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Total No. of Questions: 09

B.Tech.(ME) (E-I 2011 Onwards) (Sem.-6) INDUSTRIAL ENGG.

Subject Code: DE/ME-2.1 M.Code: 71253

Time: 3 Hrs. Max. Marks: 60

## **INSTRUCTION TO CANDIDATES:**

- SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
- SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
- SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

#### SECTION-A

## Answer briefly :

- a) Define Industrial Engineering.
- Enumerate principles of good layout.
- c) What is line of balance?
- d) Differentiate between Production and Productivity.
- e) Define Work study.
- Explain in brief various techniques for micro motion study.
- g) What is contingency allowance?
- h) How displays can be economically designed on machines?
- Enumerate the benefits of job rotation.
- j) What is value engineering?

# SECTION-B

- Explain the qualities an Industrial Engineer should possess.
- Based on the information given in the Muther's grid, develop the plant layout in the arrangement shown. Department 1 must be in the location shown below:

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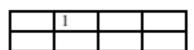




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Deptt-1	Е	Α	Е	E	Х	Α	U	
Deptt-2	Α	Α	Ε	Х	Α	О		
Deptt-3	U	Α	Х	Х	Х	Т		
Deptt-4	U	I	Α	Α		_		
Deptt-5	Х	О	U		_			
Deptt-6	Ε	Α		_				
Deptt-7	Α		_					
Deptt-8	-	7						



- What is method study? Explain in brief various charts and diagrams utilized in method study.
- 5. What is job enrichment? Discuss the methods for achieving job enrichment at workplace.
- Explain the role of ergonomics in product design.

#### SECTION-C

- a) In order to achieve sound plant layout, explain in detail the scientific step by step procedure that must be followed.
  - b) State the relationship between cumulative timing and fly back timing. How standard time is calculated?
- 8. a) Discuss the following:
  - i) Work Study and Management.
  - ii) Work Study and the Worker.
  - b) Describe the steps involved in value engineering studies. Also enumerate the applications of value engineering.
- a) Describe the ergonomic considerations in designing man machine systems.
  - b) How various material handling equipment can be classified?

NOTE: Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.

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