



Reg. No. :

Name :

**Eighth Semester B.Tech. Degree Examination, May 2018
(2013 Scheme)**

13.802 : INDUSTRIAL ENGINEERING (MPU)

Time : 3 Hours

Max. Marks : 100

PART – A

Answer **all** questions :

(10×2=20 Marks)

1. Explain the fields of application of industrial engineering.
2. What are the objectives of value analysis ?
3. What are the functions of material handling ?
4. Give an account of FMS.
5. What are Therbligs ?
6. What is merit rating ?
7. Explain on worker's participation in management.
8. What are the steps taken in an industry for labour welfare ?
9. Explain bench marking.
10. Explain bath tub curve.

PART – B

(20×4=80 Marks)

Module – I

11. i) Explain in detail the evolution of industrial engineering. **10**
ii) What are the different stages in product development ? **10**
- OR**
12. i) Explain different steps taken in value engineering. **10**
ii) Give an account of economic and non-economic factors influencing manufacturing or purchase decision. **10**

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Module – II

13. i) What are the factors to be considered for replacement of equipments ? 10
- ii) The following table gives the operation cost, maintenance cost and salvage value at the end of every year of a machine with purchase value Rs. 20,000. Find the economic life of the machine assuming interest rate, $i = 0\%$. 10

End of Year (n)	Operation Cost at the End of Year	Maintenance Cost at the End of Year	Salvage Value at the End of Year
1	2,000	200	10,000
2	3,000	300	9,000
3	4,000	400	8,000
4	5,000	500	7,000
5	6,000	600	6,000
6	7,000	700	5,000
7	8,000	800	4,000
8	9,000	900	3,000
9	10,000	1,000	2,000
10	11,000	1,100	1,000

OR

14. i) Explain different types of plant layout. Give critical appraisal for each of them. 10
- ii) What are the factors to be considered while selecting material handling equipments ? 10

Module – III

15. i) Explain the qualitative and quantitative techniques of job evaluation. 10
- ii) Explain job production, batch production and mass production. 10

OR

16. i) Explain Gantt Chart. 10
- ii) Explain the functions of production planning and control. 10

Module – IV

17. i) What is SIX SIGMA ? Explain briefly the approaches for achieving SIX SIGMA. 10
- ii) Explain TQM and Quality circles. 10

OR

18. i) Explain different types of inventory models. 10
- ii) Explain selective inventory control techniques. 10