

THE CHARUTAR VIDYA MANDAL UNIVERSITY**MSc - INDUSTRIAL HYGIENE AND SAFETY – SEMESTER 2****SUMMER (REGULAR) 2023 EXAMINATION****Course Title: INDUSTRIAL VENTILATION****Course Code: 201360201****Total Printed Pages : 2****Date: 17/04/2023****Time: 2.00 pm to 4.00 pm****Maximum Marks: 50****Instructions:**

- Attempt all questions.
- Numbers to the right indicate full marks for each question.
- Make suitable assumptions wherever necessary.

Q. 1		Answer the following multiple choice questions.	(04)
	(I)	Roof Ventilators are _____ ventilation.	
		(A) Natural (C) TEV	
		(B) LEV (D) MEV	
	(II)	A combination of Plenum and Exhaust ventilation system is called _____	
		(A) Balanced (C) Sometimes	
		(B) Unbalanced (D) None	
	(III)	Air cleaning device is generally seen in _____	
		(A) MEV (C) LEV	
		(B) MUV (D) KEV	
	(IV)	Glove Box is _____ hood	
		(A) Enclosing (C) Capture	
		(B) Lined (D) Receiving	
Q.2		Answer in brief and to the Point (3 questions of 2 marks each)	(06)
	(I)	What is the basic purpose of ventilation	
	(II)	Which are Two Major Functions of ventilation Systems	
	(III)	Plenum Ventilation	
Q.3	(a)	Good Ventilation vs Bad Ventilation	(05)
	(b)	Why Ventilation during construction is key for Fire fighters and what issues they face if proper ventilation is not their.	(05)
		OR	
	(b)	Explain Indoor Air Quality in detail .How can good quality be maintained.	(05)
Q.4	(a)	A company has opted to go with an general dilution system for their materials storage. An HVAC system is used to get air inside room. Air is moving through 700 mm square duct system at 50mph.What is flow rate exiting in room. Any other values if required can be assumed.	(05)
	(b)	Uses of Dilution Ventilation	(05)
		OR	

	(b)	Explain ACR	(05)
Q.5	(a)	Draw an LEV system . What are the functions of major parts of LEV system	(05)
	(b)	Explain Capture Velocity	(05)
		OR	
	(b)	Advantages and Disadvantages of LEV System	(05)
Q.6	(a)	What are Pitot tube and tracer gas method .Explain any one	(05)
	(b)	Draw a smoke tube testing system and what they are useful for testing.	(05)
		OR	
	(b)	What are the difficulties encountered during field measurements of ventilation systems	(05)

Note : 5 marks questions may be divided into sub questions.

Seat No. _____

Enrollment No. _____

THE CHARUTAR VIDYA MANDAL UNIVERSITY
MSc – INDUSTRIAL HYGIENE AND SAFETY – SEMESTER 2
APRIL 2023 REGULAREXAMINATION

**Course Title: HAZARD IDENTIFICATION, ASSESSMENT AND
CONTROL TECHNIQUES**

Course Code: 201360202

Total Printed Pages : 02

Date: 19/04/2023

Time: 02pm to 04pm

Maximum Marks: 50

Instructions:

- Attempt all questions.
- Numbers to the right indicate full marks for each question.
- Make suitable assumptions wherever necessary.

Q.1		Answer the following multiple choice questions.	(04)
	(I)	The unit of scheduled charge is... a. Man hours b. Man days c. Rupees d. Numer of injuries	
	(II)	Job Safety Analysis is useful for... a. Unit process b. Manual job c. Unit Operation d. Runaway	
	(III)	Puff characteristic... a. Instantaneous release b. Time $t \rightarrow 0$ c. Both of the above d. None	
	(IV)	The review and updating frequency for Safety Report is... a. Annual b. Biannual c. Three years d. Half yearly	
Q.2		Answer in brief and to the Point (3 questions of 2 marks each)	(06)
	(I)	Explain HAZOP team.	
	(II)	Differentiate FTA and ETA.	
	(III)	Enlist steps of Risk Progression chart.	
Q.3	(a)	Write Short Note on Rule 103	(05)
	(b)	Calculate mandays lost for accident occurrence on date 25.12.2019 and resumption of duty by victim on 02.03.2020.	(05)
		OR	
	(b)	Define and classify disablement.	(05)
Q.4	(a)	Write short note on Job Safety Analysis.	(05)
	(b)	Discuss Accident Weed Diagram	(05)
		OR	
	(b)	What is the necessity of accident Investigation and Reporting ?	(05)
Q.5	(a)	Enlist Risk Acceptability criteria.	(05)
	(b)	Sketch FMECA worksheet.	(05)
		OR	
	(b)	Write short note on Hazard and Operability study (HAZOP).	(05)

Q.6	(a)	Define Safety Audit. Enlist salient features of it.	(05)
	(b)	Differentiate On-site Emergency and Off-site Emergency.	(05)
		OR	
	(b)	Explain Vulnerability Analysis.	(05)

Note : 5 marks questions may be divided into sub questions.

