

JK LAKSHMIPAT UNIVERSITY, JAIPUR

INSTITUTE OF ENGINEERING AND TECHNOLOGY

End Term Examination, Nov.-Dec. 2015

B. Tech in Chemical Engineering, Semester-VII

Roll No.....

COURSE CODE: (CHE-723); Process Plant Safety

Time: 3 hours

Max. Marks: 100

Instructions to students:

1. Do not write anything other than your roll number on question paper.
2. Assume suitable data wherever required and mention it clearly.
3. Writing appropriate units, nomenclature, and drawing neat sketches/schematics/ flow chart wherever, required are an integral part of the answer.

Q.1A	Objective type multiple choice questions (10 questions @ 1 mark)	10
i.	In HAZOP study we identify (a) hazards in process (b) the operability (c) both a & b (d) None	
ii.	A person is widely exposed to hazards substance biological test will perform with a) Urine b) Blood c) Sweat d) all of the above	
iii.	Explosive substance is a) which itself produce chemical reactions and gas b) give sufficient amount of heat c) Both a & b d) inactive during vapor condition	
iv.	Nitration is the process a) it is exothermic reaction b) large heat release during reaction c) low temperature required d) all of the above	
v.	Risk assessment involve a) classifying work activities b) identification of hazards c) evaluation of hazards d) all of the above	
vi	Hazards is a) a source of potential harm b) handling of toxic chemical c) harm or damage d) all of the above	
vii	Classes of chemical are called are hazardous chemical a) effect of environment b) toxic effect on human c) toxic effect on biodiversity d) all of the above	
viii	Purpose of sampling has identified at workplace related to a) identify the potential toxic b) to determine the health hazards c) both a & b d) none	
ix	Bhopal gas tragedy in which gas released (a) methyl isocyanate (b) methyl thio isocyanate (c) methyl monocyanate (d) methyl cynate	
x	Particulate matter is a) PM2.5 b) PM10 c) PM 5 d) Both a&b	
Q.2	Short answer type questions (4 questions @ 2.5 marks)	10

i.	Short note on particulate matter PM2.5	
ii.	Explain how monitoring useful for all chemical companies.	
iii.	Give five major factors which influence the toxicity at work place.	
iv.	Write short note on nitration.	
Q.3A	Why safety audit essential for any company's explain.	05
Q.3B	Discuss the On -Site emergency plan of hazards for chemical industry.	05
Q.4A	How to write a technical report of chemical industry discuss each component of the report.	05
Q.4B	Explain the pipeline spill. What to do if spill occurs in pipeline.	05
Q.5A	Give a note on airborne contaminants of industry.	05
Q.5B	What is the biological monitoring and give it significance.	05
Q.6A	Write short note on Indian standards on personal protective equipment	05
Q.6B	Explain risk assessment for pipeline safety.	05
	OR	
Q.6B	Discuss the transportation of hazardous chemical.	05
Q.7A	Discuss the pipeline safety rule	05
Q.7B	Define the purpose and scope of the study of HAZOP	05
	OR	
Q.7B	Explain the risk assessment through flow chart.	05
Q.8A	Write the critical case study of PIPER ALPHA or BHOPAL GAS TRAGEDY.	10
Q.9A	Explain plant site and plant layout.	10
Q.9B	Write note on hlogenation	10
	OR	
Q.9B	Describe HAZOP method flow diagram	10