Reg. No.:

Name:

VIT BHOPAL
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TERM END EXAMINATIONS (TEE) – December 2021- January 2022

Programme	:	**B.Tech. Computer Science and Engineering with (Specialization in Cyber security and Digital Forensics)**	**Semester**	:	**Fall 2021-22**
Course Name	:	**Forensic Chemistry and Applications**	**Course Code**	:	**CHY1007**
Faculty Name	:	**Dr. Saurabh Bhargava**	**Slot / Class No**	:	**B21+D11+D12/0280**
Time	:	**1½ hours**	**Max. Marks**	:	**50**

Answer ALL the Questions

Q. No.		Question Description	Marks
		PART - A (30 Marks)	
1.	(a)	Ms Mary Blandy was arrested on charges of murdering her own father in 1752. The trial that followed is still thought as the one which paved the way for usages of science in solving crimes. Can you explain the role of forensics in the BLANDY murder trial? Also, evaluate the impacts of this trial on development of forensic science.	10
		OR	
	(b)	A paint sample in form a small chip has been retrieved from clothing of a road accident victim. The investigation team wants you to compare the questioned paint sample with reference sample from five different automobile manufactures who sell cars in that region. Provide the scheme of analysis and demonstrate with working mechanism which technique you will use to establish the origin of questioned paint sample.	10
2.	(a)	As a forensic expert, you received a document on which you need to develop latent fingerprint. You have to use development methods in a sequence from non-destructive to destructive techniques. Provide the schematics and details of how you'll proceed with potential latent fingerprints. Justify the usage of different techniques.	10
		OR	
	(b)	Enumerate various sections of NDPS Act of India. Can you justify the differences in Section 18 and Section 19 of NDPS Act 1985?	10
3.	(a)	Differentiate between the signs and symptoms caused by benzodiazepines and amphetamines. Suggest different preliminary color tests with their reagents and procedures for testing of Valium and Adderall.	10
		OR	

(b) Based on your knowledge about various accelerants that are frequently used in arson cases, justify your opinion whether a GC-MS or an LC-MS technique will be beneficial for investigation of evidences collected from arson scene. 10

PART - B (20 Marks)

4. Taking an example of ethanol (C_2H_5OH), elaborate how soft ionization techniques are more suited for MS/MS analysis as compared to hard ionization techniques. Enumerate various ionization techniques used in Mass Spectrometry. 10

5. Differentiate between pre-blast and post-blast crime scenes in context of an explosives. Justify why primary explosives are not frequently used in terror activities. What are the chemical tests that can be performed to prove presence of chlorides in explosive residues? 10

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