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THE CHARUTAR VIDYA MANDAL UNIVERSITY
MSc INDUSTRIAL HYGIENE AND SAFETY – SEMESTER II
APRIL-23: (REGULAR) EXAMINATION

Course Title: Physical Aspects of the Environment

Course Code: 201360203

Total Printed Pages : 2

Date: 21/04/2023

Time: 2:00 pm to 4:00 pm

Maximum Marks: 50

Instructions:

- Attempt all questions.
- Numbers to the right indicate full marks for each question.
- Make suitable assumptions wherever necessary

Q. 1		Answer the following multiple choice questions.	(04)								
	(I)	_____ collects sound waves									
		<table border="1" style="width: 100%;"> <tbody> <tr> <td>(A)</td> <td>Inner ear</td> <td>(C)</td> <td>Pinna</td> </tr> <tr> <td>(B)</td> <td>Kinna</td> <td>(D)</td> <td>Linna</td> </tr> </tbody> </table>	(A)	Inner ear	(C)	Pinna	(B)	Kinna	(D)	Linna	
(A)	Inner ear	(C)	Pinna								
(B)	Kinna	(D)	Linna								
	(II)	Exchange rate for strict consideration is generally _____									
		<table border="1" style="width: 100%;"> <tbody> <tr> <td>(A)</td> <td>5dB</td> <td>(C)</td> <td>3dB</td> </tr> <tr> <td>(B)</td> <td>10dB</td> <td>(D)</td> <td>15dB</td> </tr> </tbody> </table>	(A)	5dB	(C)	3dB	(B)	10dB	(D)	15dB	
(A)	5dB	(C)	3dB								
(B)	10dB	(D)	15dB								
	(III)	Work clothes (long sleeves and pants). Examples: Standard cotton shirt/pants. Clothing adjustment Factor is _____									
		<table border="1" style="width: 100%;"> <tbody> <tr> <td>(A)</td> <td>5</td> <td>(C)</td> <td>0</td> </tr> <tr> <td>(B)</td> <td>10</td> <td>(D)</td> <td>20</td> </tr> </tbody> </table>	(A)	5	(C)	0	(B)	10	(D)	20	
(A)	5	(C)	0								
(B)	10	(D)	20								
	(IV)	Alpha rays can be initially shielded by _____									
		<table border="1" style="width: 100%;"> <tbody> <tr> <td>(A)</td> <td>Paper</td> <td>(C)</td> <td>Aluminum</td> </tr> <tr> <td>(B)</td> <td>Lead</td> <td>(D)</td> <td>Air</td> </tr> </tbody> </table>	(A)	Paper	(C)	Aluminum	(B)	Lead	(D)	Air	
(A)	Paper	(C)	Aluminum								
(B)	Lead	(D)	Air								
Q.2		Answer in brief and to the Point (3 questions of 2 marks each)	(06)								
	(I)	What is NIHL									
	(II)	Acclimatisation									
	(III)	Ionising Radiation									
Q.3	(a)	Explain relationship between SPL and Sound Power Level and what are the differences	(05)								
	(b)	Explain Noise control - Engineering Way	(05)								
		OR									
	(b)	What is % dose of an employee exposed to 85 dB for 4 Hrs 90 dB for 2 Hrs 110 dB for 0.2 Hrs using OSHA exchange rate criteria?	(05)								
Q.4	(a)	What are general controls for heat stress	(05)								
	(b)	Explain Heat transfer	(05)								
		OR									
	(b)	Explain Heat related Illness and which is severe among them.	(05)								

Q.5	(a)	How Vibration Exposure Occur draw a neat example and what are the types of Vibration exposure.	(05)
	(b)	What is the effect on health and task performance during and after vibration exposure.	(05)
		OR	
	(b)	Explain Hand Arm Vibration Risk Management and Control	(05)
Q.6	(a)	Explain Protecting concept against radiation	(05)
	(b)	Explain Ionising and Non Ionising radiation with a clear picture.	(05)
		OR	
	(b)	What are Radioactive waste and how Low Level Waste are disposed.	(05)

Note : 5 marks questions may be divided into sub questions.

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THE CHARUTAR VIDYA MANDAL UNIVERSITY
MSc – INDUSTRIAL HYGIENE AND SAFETY – SEMESTER 2
APRIL 2023 EXAMINATION

Course Title: SAFETY IN CHEMICAL INDUSTRY**Course Code: 201360204****Total Printed Pages : 02****Date: 25/04/2023****Time: 2:00pm to 4:00pm****Maximum Marks: 50****Instructions:**

- Attempt all questions.
- Numbers to the right indicate full marks for each question.
- Make suitable assumptions wherever necessary.

