

## ***B.Tech Degree IV Semester Examination in Marine Engineering May 2012***

### **MRE 402 PRODUCTION TECHNOLOGY**

Time : 3 Hours

Maximum Marks : 100

- I. (a) Explain the following: (12)  
 (i) Vernier calipers  
 (ii) Spring calipers  
 (iii) Tri square  
 (b) How are patterns classified? Describe them with neat sketch and state the use of each one of them. (8)
- OR**
- II. (a) Explain with neat sketches, the geometry of a single point cutting tool. (10)  
 (b) Discuss different types of chips and the mechanism of chip formation. (10)
- III. (a) Briefly explain the various operations which can be performed on a slotting machine. (10)  
 (b) What are the different metal removal processes in a shaping machine and a planing machine? What are the points to be considered for selecting one among these processes? (10)
- OR**
- IV. (a) Explain different taper turning methods in a lathe. (10)  
 (b) Explain the use of jigs and fixtures. (5)  
 (c) Co-relate tool life with cutting speed. (5)
- V. (a) Write notes on: (12)  
 (i) Feeler gauge  
 (ii) Depth gauge  
 (iii) Taper gauge  
 (iv) Snap gauge  
 (b) Write notes on optical measurement techniques in metrology and explain one instrument based on this. (8)
- OR**
- VI. (a) With the help of a neat sketch, explain the principle and operation of micrometer. (10)  
 (b) Explain the principle of interchangeability. (10)
- VII. (a) Explain different types of packing and joining materials and their uses in industry. (8)  
 (b) Explain the different types of valves used for air and steam lines. (12)
- OR**
- VIII. (a) With neat sketch explain the constructional details of blow off cock. (10)  
 (b) Write notes on: (10)  
 (i) Bedding of bearings  
 (ii) Marking of engine parts of fitting.
- IX. (a) Explain soldering and brazing operations with typical applications. (10)  
 (b) Write short notes on: (10)  
 (i) TIG welding  
 (ii) Atomic hydrogen welding
- OR**
- X. (a) Explain different types of flames in an oxy-acetylene gas welding process. List its applications. (8)  
 (b) Discuss Rocker arm spot welding machine. (5)  
 (c) Write notes on arc welding electrodes. What are the functions of electrode coatings? (7)