CBSE Class 12 Air-Conditioning and Refrigeration 2018 - Set 113 - Compartment

Question Paper

Conducted by the Central Board of Secondary Education (CBSE)

Time Allowed: 2 Hours **Maximum Marks: 40**

General Instructions

(i) This question paper contains 30 questions in four sections.
(ii) Section A: Answer any thirteen of Questions 1–15, carrying 1 mark each.
(iii) Section B: Answer any four of Questions 16–21, carrying 2 marks each.
(iv) Section C: Answer any three of Questions 22–26, carrying 3 marks each.
(v) Section D: Answer any two of Questions 27–30, carrying 5 marks each.

Section A

*Attempt any **thirteen** questions.*

1. Which of the following is called 1 ton of refrigeration ?

(A) To produce 50 kilo calories/min of cooling
(B) To produce 100 kilo calories/min of cooling
(C) To produce 25 kilo calories/min of cooling
(D) To produce 75 kilo calories/min of cooling

2. Which of the following is not an equipment of air conditioner ?

(A) Compressor
(B) Evaporator
(C) Condenser
(D) Economizer

3. In which of the following air distribution systems, air is sent through openings in the ceiling ?

(A) Ejector system
(B) Downward system
(C) Upward system
(D) Top system

4. Which of the following is not an expansion device ?

(A) Automatic expansion valve
(B) Thermostatic expansion valve
(C) Float valve
(D) Electromagnetic valve

5. Which of the following is not a motor relay ?

(A) Current relay
(B) Voltage relay
(C) Thermal relay
(D) Time relay

6. Which of the following is known as Bypass control ?

(A) Some of the return air is passed around the cooling coil.
(B) Cooled air is mixed with return air.
(C) Some of the cooled air is allowed to go to atmosphere.
(D) Some of the cooled air is sent after being heated.

7. Which of the following is known as heat gain due to condensation of moisture ?

(A) Sensible heat gain
(B) Latent heat gain
(C) Convection heat gain
(D) Radiation heat gain

8. Which of the following is the function of cut-out ?

(A) It controls the flow of refrigerant.
(B) It is an expansion device.
(C) It protects the motor from overload.
(D) It protects the compressor from low or high pressure.

9. Which of the following is the condenser in which air and water mixture is used for cooling ?

(A) Evaporative Condenser
(B) Water-cooled Condenser
(C) Shell and Tube Condenser
(D) Shell and Coil Condenser

10. Which of the following method of refrigeration is commonly used ?

(A) Vapour compression
(B) Vapour absorption
(C) Liquid gas refrigeration
(D) Evaporative refrigeration

11. Which of the following device controls the temperature of refrigerant ?

(A) Thermostat
(B) Relay
(C) Choke
(D) Humid stat

12. Which of the following system will be suitable for an office complex ?

(A) Unit Air conditioner
(B) Packaged Air conditioner
(C) Central Air conditioning
(D) Circulating cold water through tubes

13. Which of the following methods is not used to remove moisture from a refrigeration system ?

(A) Use of Driers
(B) Use of Dessiccants
(C) Injecting liquid
(D) Use of anti-freezers

14. Which of the following is not an actuating element ?

(A) Relays
(B) Solenoids
(C) Modulating motor
(D) Capillary tube

15. Which of the following is not a safety device in a refrigeration system ?

(A) HP and LP cutout
(B) Fusible plug
(C) Motor overload switch
(D) Thermostat

Section B

*Answer any **four** questions.*

16. Name the air conditioner in which compressor is kept outside the room and cooling coil and fan is inside the room.

17. Name any two types of fans.

18. What is a cooling load in an air conditioning system ?

19. Is solenoid an actuating element or a sensing element ?

20. Give any two methods of maintenance.

21. Name any two devices for protection of a motor.

Section C

*Answer any **three** questions.*

22. How is air conditioning done in winters ?

23. What type of air losses take place in ducts in air distribution ?

24. What is the function of bulb and bellow type of device in a refrigeration system ?

25. What is the function of Modulating motor ?

26. Name any three types of relays.

Section D

*Answer any **two** questions.*

27. Explain the function of a condenser in a refrigeration system. What type of condensers are commonly used ?

28. Explain the function of a solenoid valve in a refrigeration system.

29. Explain various heat loads in an air conditioning system.

30. Explain Bypass control.

- End of Question Paper -