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BRAINWARE UNIVERSITY

Term End Examination 2025-2026
Programme – Dip.ME-2023
Course Name – Industrial Engineering & Management
Course Code - DMEPC503
(Semester V)

Full Marks : 60 **Time : 2:30 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question) 1 x 15=15

1. *Choose the correct alternative from the following :*

(i) Select from the followings which is not a factor that influence plant layout.
a) Product design b) Process requirements
c) Market demand d) Employee personal preference

(ii) A U-shaped layout is most commonly associated with
a) Product layout b) Process layout
c) Cellular layout d) Fixed position layout

(iii) Identify from the following which is a key consideration in the design of emergency exits.
a) Exit location should be obscure b) Exits should be clearly marked and unobstructed
c) Exit doors should open inward d) Exits should be locked at all times

(iv) Choose the color which is commonly used for safety information signs.
a) Blue b) Green
c) Red d) Yellow

(v) Select the tool which is commonly used for project scheduling in production planning.
a) Gantt Chart b) Flow Chart
c) Fishbone Diagram d) Pareto Chart

(vi) Select the inventory control technique from the followings.
a) ABC Analysis b) CPM Analysis
c) Gantt Chart d) Kaizen

(vii) Identify from the following which is not an objective of production control.
a) Meeting production schedules b) Minimizing production cost
c) Ensuring maximum product variety d) Ensuring product quality

(viii) Master Production Schedule (MPS) is primarily applied to
a) Plan labor requirements b) Schedule inventory deliveries
c) Plan and control production d) Optimize supply chain

(ix) The process of ensuring that actual activities conform to planned activities is defined as

a) Planning
b) Organizing
c) Leading
d) Controlling

(x) Identify the principle of management that suggests that management should encourage harmony and unity among the workforce.

a) Division of labor
b) Unity of command
c) Esprit de corps
d) Equity

(xi) Choose the management approach that focuses on the organization as a whole rather than individual parts.

a) Classical Approach
b) Systems Approach
c) Contingency Approach
d) Behavioral Approach

(xii) Select the correct option about long-term financial decision.

a) Working capital management
b) Capital budgeting
c) Inventory management
d) Cash management

(xiii) Identify the capital budgeting methods that ignores the time value of money.

a) Net present value (NPV)
b) Internal rate of return (IRR)
c) Payback period
d) Discounted payback period

(xiv) Select from following that is considered a profitability ratio.

a) Current ratio
b) Gross profit margin
c) Debt-to-equity ratio
d) Quick ratio

(xv) Identify from the following that would increase the risk profile of a company.

a) Higher equity financing
b) Lower interest rates
c) Higher debt financing
d) Higher retained earnings

Group-B

(Short Answer Type Questions) 3 x 5=15

2. Define the safety management system (SMS). (3)
3. Explain any two types of time allowances in time study. (3)
4. Define management in brief. (3)
5. Explain the significance of Just-in-Time (JIT) production. (3)
6. Differentiate between method study and work measurement. (3)

OR

Illustrate the purpose of a safety audit in a plant. (3)

Group-C

(Long Answer Type Questions) 5 x 6=30

7. Explain the different types of plant layout with examples (5)
8. Analyze the factors affecting the selection of an industrial site and justify their significance. (5)
9. Explain the importance of continuous improvement in PPC. (5)
10. Describe the methods used in settlement of industrial disputes and compare conciliation, mediation, and arbitration. (5)
11. Define productivity. Explain how productivity affects the standard of living (5)
12. Explain the concept of Total Productive Maintenance (TPM) and its role in enhancing plant efficiency. (5)

OR

Analyze the factors influencing the location of a manufacturing plant. (5)

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