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Reg. No. :

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Question Paper Code: 59923A

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2019

Elective

Chemical Engineering

15UCH923- CHEMICAL PROCESS PLANT SAFETY

(Regulation 2015)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

- Which of the following is not an occupational health and safety management system CO1- R
(a) HSG65 (b) ISO 14001 (c) OHSAS 18001:2007 (d) ILO-OSH 2001
- Any unplanned happening is CO1- R
(a) Accident (b) Hazard (c) Risk (d) All of the above
- The chemical that possess narcotic property is CO2- R
(a) Trichloroethylene (b) Benzene (c) Chromium (d) Alkaloids
- Which of the following colour is used for radiation hazard CO2- R
(a) Red (b) Orange (c) Green (d) Purple
- The following is (are) are generally provided with limit switch to prevent motion beyond preset limit CO3- R
(a) Hoists (b) Conveyors (c) Machine tables (d) All of the above
- Method of maintenance made after the equipment is out of order CO3- R
(a) Scheduled (b) Preventive (c) Breakdown (d) Predictive
- Water is used to extinguish CO4- R
(a) Class-A fires (b) Class-B fires (c) Class-C fires (d) All of the above
- Class-A fire consists of fire due to CO4- R
(a) Wood (b) Oil (c) Transformer (d) Chemical

9. Which of the following Acts is for implementing safety in industries CO5- R
 (a) Workmen Compensation Act (b) Factories Act
 (c) Labour Welfare Act (d) All of the above
10. Which among the following is not a HAZOP guide word CO5- R
 (a) More (b) Less (c) As well as (d) Between
11. Define safety in industries. CO1- R
12. State “Unit Load Handling” principle.. CO2- R
13. State the causes of accidents in an industry.. CO3- R
14. Give reasons for the occurrence of accidents in industries.. CO4- R
15. List few safety organizations. CO5- R

PART – B (5 x 2= 10 Marks)

- 16 (a) Explain the role of chemical engineer and areas to be considered in implementing safety in a process industry.. CO1- U (16)

Or

- (b) Write short notes on the environmental benefits of ensuring safety in a process plant. CO1- U (16)

- 17 (a) Discuss in detail about the dangerous properties and effects of chemicals.. CO2- U (16)

Or

- (b) Discuss the about the principles of material handling CO2 -U (16)

- 18 (a) Explain the PPE used in chemical industries. CO3- U (16)

Or

- (b) Elaborate the process of Safety Audit in detail. CO3- U (16)

- 19 (a) Explain fault tree analysis used in quantifying risk. CO4- Ana (16)
- Or
- (b) Describe the causes and preventive measures of industrial accidents with a case study. CO4- Ana (16)
- 20 (a) Describe the HAZOP procedure and list the guide words CO5- U (16)
- Or
- (b) Discuss the Factories and Labour Welfare Act. CO5- U (16)

