

GUJARAT TECHNOLOGICAL UNIVERSITY**BVOC- SEMESTER- I EXAMINATION – SUMMER 2023****Subject Code:21110401****Date:28-07-2023****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 the Methods of Refrigeration.	05
(b) Enlist applications of refrigeration.	05
Q.2 (a) Explain flowing terms: Refrigeration, Refrigerant, Refrigerator, Refrigerating Effect, and Coefficient of Performance.	05
(b) Explain Reversed Brayton Cycle in detail.	05
OR	
(b) Derive equation of COP for Air Refrigeration Cycle.	05
Q.3 (a) Explain with schematic diagram Vapour Compression Refrigeration System.	05
(b) Give Advantages and Disadvantages of Vapour Compression Refrigeration System.	05
OR	
Q.3 (a) Explain Effect of Discharge pressure on COP of VCRS.	05
(b) Explain different methods of improving the COP of simple compression refrigeration cycle.	05
Q.4 (a) Explain Bell-Coleman Cycle with schematic diagram	05
(b) Explain Vapour Absorption Refrigeration System.	05
OR	
Q.4 (a) Write Short note on Temperature limitation for reversed Carnot cycle.	05
(b) What are the requirements of refrigerant-absorbent mixture to use it in vapour absorption system?	05
Q.5 (a) Give comparison between Vapour compression and Vapour absorption refrigeration system.	05
(b) Give Difference between Heat Engine, Refrigerator and Heat Pump.	05
OR	
Q.5 (a) Explain units of refrigeration and define One Ton of Refrigeration.	05
(b) What are the Function of following Components:	05
1. Absorber 2. Rectifier 3. Analyser 4. Heat Exchanger	
