

Code No: R05412407

R05**Set No. 2**

IV B.Tech I Semester Examinations, November 2010
AUTO AIR CONDITIONING
Automobile Engineering

Time: 3 hours**Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

1. What measures are to be taken to maintain human comfort in the automobile? [16]
2. Although Ammonia Refrigerant is toxic, but it is the most widely used refrigerant, explain the reasons for not phasing out? [16]
3. What are the factors effecting thermal comfort and describe them? Also explain the comfort zone. [16]
4. A Freon 12 vapor compression system operating at a condenser temperature of 40°C and evaporator temperature of -5°C develops 15 tons of refrigeration . Using the p-h diagram for Freon 12, Determine:
 - (a) The mass flow rate of the refrigerant circulated.
 - (b) The theoretical piston displacement of the compressor and piston displacement per ton of refrigeration.
 - (c) The theoretical horse power of compressor and horse power per ton.
 - (d) The heat rejected in the condenser Of refrigeration. [4+4+4+4]
5. List the servicing of various problems of control systems of air compressor. [16]
6. (a) Discuss the features and uses of rectangular and round ducts?
 (b) How the duct insulation is done to reduce the heat transfer? [8+8]
7. Explain working principle and characteristics of a single-screw type Compressor. [16]
8. (a) Differentiate between all - water and air - water systems used for air - conditioning.
 (b) What are the basic - processes in conditioning of air and explain about sensible heating process? [8+8]

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R05**Set No. 4**

IV B.Tech I Semester Examinations, November 2010
AUTO AIR CONDITIONING
Automobile Engineering

Time: 3 hours**Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

1. (a) Differentiate between all - water and air - water systems used for air - conditioning.
 (b) What are the basic - processes in conditioning of air and explain about sensible heating process? [8+8]
2. List the servicing of various problems of control systems of air compressor. [16]
3. Although Ammonia Refrigerant is toxic, but it is the most widely used refrigerant, explain the reasons for not phasing out? [16]
4. Explain working principle and characteristics of a single-screw type Compressor. [16]
5. (a) Discuss the features and uses of rectangular and round ducts?
 (b) How the duct insulation is done to reduce the heat transfer? [8+8]
6. What are the factors effecting thermal comfort and describe them? Also explain the comfort zone. [16]
7. A Freon 12 vapor compression system operating at a condenser temperature of 40°C and evaporator temperature of -5°C develops 15 tons of refrigeration . Using the p-h diagram for Freon 12, Determine:
 - (a) The mass flow rate of the refrigerant circulated.
 - (b) The theoretical piston displacement of the compressor and piston displacement per ton of refrigeration.
 - (c) The theoretical horse power of compressor and horse power per ton.
 - (d) The heat rejected in the condenser Of refrigeration. [4+4+4+4]
8. What measures are to be taken to maintain human comfort in the automobile? [16]

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R05**Set No. 1****IV B.Tech I Semester Examinations, November 2010****AUTO AIR CONDITIONING****Automobile Engineering****Time: 3 hours****Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

1. (a) Differentiate between all - water and air - water systems used for air - conditioning.
 (b) What are the basic - processes in conditioning of air and explain about sensible heating process? [8+8]
2. (a) Discuss the features and uses of rectangular and round ducts?
 (b) How the duct insulation is done to reduce the heat transfer? [8+8]
3. Explain working principle and characteristics of a single-screw type Compressor. [16]
4. Although Ammonia Refrigerant is toxic, but it is the most widely used refrigerant, explain the reasons for not phasing out? [16]
5. A Freon 12 vapor compression system operating at a condenser temperature of 40°C and evaporator temperature of -5°C develops 15 tons of refrigeration . Using the p-h diagram for Freon 12, Determine:
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 - (d) The heat rejected in the condenser Of refrigeration. [4+4+4+4]
6. List the servicing of various problems of control systems of air compressor. [16]
7. What are the factors effecting thermal comfort and describe them? Also explain the comfort zone. [16]
8. What measures are to be taken to maintain human comfort in the automobile? [16]

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R05**Set No. 3**

IV B.Tech I Semester Examinations, November 2010
AUTO AIR CONDITIONING
Automobile Engineering

Time: 3 hours**Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

1. (a) Differentiate between all - water and air - water systems used for air - conditioning.
 (b) What are the basic - processes in conditioning of air and explain about sensible heating process? [8+8]
2. (a) Discuss the features and uses of rectangular and round ducts?
 (b) How the duct insulation is done to reduce the heat transfer? [8+8]
3. A Freon 12 vapor compression system operating at a condenser temperature of 40°C and evaporator temperature of -5°C develops 15 tons of refrigeration . Using the p-h diagram for Freon 12, Determine:
 - (a) The mass flow rate of the refrigerant circulated.
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 - (d) The heat rejected in the condenser Of refrigeration. [4+4+4+4]
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