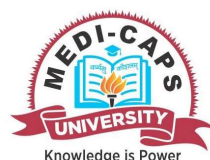


Total No. of Questions: 6

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Enrolment No.....



Faculty of Science

End Sem (Even) Examination May-2022

FS3CO09 Forensic Chemistry

Programme: B.Sc. (FS)

Branch/Specialisation: Forensic Science

Duration: 3 Hrs.

Maximum Marks: 60

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d.

- Q.1 i. The Specific Gravity of ethanol is- 1
(a) 0.79 gm (b) 0.75 gm (c) 0.71 gm (d) None of these
- ii. Rectified Spirit is- 1
(a) 99% w/w ethanol (b) 90% w/w ethanol
(c) 97% w/w ethanol (d) 96% w/w ethanol
- iii. Fire is- 1
(a) Exothermic Oxidation Reaction
(b) Endothermic Oxidation Reaction
(c) Both (a) & (b)
(d) None of these
- iv. Pyromania Belong to- 1
(a) Alcohol (b) Fire
(c) Food (d) None of these
- v. When a liquid is converted into a gas, this process called as- 1
(a) Crystallization (b) Evaporation
(c) Filtration (d) None of these
- vi. Boiling temperature of water- 1
(a) 212 °F (b) 200 °F (c) 150 °F (d) 230 °F
- vii. Which of the following is/are unrefined petroleum product? 1
(a) Asphalt (b) Bitumen
(c) Natural gas (d) All of these
- viii. Which is the heavy distillates product of petroleum- 1
(a) Wax (b) Gasoline
(c) Kerosine (d) None of these
- ix. Propellant is 1
(a) High explosive (b) Low explosive
(c) Secondary high explosive (d) None of these

P.T.O.

- x. Gun Cotton is- 1
(a) Ammonium nitrate (b) Ammonia dynamite
(c) Nitrocellulose (d) All of these
- Q.2 i. Write definition of beverage. 2
ii. Write about alcohol beverage and their composition. 3
iii. Give brief Note on “Abkari Act”. 5
- OR iv. Explain distinction between licit and illicit liquors. 5
- Q.3 i. Write difference between fire and arson. 2
ii. Explain chemistry of fire in details. 8
- OR iii. How to search, collect, preserve and analysis of fire and arson related evidences. 8
- Q.4 i. Give brief introduction of filtration. 3
ii. Explain principle, instrumentation and application of distillation in forensic science. 7
- OR iii. Write essay on “SPME” with forensic application. 7
- Q.5 i. Define fractionation. 2
ii. Write long note on “Adulteration of petroleum products” 8
- OR iii. How to analysis of traces of petroleum products in forensic exhibits. 8
- Q.6 Write short note on any two:
i. Classification of explosive. 5
ii. Mechanism of explosive. 5
iii. Blast injuries. 5

Marking Scheme
FS3CO09 Forensic Chemistry

Q.1	i.	The Specific Gravity of ethanol is-		1
		(a) 0.79 gm		
	ii.	Rectified Spirit is-		1
		(b) 90% w/w ethanol		
	iii.	Fire is-		1
		(a) Exothermic Oxidation Reaction		
	iv.	Pyromania Belong to-		1
		(b) Fire		
	v.	When a liquid is converted into a gas, this process called as-		1
		(b) Evaporation		
Q.2	vi.	Boiling temperature of water-		1
		(a) 212 °F		
	vii.	Which of the following is/are unrefined petroleum product?		1
		(d) All of these		
	viii.	Which is the heavy distillates product of petroleum-		1
		(a) Wax		
	ix.	Propellant is		1
		(b) Low explosive		
	x.	Gun Cotton is-		1
		(c) Nitrocellulose		
Q.3	i.	Definition of beverage.		2
	ii.	Definition of alcohol beverage	1 mark	3
		Composition	2 marks	
	iii.	Introduction of “Abkari Act”	1 mark	5
		Important sections of act	3 marks	
OR		Uses and application of act	1 mark	
	iv.	Any 5 Differences	(1 mark * 5)	5
Q.4	i.	Definition of fire and arson	1 mark	2
		Motive behind fire and arson	1 mark	
	ii.	Definition and introduction of fire	2 marks	8
		Chemistry of fire	4 marks	
		Uses of fire	2 marks	
OR	iii.	Searching	2 marks	8

		Collection	2 marks	
		Preservation	2 marks	
		Analysis	2 marks	
Q.4	i.	Definition of filtration	1 mark	3
		Technique of filtration	2 marks	
	ii.	Definition of distillation	1 mark	7
		Instrumentation of distillation	5 marks	
		Application of distillation	1 mark	
OR	iii.	Definition of SPME	1 mark	7
		Instrumentation of SPME	4 marks	
		Application of SPME	2 marks	
Q.5	i.	Definition of fractionation.		2
	ii.	Definition and introduction of adulteration & petroleum		8
			1 mark	
		Types of adulteration & petroleum products	3 marks	
		Analysis methods and techniques of adulteration of petroleum	4 marks	
OR	iii.	How to analysis of traces of petroleum products in forensic exhibits.		8
		Definition and introduction of petroleum products	2 marks	
		Types of traces	2 marks	
		Analysis methods and techniques of traces of adulteration of petroleum	4 marks	
Q.6		Write short note on any two:		
	i.	Classification of explosive based on intensity	3 marks	5
		Classification of explosive based on uses	2 marks	
	ii.	Definition of Mechanism of explosive	1 mark	5
		Chemistry behind Mechanism of explosive	2 marks	
		Physic behind Mechanism of explosive	2 marks	
	iii.	Definition of injuries and blast	2 marks	5
		Types of blast injuries	3 marks	
