



Roll No:

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

B.VOC.
(SEM V) THEORY EXAMINATION 2021-22
NON-CONVENTIONAL REFRIGERATING SYSTEM

Time: 3 Hours**Total Marks: 30****Note: 1.** Attempt all Sections. If require any missing data; then choose suitably.**SECTION A****1. Attempt all questions in brief.****1 x 6 = 6**

Qno.	Question	Marks
a.	How cooling can be obtained through Peltier effect?	1
b.	Explain how cooling can be achieved through throttling phenomenon.	1
c.	What is adiabatic mixing? Explain.	1
d.	What is the name of component used in vapor absorption refrigeration system in place of compressor used in vapor compression system?	1
e.	What are the materials used in thermoelectric refrigeration system?	1
f.	Why Thomson effect is reversible thermoelectric phenomenon?	1

SECTION B**2. Attempt any three of the following:****3 x 3 = 9**

Qno.	Question	Marks
a.	Explain the working procedure of the steam jet refrigeration system.	3
b.	Discuss advantages of vapor absorption refrigeration system in comparison to vapor compression refrigeration system.	3
c.	Draw and explain enthalpy concentration diagram.	3
d.	What is separation in absorption system?	3
e.	What are desirable properties of a Thermoelectric material? Explain.	3

SECTION C**3. Attempt any one part of the following:****1 x 3 = 3**

Qno.	Question	Marks
a.	Compare thermoelectric refrigeration system with vapor compression system.	3
b.	Explain the advantages and disadvantages of mixed refrigeration system	3

4. Attempt any one part of the following:**1 x 3 = 3**

Qno.	Question	Marks
a.	Explain the theory used in binary mixtures.	3
b.	Discuss temperature concentration diagram.	3

5. Attempt any one part of the following:**1 x 3 = 3**

Qno.	Question	Marks
a.	What is Thomson effect? Explain how cooling can be obtained.	3
b.	Explain the processes used in aqueous ammonia absorption system.	3

6. Attempt any one part of the following:**1 x 3 = 3**

Qno.	Question	Marks
a.	Explain the principle of Seebeck effect for obtaining the refrigeration effect.	3
b.	Discuss advantages and limitations of steam jet refrigeration system.	3

7. Attempt any one part of the following:**1 x 3 = 3**

Qno.	Question	Marks
a.	What is the principle of vapor absorption refrigeration? Discuss the working procedure of Lithium-Bromide absorption system.	3
b.	What are various components of steam jet refrigeration system? Explain.	3