Q.1		Answer the following multiple choice questions.	(04)
	(I)	The occupier of Hazardous process industry has to disclose information to... a. Workers b. Public c. DISH d. All of the above	
	(II)	The in-service examination of pressure plant are... a. External b. Internal c. Hydraulic d. All of the above	
	(III)	The unit of dew point is... a. Pressure b. Temperature c. Flow d. Level	
	(IV)	The principle of cathodic protection is... a. Galvanic series b. Granular c. Stress d. Selective leachate	
Q.2		Answer in brief and to the Point (3 questions of 2 marks each)	(06)
	(I)	Explain Crevice.	
	(II)	Differentiate Flash Point and Fire Point.	
	(III)	Define TLV.	
Q.3	(a)	Define and classify Corrosion with appropriate industrial examples and safety measures.	(05)
	(b)	Explain Cathodic Protection with neat sketch.	(05)
		OR	
	(b)	Give an overview of Code of Unfired Pressure Vessel	(05)
Q.4	(a)	Write short note: Ammonia Tanking	(05)
	(b)	Sketch various types of spheres used for LPG storage.	(05)
		OR	
	(b)	Answer as asked for: i) Mention type of level indicator used for EO storage. ii) What is the difficulty with rupture disc for Chlorine and what is the remedy? iii) What should be kept in stock near Oleum storage? iv) What do you mean by "pump in sump" for a dyke. v) What is basin?	(05)

Q.5	(a)	Enlist documents, displays and equipment required for transportation of hazardous chemical by road.	(05)
	(b)	Comment on following. i) TREM Card ii) Driver's qualifying criteria for transport of hazardous chemical by road	(05)
		OR	
	(b)	Discuss Pipeline Colour Code.	(05)
Q.6	(a)	Explain Process flow chart and its importance for safety inspection	(05)
	(b)	Sketch Instrumentation System.	(05)
		OR	
	(b)	Differentiate DCS and PLC. Also mention safety criteria of process control room.	(05)

Note : 5 marks questions may be divided into sub questions.

Seat No. _____

Enrollment No. _____

THE CHARUTAR VIDYA MANDAL UNIVERSITY
MSc. Industrial Hygiene and Safety – SEMESTER II
April2023(REGULAR) EXAMINATION

Course Title: Industrial Visits and Seminars**Course Code: 201360207****Total Printed Pages : 02****Date: 27/04/2023****Time: 2 pm to 4 pm****Maximum Marks: 50****Instructions:**

- Attempt all questions.
- Numbers to the right indicate full marks for each question.
- Make suitable assumptions wherever necessary.

Q. 1		Answer the following multiple choice questions.	(04)
	(I)	Reluctant to use PPE and other safety equipment is _____ issue.	
		(A) Government (C) Worker	
		(B) Society (D) Management	
	(II)	Worry is _____ cause of Accident	
		(A) Psychological (C) Physiological	
		(B) Physical (D) Environmental	
	(III)	_____ used as mainly in the manufacture of commercial glazes and is hazardous .	
		(A) Cyanide (C) Lead	
		(B) Nickel (D) Aluminum	
	(IV)	The severity of an injury is largely _____ the occurrence of the accident that results in injury is largely preventable.	
		(A) Malicious (C) fortuitous	
		(B) Critical (D) Horseplaying	
Q.2		Answer in brief and to the Point (3 questions of 2 marks each)	(06)
	(I)	Wet process of agate Industry	
	(II)	Extrusion Process at Kanjari	
	(III)	LOTO	
Q.3	(a)	Noise exposure can be lessened in Traffic Junctions.Suggest Control Measures	(05)
	(b)	Flow chart of Ceramic Industry you visited at Kanjari. Explain it in detail	(05)
		OR	
	(b)	Glazing process and its hazards with suitable control	(05)
Q.4	(a)	Explain Heat Stress Monitoring and how controls can be made effective in Foundary you visited.	(05)
	(b)	Flow chart of Foundary Industry you visited at V V Nagar. Explain it in detail	(05)
		OR	

	(b)	What are various PPE which can be used in Foundry industry w.r.t specific processes	(05)
Q.5	(a)	Explain Noise contour .How it can be done in Foundry Workshop	(05)
	(b)	Importance of Safety Week and how as an Safety Officer you will conduct in industry	(05)
		OR	
	(b)	What suggestions can be given to improve finishing and packing process in context to ergonomics w.r.t the labour employed in Ceramic Industry	(05)
Q.6	(a)	Explain Mock Drill	(05)
	(b)	Motivation is key to improvement of Quality and Safety .Justify the statement	(05)
		OR	
	(b)	Draw an LEV in context to the Agate process at Khambhat	(05)

Note : 5 marks questions may be divided into sub questions.
