



B. Tech Degree IV Semester Examination in Marine Engineering, June 2009

MRE 402 PRODUCTION TECHNOLOGY

Time : 3 Hours

Maximum Marks : 100

- I. (a) Discuss the constructional features and mention the uses of the following tools used in a workshop :
- | | | |
|-------------------|--------------------|----------------|
| (i) Reamer | (ii) Gate – Cutter | |
| (iii) Swage block | (iv) Plat file. | (4 x 2 ½ = 10) |
- (b) With neat sketches, explain any four types of saws used in carpentry. (4 x 2 ½ = 10)
- OR**
- II. (a) Distinguish between -
- | | |
|---|--------------|
| (i) a discontinuous chip and a wavy chip | |
| (ii) Orthogonal cutting and oblique cutting | (2 x 5 = 10) |
- (b) (i) Discuss the functions of cutting fluids in cutting
- (ii) What are the desirable properties of a cutting fluid? (2 x 5 = 10)
- III. (a) Sketch a twist drill and describe its parts. What is a centre drill? (10)
- (b) Describe the following lathe operations :
- | | | |
|----------------|--------------|----------------|
| (i) facing | (ii) parting | |
| (iii) drilling | (iv) boring. | (4 x 2 ½ = 10) |
- OR**
- IV. (a) Why is a quick return mechanism used in a shaper? What are the various means of obtaining a quick return? (10)
- (b) Distinguish between shaping and planing. Name a few applications involving planing machine operation. (10)
- V. (a) How does the sleeve of a depth gauge micrometer differ from a common micrometer with respect to graduation? (8)
- (b) What are the advantages of a sine bar over a bevel protractor? How the angle is measured with the help of this instrument? (12)
- OR**
- VI. (a) Discuss the use of an optical flat to test the flatness of measuring surfaces. (8)
- (b) What are gauges? (4)
- (c) Write short notes on :
- | | | |
|---------------------------------|-------------------------------|-----|
| (i) Nominal size and basic size | (ii) Tolerance and allowance. | (8) |
|---------------------------------|-------------------------------|-----|
- VII. (a) With neat sketches explain the constructional details of a feed – check valve used in boilers. (10)
- (b) Explain with neat sketches, the flanged types of fittings used with cast iron pipes. (10)
- OR**
- VIII. (a) Discuss briefly about the various types of packing and joining materials generally used in industry. (10)
- (b) Describe the important safety measures to be followed, while operating machine tools. (10)
- IX. (a) What are the advantages and disadvantages of welding as compared with other metal joining processes? (10)
- (b) Distinguish between the three types of gas flames in Oxy – Acetylene welding. (10)
- OR**
- X. (a) What are the advantages of
- | | | |
|---------------|--------------|-------------|
| (i) soldering | (ii) brazing | (2 x 4 = 8) |
|---------------|--------------|-------------|
- (b) Why is flux used in welding? (6)
- (c) Name a few fluxes used for welding
- | | | | |
|----------------|-------------|-----------------|-----|
| (i) Mild steel | (ii) Copper | (iii) Aluminium | (6) |
|----------------|-------------|-----------------|-----|
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