B.E. Mechanical Engineering Seven Semester

ME702 - Industrial Engineering

P. Pages : 2 **GUG/W/18/1837**

Time : Three Hours * 1 4 3 6 * Max. Marks : 80

Notes :
1. All questions carry equal marks.
2. Due credit will be given to neatness and adequate dimensions.
3. Assume suitable data wherever necessary.
4. Diagrams and Chemical equation should be given wherever necessary.
5. Use of slide rule, Logarithmic tables, Steam tables, Mollier's chart, Drawing instruments, Thermodynamic tables for moist air, Psychrometric charts and Refrigeration charts is permitted.

1. a) Production planning and control contributes to effective utilization of firms resources comment. **6**

b) State functions of PPC for various types of manufacturing methods. **6**

c) What is the difference between value engineering and value analysis ? **4**

OR

2. a) Explain the basis for classifying forecasts into short-terms and long terms forecasting. **6**

b) Compare moving average and exponential smoothing method. **6**

c) What are limitations of moving average method? **4**

3. a) Explain partial productivity measures and total productivity measure and what are the advantages and limitations of both. **8**

b) Explain the dynamics of productivity change and how it brings about chain reaction throughout the society. **8**

OR

4. a) Explain the work study procedure. **6**

b) What are the therbligs ? Give any five therbligs with symbols. **5**

c) Write a note on cycle graph and chrono cycle graph. **5**

5. a) What is performance rating ? Why it is required to rate the worker ? What are different rating methods. **6**

b) Explain the principle techniques of work measurement and their applications. **6**

c) Write short notes on **4**
i) PMTS ii) MTM

OR

6. a) Define ergonomics and what are its objectives. **5**

b) Explain the characteristics and various aspects of man-machine system. **5**

c) Write short notes on : **6**

i) Manual material handling.

ii) Muscular work

iii) Physiological cost of work.

7. a) What are the various types of layout ? Explain the application of each. **5**

b) What are the various flow patterns ? Explain with a diagram for each. **6**

c) What are the principles of plant layout ? **5**

OR

8. a) "Material handling is considered necessary evil". Comment. **5**

b) What are different types of material handling equipment ? Explain with neat sketch. **11**

9. a) Define 'Reliability' and describe its significant elements. **5**

b) Explain the following : **5**
i) Both tub curve
ii) Measures of reliability

c) Describe various methods of reliability improvement. **6**

OR

10. a) Define the term 'maintenance' state its objectives, importance & requirements of good maintenance. **8**

b) Explain the following : **8**
i) Condition based maintenance.
ii) Maintenance cost

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