

GUJARAT TECHNOLOGICAL UNIVERSITY**B.VOC- SEMESTER-I EXAMINATION – SUMMER 2022****Subject Code:21110401****Date:27-07-2022****Subject Name:Basics of Refrigeration****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.

		Marks
Q.1	(a) Explain units of refrigeration and define One Ton of Refrigeration.	05
	(b) Explain following terms: Refrigeration, Refrigerant, Refrigerator, Refrigerating Effect, and Coefficient of Performance.	05
Q.2	(a) Give Advantages and Disadvantages of Vapour Compression Refrigeration System.	05
	(b) Draw schematic diagram of Bell-Coleman Cycle.	05
	OR	
	(b) Discuss the advantages of dense air refrigerating system over open air refrigeration system.	05
Q.3	(a) Why is compression process required in VCR system? Explain in brief.	05
	(b) Draw Schematic diagram of Standard Vapour Compression Refrigeration System.	05
	OR	
Q.3	(a) Derive equation of COP for Air Refrigeration Cycle.	05
	(b) Explain Effect of Sub cooling in detail.	05
Q.4	(a) State and briefly explain the Methods of Refrigeration.	05
	(b) What are the requirements of refrigerant-absorbent mixture to use it in vapour absorption system?	05
	OR	
Q.4	(a) What are the Applications of Refrigeration?	05
	(b) What are the Function of following Components: 1. Absorber 2. Rectifier 3. Analyser 4. Heat Exchanger	05
Q.5	(a) Explain Electrolux refrigerator with schematic diagram.	05
	(b) Give comparison between Vapour compression and Vapour absorption refrigeration system.	05
	OR	
Q.5	(a) Explain Construction and working of simple Ammonia-Water (NH ₃ -H ₂ O) vapour absorption system with neat sketch.	05
	(b) Explain Construction and working of LiBr-H ₂ O vapour absorption system with neat sketch.	05
