

(Three Hours)

Total Marks: 80

- N. B.: 1. Q. No. 1 is compulsory.  
2. Attempt any THREE questions from the remaining questions.  
3. Assume suitable data wherever necessary.  
4. Figures to the right indicate full marks.



- Q.1 Write Short note on. (Any Four) (20)
- Productivity Improvement Techniques
  - Role of Industrial Engineer
  - Plant Layouts and Planning
  - Importance of Ergonomics in the work-process layout
  - Merit Rating
  - Time Value of Money
- Q.2 a) Define productivity. Why productivity is important in production management. (10)
- b) Explain the Micro and Macro Motion Study techniques in detail. (10)
- Q.3 a) Explain THERBLIGs in detail with the symbols used and the inference drawn. (10)
- b) Draw and Explain Outline Process Chart, construction, usage, inference for the replacement of spark plug. (10)
- Q.4 a) Explain in detail the Group Technology and OPTIZ system for the part coding. (10)
- b) Explain with the help of Dummy data Profit and Loss Account statement and the Balance sheet, their usage and inference. (10)
- Q.5 a) Explain in brief the various accounting methods deployed in asset depreciation analysis. (10)
- b) List various work measurement techniques available and explain any one in detail. (10)
- Q.6 a) Explain in detail the concept of Value Engineering and Value Analysis with the steps in implementation of the same. (10)
- b) The workmen in an engineering firm are expected to work for 400 minutes in a shift of 8 hours. The remaining time is meant for rest and personal needs, etc. (10)
- Estimate the standard time per piece of a job whose normal time is 2 minutes.
  - Find number of pieces to be produced per day.
  - If the workmen engaged on the above job produced 180 pieces in the shift, what is their efficiency?

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