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BIME-020

B.Tech. – VIEP – MECHANICAL ENGINEERING (BTMEVI)

Term-End Examination

00655

December, 2014

BIME-020 : INDUSTRIAL ENGINEERING

Time : 3 hours *Maximum Marks : 70*

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

1. (a) What are the application areas of Industrial Engineering ? Discuss the role of industrial engineering in modern factories. 7

(b) Explain partial productivity and total productivity. What measures would you suggest to improve the productivity of a firm ? 7

2. (a) Explain the basic procedure for time study using a stop watch. 7

(b) Describe the procedure for conducting a work sampling study. 7

3. (a) Draw out a design of physics lab stating its requirements. 7

(b) Illustrate the procedure for sequential sampling plan. 7

4. (a) Explain the product development process. Discuss the benefits of concurrent engineering. 7

(b) Define work measurement. What are the different techniques of work measurement ? Explain them. 7

5. (a) What are the different types of value ? Discuss how function and value are related. 7

(b) What is string diagram ? Explain its application with the help of a suitable example. 7

6. (a) What is the purpose of control charts ? Explain how this purpose is achieved. 7

(b) In a time study for a job done by a worker whose rating is 90, the data are as follows :

Observed time : 20 minutes

Personal need allowance : 4% of basic time

Fatigue allowance : 2·5% of basic time

Contingency work allowance : 2% of basic time

Contingency delay allowance : 1% of basic time

Find : 7

(i) basic time

(ii) standard time

7. Write short notes on any ***two*** of the following : *7+7=14*

(a) Environmental condition of fatigue

(b) Design for X

(c) Product standardisation

(d) Principle of motion economy