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Reg. No. :

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**Question Paper Code: 59772**

B.E./B.Tech. DEGREE EXAMINATION, MAY 2022

Open elective

Civil Engineering

15UME972 - INDUSTRIAL SAFETY AND ENGINEERING

(Common to CSE, ECE, EEE, EIE ,IT and Chemical Engineering branches)

(Regulation 2015)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. In time study, the rating factor is applied to determine CO1- R
  - (a) standard time of a job
  - (b) merit rating of the worker
  - (c) fixation of incentive rate
  - (d) normal time of a worker
  
2. Standard time is equal to CO1- R
  - (a) Normal time minus allowances
  - (b) Normal time plus allowances
  - (c) Representative time multiplied by rating factor
  - (d) Normal time taken by an operation
  
3. MBO was invented by \_\_\_\_\_. CO2- R
  - (a) Peter Drucker
  - (b) Koontz & O 'Donell
  - (c) Henry Fayol
  - (c) Henry Fayol
  
4. The end result of risk management is CO2- R
  - (a) To eliminate danger to the public
  - (b) To minimize cost to the company
  - (c) To reduce risk to an acceptable level
  - (d) None of the above

5. Which of the following is the primary reason for accident investigation? CO3- R  
design?  
(a) To identify a scapegoat (b) To take disciplinary action  
(c) To prevent future accidents (d) None of the above
6. Which one of the following factors is not important in organization CO3- R  
design?  
(a) Environment (b) strategy (c) information relationships (d) technology
7. Which of the following specific procedures must your training include, to CO4- R  
protect you from exposure to hazardous chemicals?  
(a) Appropriate work practices (b) Emergency procedures  
(c) Personal protective equipment (d) All of the above
8. According to Herzberg, which of the following is a maintenance factor? CO4- R  
(a) Salary (b) work itself (c) responsibility (d) recognition
9. Protection of organizational facilities and employees is called CO5- R  
(a) Adverse situation (b) Security (c) Safety (d) Health
10. A product layout is generally preferred for CO5-R  
(a) Batch production (b) continuous type of production  
(c) effective machine utilization ratio (d) all of the above

PART – B (5 x 2= 10 Marks)

11. How the modern safety concept is evolved ? CO1- U
12. Definitions of MBO CO2-U
13. Define institutional bio safety committee. CO3- U
14. What is meant by Brain Storming? CO4- U
15. What are the requirements for effective control? CO5- U

PART – C (5 x 16= 80 Marks)

16. (a) Analyze the history of safety movement in india CO1- Ana (16)  
Or  
(b) Illustrate how safety committee meeting is arranged and CO1- Ana (16)  
conducted and prepare sample minutes of the safety committee  
meeting conducted.

17. (a) Mention and explain the steps in planning process with neat diagram CO2-Ana (16)
- Or
- (b) Illustrate the Fault tree Analysis procedure with an example. CO2-Ana (16)
18. (a) Explain the nature and purpose of an organization CO3- U (16)
- Or
- (b) Name the factors determining departmentation. Mention the bases of departmentation and give examples. CO3- U (16)
19. (a) Explain how motivation helps an organization to improve productivity? CO4- U (16)
- Or
- (b) Explain the EMS models with Case Studies. CO4- U (16)
20. (a) Explain the steps in the process of controlling. CO5- U (16)
- Or
- (b) Define the role of government agencies and private consulting agencies in safety training DGFASLI. CO5- U (16)

