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Question Paper Code	12411
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M.E. / M.Tech - DEGREE EXAMINATIONS, NOV / DEC 2023

First Semester

M.E. - Industrial Safety Engineering

20PISEL101 - PLANT LAYOUT AND MATERIAL HANDLING

(Regulations 2020)

Duration: 3 Hours

Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

- | | <i>Marks,
K-Level, CO</i> |
|--|-------------------------------|
| 1. What is meant by safety system? | 2,K1,CO1 |
| 2. State important factors of plant location environment. | 2,K1,CO1 |
| 3. Write the importance of equipment layout. | 2,K2,CO2 |
| 4. Describe the applications of process and product layouts. | 2,K2,CO2 |
| 5. Define Housekeeping. | 2,K1,CO3 |
| 6. Write the principles of 5S. | 2,K1,CO3 |
| 7. Define Steel strapping and sacking. | 2,K1,CO4 |
| 8. What is meant by shipping? | 2,K2,CO4 |
| 9. Explain about the LPG trucks used in industries. | 2,K2,CO5 |
| 10. Detail about various type of inspection. | 2,K2,CO5 |

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

11. a) Describe the factors that influence location of the following storages; 13,K2,CO1
- (i) Liquefied Petroleum Gas,
 - (ii) Liquefied Natural Gas and
 - (iii) Compressed Natural Gas.
- OR**
- b) List out the principal factors that influence the choice of plant location. Explain in detail. 13,K2,CO1
12. a) Explain with suitable example the safety considerations for construction sites. 13,K3,CO2
- OR**
- b) Explain with suitable example the safe layout for process industries. 13,K3,CO2

13. a) Explain the Purpose of lighting and it types. *13,K3,CO3*
OR
b) Explain the various types of physiological and comfort level with suitable example. *13,K3,CO3*
14. a) Discuss about the various requirements of storage and handling of cryogenic liquids. *13,K4,CO4*
OR
b) Detail about various uses of sheaves and drums. *13,K4,CO4*
15. a) Describe the safety devices used in escalators. *13,K4,CO5*
OR
b) List down and explain the categories and applications of conveyors. *13,K4,CO5*

PART - C (1 × 15 = 15 Marks)

16. a) Describe the layout suitable for ship construction with schematic diagram and explain its merits and demerits. *15,K3,CO6*
OR
b) List out the various ergonomic considerations to be followed in manual material handling. *15,K3,CO6*