Registration No.: .....

BHARTIYA SKILL DEVELOPMENT UNIVERSITY

School of RAC Skills

III Semester,2nd In-Sem. Examination

B. Voc. Program, Summer Semester (2019-20)

Course Code: HVA1301 **Time: 1 Hour**

Course Name: Refrigerant & Psychrometry **Max. Marks: 20**

Instruction:

1. Attempt all Questions.
2. Each question of Section – A carries 01 mark.
3. Each question of Section – B carries 02 mark.
4. Each question of Section – C carries 03 mark.

Section – A

05X01 = 05 Marks

1. The rate of body heat loss is affected by-

   a. Air Humidity
   b. Air motion
   c. Both a and b
   d. None of the ab above

2. The comfort air conditioning system represents-

   a. Indoor air quality
   b. Air motion
   c. Both a and b
   d. None of the ab above

3.The actual condition of atmospheric air is-

   a. Dry air
   b. moist air
   c. both a & b
   d. None of the ab above

4. The instrument sling psychrometer is used for measuring-

   a. DBT
   b. DPT
   c. both a & b
   d. None of the ab above

BHARTIYA SKILL DEVELOPMENT UNIVERSITY

5.specific enthalpy is measured in-

A. KJ/Kg

B. KJ

C. KJ/Kg-K

D. None

Section – B

03X02 = 06 Marks

1. Classify air conditioning as per its use.
2. What do you mean by psychrometry?
3. Draw the different psychrometric process on psychrometry chart.

Section – C

03X03 = 09 Marks

1. What is fog? Show on chart how two air streams on mixing would produce fog.
2. Discuss the processes that can be carried out by changing the water temperature of spray.
3. Calculate the following properties of air at DBT 45° C and WBT 30° C:
   a) Specific Humidity
   b) RH
   c) Enthalpy

Md. Najmool Haque

Registration No.: .....

BHARTIYA SKILL DEVELOPMENT UNIVERSITY

School of RAC Skills

ANSWER KEY

III Semester,2nd In-Sem. Examination

B. Voc. Program, Summer Semester (2019-20)

Course Code: HVA1301 **Time: 1 Hour**

Course Name: Refrigerant & Psychrometry **Max. Marks: 20**

Instruction:

1. Attempt all Questions.
2. Each question of Section – A carries 01 mark.
3. Each question of Section – B carries 02 mark.
4. Each question of Section – C carries 03 mark.

