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BAS-004

00104

B.TECH. IN AEROSPACE ENGINEERING (BTAE)

Term-End Examination

June, 2011

BAS-004 : WORKSHOP TECHNOLOGY

Time : 3 hours *Maximum Marks : 70*

Note : *Answer **any seven** questions.*

1. (a) What are the main parts of a lathe ? Describe briefly their functions. **5+5**

   (b) Explain with a neat sketch the facing operation on a lathe.

2. (a) Briefly discuss the main parts of a Drilling machine. **5+5**

   (b) Distinguish between Drilling, Boring and Reaming.

3. (a) Describe the working procedure of sawing and marking operation in carpentry. **5+5**

   (b) Describe with a neat sketch the working of a Bevelled Edge Grooving Tool as used in carpentry.

4. (a) What is core in Pattern making for casting ? Discuss briefly the material normally used in core making. 5+5

(b) Name the main tools used in smithy shop. Explain the functions of Swage Block.

5. (a) What is Hem in sheet metal work ? Explain the functions of common types of Hem. 5+5

(b) Write Notes on Riveting, Soldering and Deep drawing in sheet metal work.

6. (a) Name two elements other than carbon commonly added in making steel. How they influence the properties of steel. 5+5

(b) Distinguish between Brass and Bronze. Discuss the uses of the above non - ferrous alloys.

7. (a) What is Die casting ? State its limitations and applications. 5+5

(b) Discuss the advantages and disadvantages of Hot working of steel.

8. (a) Give a short account of the principle of operation of Oxy - Acetylene welding. 5+5

(b) What are the different types of flames produced in Oxy - Acetylene flame ? State the uses of each type.

9. (a) What is recrystallisation ? How does it help in regaining the deteriorating property of metal ? 5+5

(b) Find recrystallisation temperature of iron, aluminium and lead from their melting temperatures of 1550°C, 660°C and 327°C respectively. Comment on the type of deformation produced at room temperature of 37°C.

10. (a) What is fit ? Explain three main types of fit. 5+5

(b) Discuss limits of hole and shaft with a neat sketch. What is tolerance in hole and shaft ?