

**GUJARAT TECHNOLOGICAL UNIVERSITY****BVOC - SEMESTER I – EXAMINATION – WINTER 2021****Subject Code:21110404****Date:23/03/2022****Subject Name:Refrigerants****Time:10:30 AM TO 12:30 PM****Total Marks:50****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

	<b>Marks</b>
<b>Q.1</b> (a) What is Refrigerant? Give Difference Between Azeotropic and Zeotropic Mixture?	<b>05</b>
(b) Define minimum ten required properties of Ideal Refrigerant.	<b>05</b>
<b>Q.2</b> (a) Explain designation of Refrigerant with example.	<b>05</b>
(b) Determine the refrigerant number from the given chemical formula (i) Dichloro-Tetrafluoro Ethane ( $C_2Cl_2F_4$ ) (ii) Difluoro-Monochloro-Methane ( $CHClF_2$ )	<b>05</b>
<b>OR</b>	
(b) Write a short note on Classification of Refrigerants.	<b>05</b>
<b>Q.3</b> (a) Briefly explain any one refrigerant from following: 1) Ammonia 2) Carbon Dioxide	<b>05</b>
(b) Enlist the safe working properties of Ideal Refrigerants and explain any two of them.	<b>05</b>
<b>OR</b>	
<b>Q.3</b> (a) Explain the selection criteria of best refrigerant according to application.	<b>05</b>
(b) Give example of primary and secondary refrigerants used in various industries.	<b>05</b>
<b>Q.4</b> (a) Enlist the thermodynamic properties of Ideal Refrigerants and explain any two of them.	<b>05</b>
(b) How do you keep your workplace safe?	<b>05</b>
<b>OR</b>	
<b>Q.4</b> (a) Enlist the Chemical properties of Ideal Refrigerants and explain any two of them.	<b>05</b>
(b) Define Properties of Freon 12 Refrigerant.	<b>05</b>
<b>Q.5</b> (a) Name Future Refrigerants to Replace CFCs and write key requirement to Use R-134a as Alternative to R-12.	<b>05</b>
(b) Explain effect of Global Warming.	<b>05</b>
<b>OR</b>	
<b>Q.5</b> (a) Define the following terms: Ozone Depletion potential (ODP), Global Warming Potential, (GWP).	<b>05</b>
(b) Explain relationship between Climate Change and Global Public Health.	<b>05</b>

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