Section – A

05X01 = 05 Marks

1. The rate of body heat loss is affected by-

C. Both a and b

2. The comfort air conditioning system represents-

c. Both a and b

3.The actual condition of atmospheric air is-

b. moist air

4. The instrument sling psychrometer is used for measuring-

a. DBT

5.specific enthalpy is measured in-

A. KJ/Kg

Section – B

03X02 = 06 Marks

1. Classify air conditioning as per its use.

Ans:-

Cooling and dehumidification

Cooling and humidification

Heating and dehumidification

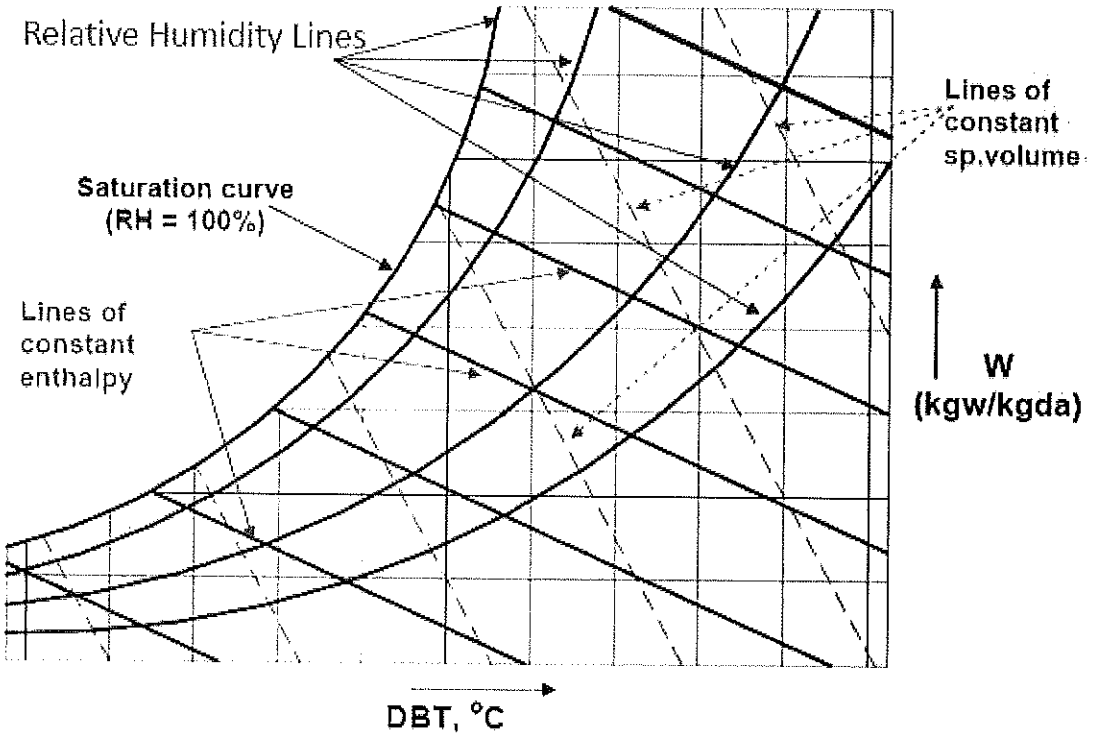
Heating and humidification

2. What do you mean by psychrometry?

Ans:-

The science which deals with study and analysis od moist air.

3. Draw the different psychrometric process on psychrometry chart.



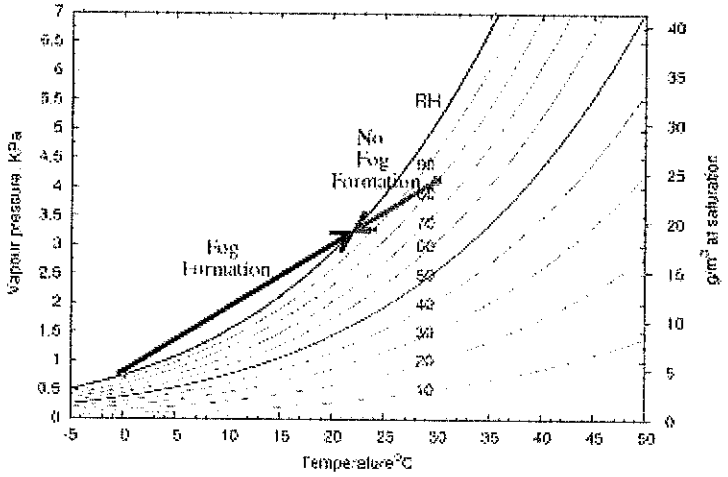
Section – C

03X03 = 09 Marks

1. What is fog? Show on chart how two air streams on mixing would produce fog.

Ans:-

Fog is nothing more than the air saturated with water vapor. Water vapor begins to condense when the air reaches its dew point temperature.



BHARTIYA SKILL DEVELOPMENT UNIVERSITY

2. Discuss the processes that can be carried out by changing the water temperature of spray.

Ans:-

Heating and dehumidification

Heating and humidification

Cooling humidification

3. Calculate the following properties of air at DBT 45° C and WBT 30° C:
   a) Specific Humidity= 20 g/Kg
   b) RH = 34%
   c) Enthalpy= 99 KJ/kg

Registration No.: .....

BHARTIYA SKILL DEVELOPMENT UNIVERSITY

School of RAC Skills

3rd Semester, 2nd In-Sem. Examination

B. Voc. Program, Summer Semester (2019-20)

Course Code: HVA-1302 **Time: 1 Hour**

Course Name: Compressor, Condenser and Evaporator **Max. Marks: 20**

Instruction: Attempt all questions.

Section – A

05X01 = 05 Marks

1. The heat rejection factor is given by:
   a) 1+C.O.P.
   b) 1-C.O.P.
   c) 1+1/C.O.P.
   d) 1-1/COP
2. In shell and coil condenser:
   a) Water flows in the shell and refrigerant in the coil
   b) Water flow in the coil and the refrigerant in the shell
   c) Only water flows through the shell as well as coil
   d) Only refrigerant flows through the shell as well as coil
3. In ammonia refrigerating system, the tubes of shell and tube condenser are made of:
   a) copper
   b) ammonia
   c) steel
   d) brass
4. Most air cooled condenser are designed to operate with a temperature difference of?
   a) 5° C
   b) 8° C
   c) 14° C
   d) 22° C
5. In actual air conditioning applications for R-32 operating at a condenser temperature of 40 C and an evaporator temperature of 5C, the heat rejection factor is about:
   a) 1
   b) 1.25
   c) 2.15
   d) 5.12

Section – B

03X02 = 06 Marks

1. Write down classifications of condenser.
2. Differentiate between cooling tower and spray ponds.
3. Write down the factors affecting the condenser capacity?

Registration No.: .....

