

(Following Paper ID and Roll No. to be filled in your Answer Book)

**PAPER ID : 4002**

Roll No.

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**B.Tech.**

FIRST SEMESTER EXAMINATION, 2004-2005

**WORKSHOP**

Time : 2 Hours

Total Marks : 50

- Note :** (i) *ALL questions are necessary.*  
(ii) *Marks allotted to each question are indicated in right hand column.*

1. Part (a) is compulsory. Attempt *any three* more parts from the rest of the following.
- (a) Write notes on *any two* of the following :
- (i) Stiffness
  - (ii) Elasticity
  - (iii) Plant layout
  - (iv) Primary shaping process 4
- (b) What do you understand by the Factories Act? Give atleast four precautions to be taken in a machine shop. 3
- (c) What are various surface finishing operations? Explain in detail the process used for increasing surface finish of the track of a Ball-bearing race. 3

- (d) What is the difference between Toughness and Hardness ? 3
- (e) What is carbon percentage in High carbon steel ? Mention the use of High carbon steel in industries. 3
- (f) Name various ferrous metals and alloys used for making the following items : 3
- (i) Lathe bed
  - (ii) Boring tool
  - (iii) Chisels
  - (iv) Hacksaw
  - (v) Parting tool
  - (vi) Car body

2. Part (a) is compulsory. Attempt *any three* more parts from the rest of the following.

- (a) Write notes on *any two* of the following : 4
- (i) Wrought iron
  - (ii) Brass
  - (iii) Effect of alloying elements on steel
  - (iv) Bronze
- (b) What is the necessity of preserving wood ? Briefly describe various methods for the same. 3
- (c) Describe and sketch some common defects in wood. How do they affect their use ? 3
- (d) How wood working chisels are sharpened ? 3
- (e) List two common properties of Aluminium and Copper. 3
- (f) What is 18-4-1 steel ? Mention its use. 3

3. Attempt *any four* parts of the following :
- (a) List various hand marking tools for wood working and give their uses. 3
  - (b) Sketch any three types of carpentry joints. 3
  - (c) How are carpentry chisels classified ? Explain. 3
  - (d) What is die and diestock ? Explain their use with neat sketch. 3
  - (e) Write notes on : 3
    - (i) Surface plate
    - (ii) Wire gauge
  - (f) Describe various Bench working process. 3
4. Attempt *any two* parts of the following :
- (a) What are the advantages of welding in comparison to other joining processes ? what is seam welding ? 6
  - (b) Explain and make a neat sketch of Gas welding equipment and their use. 6
  - (c) What are the different machines used in sheet metal shop and list down various operation performed in this shop. 6

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