

**B.Tech. - VIEP - MECHANICAL ENGINEERING  
(BTMEVI)**

00218

**Term-End Examination**

**December, 2016**

**BIME-020(S) : INDUSTRIAL ENGINEERING**

*Time : 3 hours*

*Maximum Marks : 70*

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**Note :** Attempt any *five* questions. All questions carry equal marks.

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1. (a) What is Industrial Engineering ? Discuss the scope of industrial engineering in today's competitive environment. 7
- (b) Define the term 'Productivity'. Differentiate between production and productivity with the help of suitable examples. 7
2. (a) Describe the procedure for a time study, for any operation, using a stopwatch. 7
- (b) Explain how work sampling study is conducted. 7
3. (a) Explain product development process with the help of example. 7
- (b) Define work measurement. What are the various work measurement techniques ? Explain in brief. 7

4. (a) Why are control charts used ? Discuss how the objective for using control charts is achieved. 7
- (b) What is sequential sampling plan ? Explain the procedure for sequential sampling. 7
5. (a) What is product life cycle ? With the help of a neat diagram, explain the stages in product life cycle. 7
- (b) What do you understand by Value Engineering ? Discuss the advantages of Value Engineering. 7
6. (a) Discuss the importance of Ergonomics with respect to improving CNC operator productivity. 7
- (b) Explain the principles of Ergonomics followed in the design of displays and controls. 7
7. Write short notes on any *four* of the following :  $4 \times 3 \frac{1}{2} = 14$
- (a) Standard Time
- (b) Single Sampling Plan and Double Sampling Plan
- (c) Design for Manufacturing
- (d) Steps in Product Design
- (e) ABC Analysis