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BIME-020

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

00362

Term-End Examination

December, 2017

BIME-020 : INDUSTRIAL ENGINEERING

Time : 3 hours *Maximum Marks : 70*

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

1. (a) What is Industrial Engineering ? Outline the scope of Industrial Engineering. 7

(b) What is Work Study ? Discuss the different techniques of motion study. 7

2. (a) Describe any two techniques for conducting method study. 7

(b) Explain the step-by-step procedure in implementing work measurement. 7

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

(b) A job has been subdivided into 4 elements. The time for each element and respective ratings are given below :

Element No.	Observed time (minutes)	Rating factor (%)
1	0·6	100
2	1·0	80
3	1·2	130
4	1·5	90

Calculate the normal time and standard time for each element and for the job if allowance is 5%. 7

4. (a) Explain the concept of Value Engineering. Why is it important in the area of Industrial Engineering ? 7

(b) Describe the importance of ergonomics by mentioning the various areas of application. 7

5. (a) Discuss the procedure for a sequential sampling plan. 7

(b) List the types of control charts for variables and explain any one of them with suitable examples. 7

6. (a) Explain the requirement of good product design. 7

(b) Explain the working principle and advantages of quality circles. 7

7. Write short notes on any ***four*** of the following : $4 \times 3\frac{1}{2} = 14$

(a) Productivity

(b) Therbligs

(c) Design for Manufacturing

(d) Acceptenace Sampling

(e) Performance Rating

(f) Environmental Condition of Fatigue