting
  - (c) Semi-centrifugal casting
  - (d) Continuous casting
  - (e) Slush casting
- 9. (a) Describe any two types of Heating furnaces used in Forging industry. 4**
- (b) Discuss the following processes in smith forging operations : 6**
- (i) Upsetting
  - (ii) Punching
  - (iii) Bending
- 10. Describe briefly the following carpentry tools : 10**
- (a) Try square
  - (b) Cutting gauge
  - (c) Chisel
  - (d) Jack plane
  - (e) Boring tool
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