

GUJARAT TECHNOLOGICAL UNIVERSITY**BVOC - SEMESTER-IV EXAMINATION – SUMMER 2022****Subject Code:1140402****Date:04-07-2022****Subject Name:Refrigeration & Air-conditioning Material - II****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 terms: steel tubing, normal size copper tubing | 05 |
| (b) List down advantages of copper tube on other tube. | 05 |
| Q.2 (a) Discuss properties of lubricating oil used in refrigeration system. | 05 |
| (b) List down the types of expansion devices. | 05 |
| OR | |
| (b) Write a short note on Thermal Expansion device. | 05 |
| Q.3 (a) Explain in detail Valve body materials. | 05 |
| (b) Write Short note on cooling tower materials. | 05 |
| OR | |
| Q.3 (a) Differentiate Soft copper tubing and hard-drawn copper tubing. | 05 |
| (b) Write the selection procedure for refrigerant lubricant. | 05 |
| Q.4 (a) Explain the need of lubrication in refrigeration system. | 05 |
| (b) Enlist the types of lubricants which are used in refrigeration system. | 05 |
| OR | |
| Q.4 (a) Write compatibility of lubricant with refrigerant fluid. | 05 |
| (b) Write Short note on solvent and cleaning. | 05 |
| Q.5 (a) Explain the terms: Cutting tubing, bonding tubing, connecting tubing, flaring tubing. | 05 |
| (b) Explain the effect of refrigerant on lubricant density. | 05 |
| OR | |
| Q.5 (a) List down different type of joining process used to join copper tubes and explain any one in detail. | 05 |
| (b) Explain pipeline materials in brief. | 05 |
