

(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)

- a. Productivity Improvement Techniques
- b. Role of Industrial Engineer
- c. Plant Layouts and Planning
- d. Importance of Ergonomics in the work-process layout
- e. Merit Rating
- f. 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)

i) Estimate the standard time per piece of a job whose normal time is 2 minutes.

ii) Find number of pieces to be produced per day.

iii) If the workmen engaged on the above job produced 180 pieces in the shift, what is their efficiency?
