

B.TECH. IN AEROSPACE ENGINEERING (BTAE)**Term-End Examination****December, 2011****BAS-004 : WORKSHOP TECHNOLOGY***Time : 3 hours**Maximum Marks : 70**Note : Answer any seven questions.*

1. (a) What is a Lathe machine ? Describe its main parts giving a neat sketch. 5
(b) Explain with a neat sketch how a Gear Tooth can be cut using a Milling machine. 5
2. (a) Explain the terms Tolerance, Allowance and Limit. 5
(b) Why is inspection of a manufactured part necessary ? State the primary responsibility of the Inspection Department. 5
3. (a) Distinguish between Pressure welding and Fusion welding. Give examples of their uses. 5
(b) Can Electric Arc welding be used for cutting a steel plate ? If so, why it is not used ? 5
4. (a) Briefly describe how two pieces of steel can be joined together by electric arc welding ? 5
(b) What are the different types of flames that can be produced in an Oxy-Acetylene flame ? Explain how they are formed and their uses. 5

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| 5. | (a) | Differentiate the Electric Arc welding from Oxy-Acetylene welding from the points of view of temperature of welding, heat concentration and operating cost. | 5 |
| | (b) | State the advantages of hydraulic press for press forging. | 5 |
| 6. | (a) | Explain the terms "Gate" and "Riser" as referred to foundry technology. | 5 |
| | (b) | Describe briefly the functions of coated electrodes. | 5 |
| 7. | (a) | Discuss the advantages and disadvantages of hot working of metal. | 5 |
| | (b) | What are the main constituents of steel ? Explain how the different alloying elements (at least three elements) in steel improve its properties. | 5 |
| 8. | (a) | What is lower critical temperature of steel ? Give the significance of this temperature ? | 5 |
| | (b) | Describe the functions of Claw Hammer and Wooden Mallet. | 5 |
| 9. | (a) | Explain the functions and applications of N - C machines. | 5 |
| | (b) | Briefly state the fundamental difference between N - C and C - N - C machine tools. | 5 |
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