BHARTIYA SKILL DEVELOPMENT UNIVERSITY

Section – C

03X03 = 09 Marks

1. Explain with neat sketch principle and working of forced draft cooling tower.
2. Explain with neat sketch construction and working of shell and coil condenser.
3. Explain with neat sketch principle and working of evaporative condensers?

BHARTIYA SKILL DEVELOPMENT UNIVERSITY

School of RAC Skills

3rd Semester, 2nd In-Sem. Examination

B. Voc. Program, Summer Semester (2019-20)

Course Code: HVA-1302 **Time: 1 Hour**

Course Name: Compressor, Condenser and Evaporator **Max. Marks: 20**

Instruction: (Attempt all questions.)

Section A

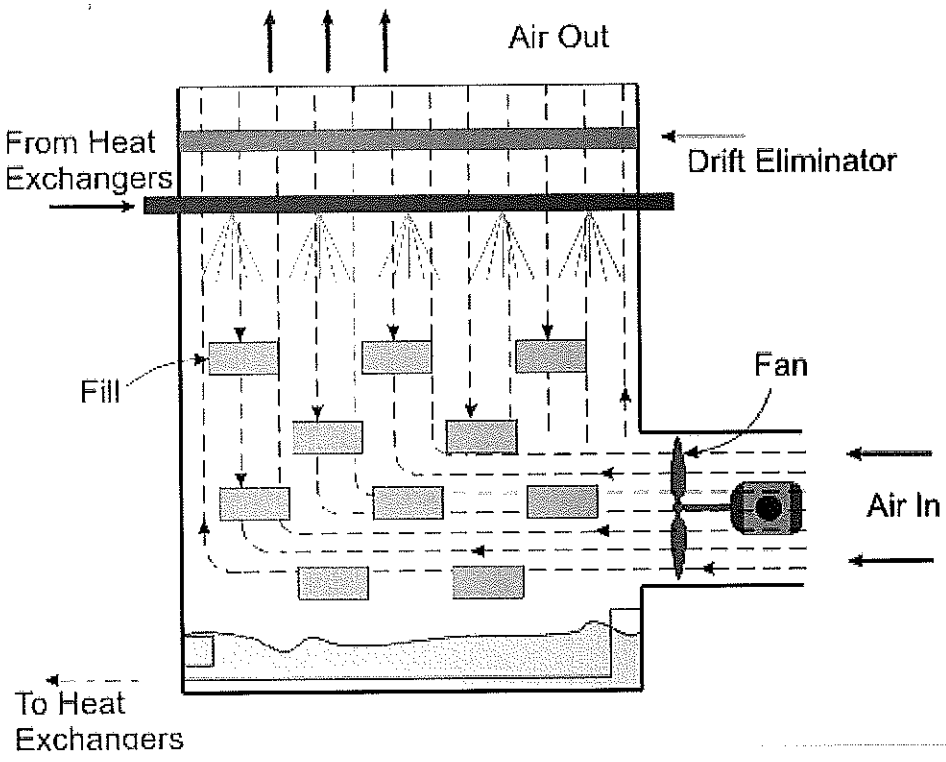
1) c
2) b
3) c
4) c
5) b

Short answer: Section B

1) Classification of condenser: Air cooled condenser, water cooled condenser and evaporative
2) Cooling tower: it is an enclosed tower like structure through which atmospheric air circulated to cool large quantities of warm water by direct contact. Spray ponds: consist of a piping and spray nozzle arrangement suspended oer an outdoor open reservoir or pond.
3) Fouling factor is reciprocal of heat transfer coeffecient for the material of scale.

