Roll No. | | | | | | | | | | | | |

Total No. of Pages : 02

Total No. of Questions : 18

B.Tech.(ME) (2012 Onwards E-II) (Sem.–7)

INDUSTRIAL ENGG.

Subject Code : DE/PE-2.1

M.Code : 72007

Time : 3 Hrs. **Max. Marks : 60**

INSTRUCTION TO CANDIDATES :

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

SECTION-A

Answer briefly :

1. Enumerate qualities of an Industrial engineer.
2. Enumerate the objectives of a good plant layout.
3. Define Productivity.
4. Enumerate the situations when product type of layout is deployed in Industry.
5. How does work study improve employee safety at workplace?
6. What is the reaction of management to work study?
7. What do you understand by work sampling?
8. Enumerate the situations wherein the variable path material handling systems are used in manufacturing plants.
9. Enumerate ergonomic considerations for design of displays.
10. Differentiate between proactive and reactive ergonomics.

SECTION-B

11. What is the role of an Industrial Engineer in an Industry?

12. How plant layout is related to material handling?

13. Explain various charts and diagrams used in method study.

14. What are therbligs? When it is used? List the therbligs symbols, colour description, name and code.

15. What is the need of planning for job rotation? How do organizations plan for job rotation of employees? How does job rotation affect employee performance?

SECTION-C

16. a) Discuss the salient characteristics, advantages, limitations and applications of cellular manufacturing systems.

    b) Using the information given in the Muther's Grid, construct the plant layout in the configuration given below :

WC-1	E	U	X	A	I	U	E	X	E
WC-2	E	I	A	E	E	A	A	X	
WC-3	O	X	A	X	A	X	X		
WC-4	A	X	X	U	E	O			
WC-5	U	I	E	E	E				
WC-6	A	E	E	X					
WC-7	U	A	X						
WC-8	X	X							
WC-9	U								
WC-10	-								

17. a) Discuss pre-determined motion time standards (PMTS) giving its applications. Also explain commonly used PMT systems.

    b) Discuss various allowances which are taken in account for calculation of standard time.

18. a) Define ergonomics. Describe ergonomics as a user-centered framework for man machine systems.

    b) Define value engineering. Describe the phases of value engineering studies

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.