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Course Name: MSc Toxicology, Semester-I End term Examination (2022-23)

Paper Name: Toxic Industrial Chemicals and their analysis

Paper Code: BTX-SEC-201

Time: 2h

Maximum Marks: 45

Note: This paper has 3 section A, B and C, Attempt all the three sections.

Section A: Answer all the questions; Section B: Answer any 3 out of 5; Section C: Answer all the questions, each question has an internal choice

Abbreviations Used

CO-Course Outcome, PO-program Outcome, BTL-Bloom Taxonomy Level: BT level 1- Remember; BT level 2-Understand; BT level-3 Apply; BT level 4 Analyze; BT level 5- evaluate, BT level 6 Create

SECTION A

Very short type questions. Attempt all the questions.

(Marks 1×15=15)

Q. No.	Questions	Marks	BTL	CO	PO
1	_____ is one of the deadliest chemical warfare agents used by the Nazis during WWII.	1	2	1	1
2	The highly toxic gas released at a Union Carbide pesticides factory is _____.	1	1	2	1
3	The chemical exploded in the 2020 Beirut explosion was _____.	1	1	2	1
4	_____ is the maximum value a TIC can get into the Hazard Index scale.	1	2	1	1
5	Phosgene is produced by the reaction of chlorine with _____.	1	3	4	2
6	The reagent used in the spot analysis of phenols is _____.	1	1	2	1
7	The _____ disaster (1976) was caused by the release of a dioxin gas.	1	2	1	1
8	_____ is the time duration between the beginning of exposure and the appearance of disease.	1	4	3	1
9	_____ assessment involves the assessment of chemical and physical properties.	1	2	1	1
10	The formula of R_f used in the paper chromatography is _____.	1	2	1	1
11	The distribution factor in the Hazard Scale depends on the number of continents. (T / F)	1	3	4	2
12	All hazardous materials are toxic materials or vice-versa. (T / F)	1	1	2	1
13	NH_3 is commonly produced through the Haber-Bosch process. (T / F)	1	2	1	1
14	Fukushima Daiichi Disaster (2011) was a nuclear explosion. (T / F)	1	4	3	1

15	Chronic effect is an immediate health effect. (T / F)	1	2	1	1
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SECTION B

Long type Question Attempt any two out of four.

(Marks 2×10=20)

Q. No.	Questions	Marks	BTL	CO	PO
1	Discuss the ranking of TIC using the IDLH parameter. Also discuss the classification of TIC proposed by NATO ITF-25.	10	5	5	3
2	How analysis of the TIC is carried out? Discuss the Qualitative as well as Quantitative analysis of a TIC.	10	5	5	3
3	Discuss the methods of exposure and release of TICs to human and environment.	10	4	3	1
4	Write short notes on Bhopal Gas Tragedy (1984) or Beirut explosion (2020).	10	4	3	1

SECTION C

Short-type Questions. Attempt any four out of five questions.

(2.5 × 4 = 10)

Q. No.	Questions	Marks	BTL	CO	PO
1	Define Toxic Industrial Chemical (TIC).	2.5	2	1	1
2	Give any five sources of TICs.	2.5	2	1	1
3	What are the routes of exposure of a chemical to enter in the body?	2.5	4	3	1
4	Mention the factors involved in the rate of exposure of TICs.	2.5	2	1	1
5	Briefly described the analysis of the leakage of gasoline in a Petrochemical Refinery.	2.5	5	5	3

END OF THE PAPER