Seat No.   Enrolment No.

Pages - 2   **Total Marks: 60**

Note: (1) Attempt all questions.
(2) Figures to the right indicate marks.

Q. 1	(a)	Answer the following multiple choice questions.	(08)
	(1)	_____ are living bio aerosols . a) Viable b) Non Viable c) Sitting d) None	
	(2)	Tedlar bags are used for _____ sampling a) Gas b) Liquid c) Particulates d) None	
	(3)	Break of of Sorbent tubes are done at _____ dia. a) 2mm b) 4mm c) 1mm d) 3mm	
	(4)	Dust with TLV_____ should be ideally sampled first . 0.5 ppm B) 1 ppm C) 0.1 ppm D) 0.13 ppm	
	(5)	_____ law is seen in passive sampling a) Cicks b) Fick's c) Tindall d) None	
	(6)	Suspected Human Carcinogen is _____ (a) A1 b)A2 c)A3 d)None	
	(7)	37 mm cassettes are used typically. a)False b)True c) 52mm d) 27 mm	
	(8)	In Asbestos Sampling, Cowl is recommended. (a) False b) True c) Cassettes d) Bags	
Q1	(b)	Answer the following (Fill in the blanks and True or False)	(08)
	(1)	_____ sampler used for inhalable dust.	
	(2)	Dragger Tubes are Direct reading Monitors . True or False	
	(3)	LOD is higher than LOQ and has better precision. True or false	
	(4)	For Nonliving Bioaerosols mass and numbers are important . True or False	
	(5)	Impingers are used for adsorption whilst air sampling. True or false	
	(6)	_____ limit concentration should not be exceeded during any part of working period.	
	(7)	Aromatic Hydrocarbons generally Gas Chromatography analytical technique used. True or false	
	(8)	During pesticides sampling _____ filter used.	
Q.2		Attempt **any Six** of the following.	(12)
	(1)	Breakthrough	
	(2)	Draw Sampling Train with Cassette.	

	(3)	Bioaerosols	
	(4)	Define TLV-TWA	
	(5)	Name Schedules of The Factories Act.	
	(6)	What is Desorption in Air Sampling aspect.	
	(7)	Draw Picture of cyclone Calibration with description.	
	(8)	Name various Filter and its uses.	
Q. 3		Explain Various Control Techniques for Dust	(08)
		OR	
Q.3		What are Common Errors whilst Air sampling	(08)
Q. 4		Draw regions of the respiratory system & explain correlation with respirable, inhalable and total dust.	(08)
		OR	
Q. 4		What is the adjusted TLV for methanol for an operation in which employees will work for 12 hrs per week. The TLV-TWA for methanol is 130 ppm. Use Brief and Scala model and OSHA Model. Do suggest controls irrespective of results. Assume if any other numerical .	(08)
Q. 5		Explain Direct Reading Monitors and its advantages and disadvantages	(08)
		OR	
Q. 5		A IH sampled the air at 2 LPM for 450mins The Lab counted an avg. of 6.5 fibres/field on the cassette. Blank Avg is 0.3 fibres/field . What is asbestos concentration in Air .Area of field is 0.00785 mm. sq. Area of cassette is 385 mm.sq. Assume other numerical and values if necessary .	(08)
Q. 6		Explain Passive Sampling with a picture description and what are advantages and disadvantages of it.	(08)
		OR	
Q. 6		Explain Gas Chromatography and how its useful for IH	(08)