

4758

BOARD DIPLOMA EXAMINATION, (C-14)

MARCH/APRIL—2021

DME - SIXTH SEMESTER EXAMINATION

REFRIGERATION AND AIR CONDITIONING

Time : 3 hours]

[Total Marks : 80

PART—A

4×5=20

- Instructions :** (1) Answer *any five* questions.
(2) Each question carries **four** marks.
(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. Write any two differences between open air and closed air refrigeration system.
2. Write any two desirable characteristics of refrigerant and absorbent combination.
3. List any four common refrigerants used in vapour compression refrigeration system.
4. What is the function of compressor in vapour compression refrigeration system?
5. What is the function of expansion valve in vapour compression system?
6. What are the different types of dryers used in air-conditioning?
7. What are the different types of duct systems used in air-conditioning?

8. Show the constant RH and constant specific humidity lines on psychrometric chart.
9. What is the function of thermostatic expansion valve in refrigeration system?
10. List the causes of common break down in air-conditioning.

PART—B

15×4=60

Instructions : (1) Answer *any four* questions.
(2) Each question carries **fifteen** marks.
(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

11. Write any five applications of refrigeration.
12. Explain the working of electrolux refrigeration system with neat sketch.
13. Explain the effects of undercooling and super heating on COP in vapour compression refrigeration system.
14. Explain the working of water cooler with neat sketch.
15. Explain the working thermostatic expansion valve with neat sketch.
16. Explain the working of centrifugal dust collector in air-conditioning.
- * 17. Explain the working of summer air conditioning system for hot and wet conditions with neat sketch.
18. Show the following processes on psychrometric chart (a) sensible heating and (b) sensible cooling, (c) heating and humidification and (d) cooling and dehumidification.

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