

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
FIFTH SEMESTER B. TECH (HONOURS) DEGREE EXAMINATION, DECEMBER 2017

Course Code: MP361

Course Name: FACILITIES PLANNING AND PLANT LAYOUT (PE)

Max. Marks: 100

Duration: 3 Hours

PART A

Answer any three full questions, each carries 10 marks.

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|---|--|-------|
| 1 | a) What is plant layout? | (5) |
| | b) What are the principles used for designing a plant layout? Explain any five. | (5) |
| 2 | a) What is product Layout? | (5) |
| | b) What are the advantages of product layout? Explain any five. | (5) |
| 3 | a) "Layout design is the backbone of plant layout ". Explain with any five types of layout design factors. | (5) |
| | b) List any two types of layout design procedures for factory layout. | (5) |
| 4 | a) Explain any five factors to be considered for lay out designing in storage area of office or factory. | (5) |
| | b) How the equipment for amenities are helping for working people? | (5) |

PART B

Answer any three full questions, each carries 10 marks.

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|---|--|-----|
| 5 | a) What is travel chart? Explain with a sketch. | (5) |
| | b) Explain its importance of line balancing in Layout planning. | (5) |
| 6 | a) What is space relationship diagram? | (5) |
| | b) Explain the CRAFT application in layout planning with requirements and procedures. | (5) |
| 7 | a) What are the elements of industrial safety? List any five. | (5) |
| | b) What is the importance of considering proper ventilation and dust control system in plant design? | (5) |
| 8 | a) Explain any five environmental factors to be considered for layout planning. | (5) |
| | b) List any four, plant service systems used in industry. | (5) |

PART C

Answer any four full questions, each carries 10 marks.

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| 9 | a) List the principles of material handling. | (5) |
| | b) What is slides and chutes in material handling? Give an application of each. | (5) |
| 10 | a) How the material handling equipment is classified? Explain any two. | (5) |
| | b) What is AGV? List any two application of AGV in facilities planning. | (5) |
| 11 | Explain the features and application of any five, material handling equipment used in stores and warehouses. Use appropriate sketch. | (10) |
| 12 | a) What is depreciation? | (5) |
| | b) A Machinery having a useful life of 3 years is purchased on 1 January 2014. | (5) |

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Cost of the machinery is \$2,000 whereas its residual value is expected to be \$500. Calculate depreciation expense for the years ending 30 June 2014 and 30 June 2015. Use straight line depreciation method for calculation.

- 13 a) What are the reasons for equipment replacement? (5)
- b) Explain any two methods used in selection of alternative equipment in equipment replacement process (5)
- 14 Explain break even analysis with suitable sketch and an example (10)
