

**Eighth Semester B.Tech Degree Examination  
(2013 scheme)**  
**13.802. INDUSTRIAL ENGINEERING**  
**Model question paper**

Time: 3 Hours

Max. Marks: 100

**Instructions:** Answer all questions in Part A and any one full question from each module in part B.

Any missing data shall be assumed. All assumptions must be clearly stated.

**PART –A**

1. What is the significance of Value engineering in an organization?
2. How does a flexible manufacturing system help to increase the productivity?
3. What is the need for organization to design and develop new product?
4. What are therblings?
5. What is Gantt chart?
6. What are producers and consumers risk?
7. What are the benefits of ISO?
8. What are the steps taken for labour welfare in an industry?
9. What are the factors which influences the wages of an employee?
10. Explain Bath tub curve? ( 2x10= 20 marks)

**PART –B**

11. i)What are the functions of industrial engineering? How industrial engineers help in product development and increase of productivity in an organization?

10 marks

- ii) Explain various phase in the development of a new product?

10 marks

**OR**

12. i) What is value engineering and how it prevents unnecessary cost buildup of product? 10 marks

- ii) Explain the CVP analysis and how it helps in product development? 10 marks

13. i) Distinguish between preventive and predictive maintenance. 10 marks

- ii) The cost of machine is RS. 50,000. The life of the machine is 8 years and the various costs associated with the machine are as follows. Suggest the optimum policy.

Year	1	2	3	4	5	6	7	8
Maintenance and running cost per year	15000	16000	18000	21000	25000	29000	34000	40000
Scrap value	35000	25000	17000	12000	10000	5000	4000	4000

10 marks

**OR**

14. i) What are the Methods of Motion Economy? 10 marks  
ii) Explain the procedure of SIMO chart and explain the principles of motion economy? 10 marks
15. i) Explain the quantitative and qualitative technique of job evaluation 10 marks  
ii) Explain the different method employed for settling industrial disputes 10 marks
- OR
16. i) What are the characteristics of batch production? How does it differ from mass production 10 marks  
ii) Explain the process of collective bargaining. How collective bargaining helps in industrial relationships? 10 marks
17. Define reliability. Explain The shape of failure rate of product with the time 20 marks
- OR
18. Explain a typical OC curve for a control chart? What are the effects of sample size on control limits? 20 marks