

**AU/IP/IEM/ME/TX-601**

**B.E. VI Semester**

Examination, June 2014

**Operation Management**

*Time : Three Hours*

*Maximum Marks : 70*

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**Note:** Attempt one question from each unit. Each question carry equal marks.

**Unit - I**

1. a) List the key ways that organizations compete? 7
- b) A company that processes fruits and vegetables is able to produce 350 cases of canned peaches in one half hour with four workers. What is labor productivity? 7

Or

2. a) Explain the importance of identifying and differentiating order qualifiers and order winners? 7
- b) List some factors that can affect productivity and some ways that productivity can be improved? 7

**Unit - II**

3. a) What are some of the competitive advantages of concurrent engineering? 7
- b) Name some of the main advantages and disadvantages of standardization? 7

[2]

Or

4. a) What is modular design? What are its main advantages and disadvantages? 7
- b) Explain the term design for manufacturing and briefly explain why it is important? 7

### Unit - III

5. a) Explain why a product or system might have an overall reliability that is low even though it is comprised of components that have fairly high reliabilities. 7
- b) Explain the terms quality of design and quality of conformance. 7

Or

6. A manager must decide between two machines. The manager will take into account each machines operating costs and initial costs, and its breakdown and repair times. Machine A has a projected average operating time of 144 hours and a projected average repair time of 8 hours. Projected times for machine B are an average operating time of 65 hours and a repair time of 2 hours. What are the projected availabilities of each machine? 14

### Unit - IV

7. a) What are heuristic approaches, and why are they used in designing layouts? 7
- b) What are the main advantages of a product layout? The main disadvantages. 7

Or

[3]

8. a) Compare equipment maintenance strategies in product and process layouts? 7
- b) List some common reasons for redesigning layouts? 7

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### Unit - V

9. a) Briefly describe the Delphi technique. What are its main benefits and weaknesses? 7
- b) What advantages as a forecasting tool does exponential smoothing have over moving averages? 7

Or

10. A group of six jobs is to be processed through a two machine flow shop. The first operation involves cleaning and the second involves painting. Determine a sequence that will minimize the total completion time for this group of jobs. Processing times are as follows: 14

#### Processing Time (Hours)

Job	Work centre 1	Work centre 2
A	5	5
B	4	3
C	8	9
D	2	7
E	6	8
F	12	15

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