



**M.E DEGREE EXAMINATIONS: NOV/DEC 2023**

(Regulation 2018)

Third Semester

**CONSTRUCTION MANAGEMENT**

P18CMT3001: Construction Quality and Safety Management

**COURSE OUTCOMES**

**CO1:** understand the various safety concepts and requirements applied to construction projects.

**CO2:** applying design for safety in construction industry.

**CO3:** learn to avoid construction accidents, suggest safety programmes.

**CO4:** apply quality control aspects in planning and management.

**CO5:** learning concepts of quality assurance and control techniques in construction.

**Time: Three Hours**

**Maximum Marks: 100**

**Answer all the Questions:-**

**PART A (10 x 1 = 10 Marks)**

1. Match the concepts with their respective theories

CO1 [K<sub>2</sub>]

| Theory             | Concept               |
|--------------------|-----------------------|
| A. Heinrich Theory | i. Accident Causation |
| B. Collision       | ii. unsafe act        |
| C. Ferrel          | iii. FMEA             |
| D. Vincoli         | iv. human error       |

a) iii,i,iv,ii

b) i,ii,iv,iii

c) ii,i,iv,iii

d) iv,ii,iii,i

2. Pick the correct statement.

CO1 [K<sub>1</sub>]

The key functions of safety management system are, (1) Planning for safety, (2) Organizing for safety, (3) Scheduling for safety, (4) Controlling for safety

a) 1, 2 and 3 are correct

b) 2, 3 and 4 are correct

c) 1, 2 and 4 are correct

d) 1, 3 and 4 are correct

3. Assertion (A): Provisions of Employees' compensation Act and Maternity Benefit Act do not apply to all industries.

CO2 [K<sub>2</sub>]

Reason (R): Employees' Compensation Act is a comprehensive social security

legislation.

- a) (A) is wrong, but (R) is right.                      b) (A) is right, but (R) does not related to the (A)
- c) (A) and (R) are right, and (R) validates the (A).                      d) (A) and (R) are wrong.
4. Which theory is not developed to understand accident causation?                      CO2    [K<sub>1</sub>]
- a) Heinrich Theory    b) Ferrel's Theory
- c) Collision Theory    d) Vincoli Theory
5. Which kind of cost is not included in direct accidents costs?                      CO3    [K<sub>2</sub>]
- a) Medical care expenses for injured.                      b) Replacement cost of equipment and material damaged in accidents
- c) Decrease in moral which affects productivity.                      d) Fees for legal counsel
6. A Specification is, \_\_\_\_\_                      CO3    [K<sub>2</sub>]
- a) a request (something) to be made, supplied, or served.                      b) a detailed description of the design and materials used to make a product.
- c) a situation or action that tempts someone to do something or makes a particular outcome                      d) facts and statistics collected for reference or analysis.
7. Assertion (A): Taguchi's concept works on the principle that when a product is designed, it should be designed with minimum loss                      CO4    [K<sub>2</sub>]  
Reason (R): Taguchi derived the six-sigma technique
- a) Both A and R are Individually true and R is the correct explanation of A                      b) A is true but R is false
- c) Both A and R are Individually true but R is not the correct explanation of A                      d) A is false but R is true
8. Which of the following is responsible for quality objective?                      CO4    [K<sub>2</sub>]
- a) Top level management    b) Frontline management
- c) Middle level management    d) Customers
9. Sequence the benchmarking steps:                      CO5    [K<sub>2</sub>]
1. Deciding what to benchmark
  2. Understanding current performance
  3. Planning
  4. Studying others
  5. Learning from the findings
- a) 1-2-3-4-5    b) 3-2-1-4-5
- c) 2-1-3-4-5    d) 3-1-2-4-5



28. Describe role of first line middle level managers in ensuring safety of a construction safety. CO2 [K<sub>2</sub>]
29. Categorize the various causes of accidents with suitable examples. CO3 [K<sub>3</sub>]
30. Explain the factors influencing quality in construction projects with suitable examples. CO4 [K<sub>3</sub>]
31. Consider a construction industry is struggling with cost and time overrun issues. Conduct a FMEA study to understand the causes of overrun problems and suggest suitable measures to overcome the same. CO5 [K<sub>3</sub>]

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