

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID-SEMESTER EXAMINATION SP/2024)

CLASS: IMSC
BRANCH: FOOD TECHNOLOGY

SEMESTER: VI
SESSION: SP/2024

SUBJECT: FT310 THERMODYNAMICS AND REFRIGERATION

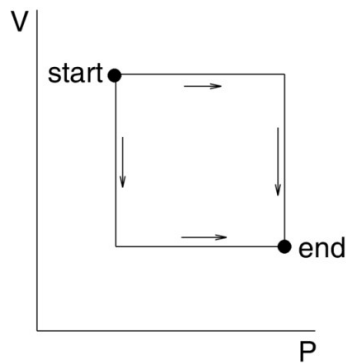
TIME: 02 HOURS

FULL MARKS: 25

INSTRUCTIONS:

1. The question paper contains 5 questions and a total of 25 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
4. Tables/Data handbook/Graph paper etc., if applicable, will be supplied to the candidates

			CO	BL	MODULE NO.
Q.1	Prove that heat flows from high to low temperature.	[5]	1	4	1
Q. 2	Provide a thought experiment using piston-cylinder arrangement to demonstrate a reversible process.	[5]	1	3	1
Q. 3	Derive the forms of first law of thermodynamics for isochoric and isobaric processes of a closed system undergoing reversible process.	[5]	1	4	1
Q. 4	Draw a T-P diagram for the following process shown on a V-P diagram.	[5]	1	3	1



Q. 5	Derive a general equation for the energy balance of a flow process.	[5]	1	3	1
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