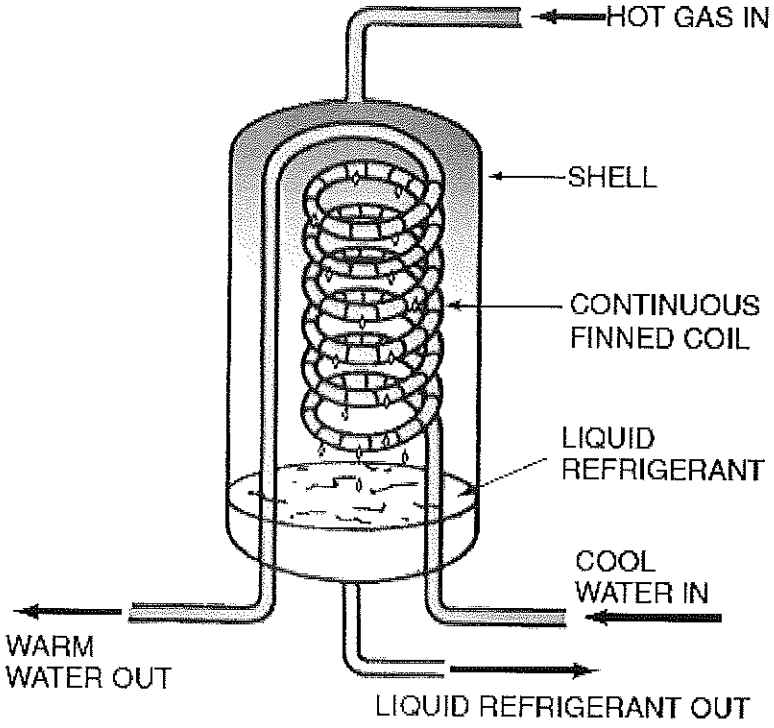
Long answer question Section C

1)

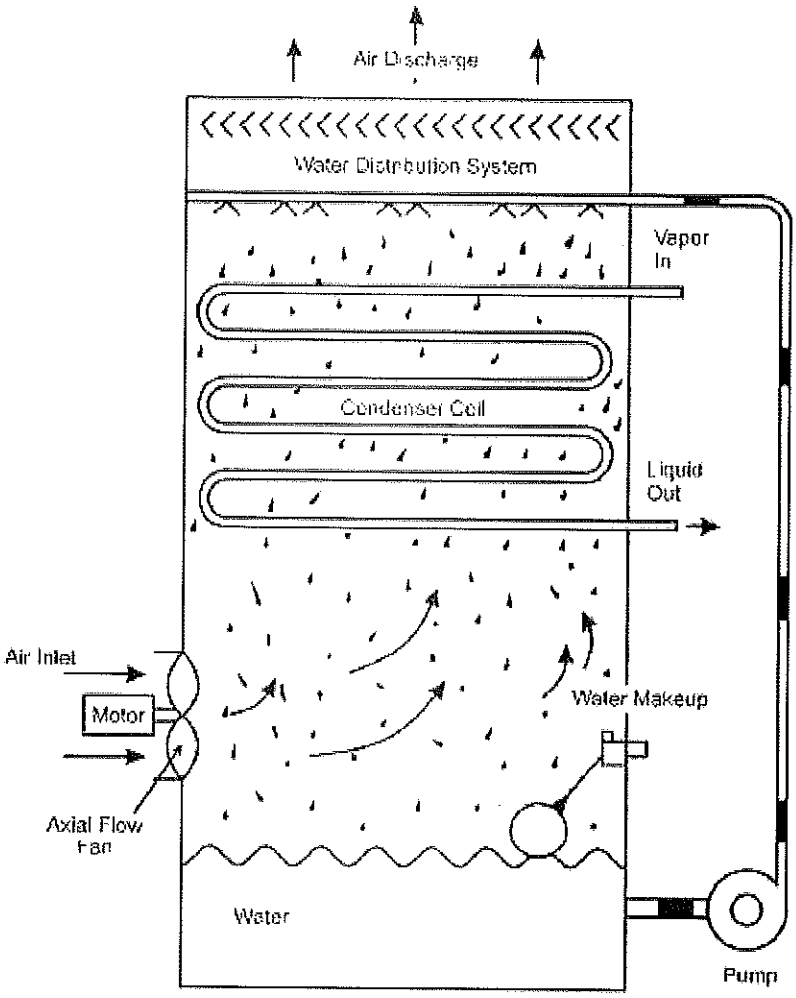


2)

BHARTIYA SKILL DEVELOPMENT UNIVERSITY



3)



BHARTIYA SKILL DEVELOPMENT UNIVERSITY

Registration No.: .....

School of HVAC&R Skills

Session: 2019-20 (Summer / Winter Semester)

B. Voc. 3rd Semester,

2nd In-Sem. Examination

Course Code: HVA-1303 **Time: 1 Hour**

Course Name: Air Distribution **Max. Marks: 20**

Instruction: Attempt all questions.

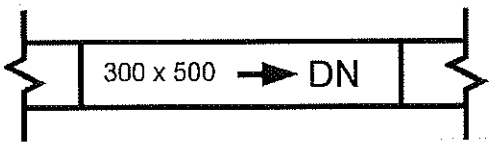
Section – A

05X01 = 05 Marks

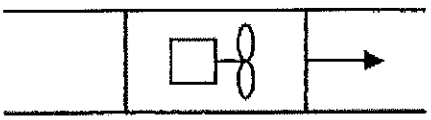
1. An air handling unit is use to _____:
   a) Move air b) Mix air c) Heat air d) All of the above

2. The air stream velocity at the end of the throw is called :
   a) Terminal velocity
   b) Primary velocity
   c) Air stream velocity
   d) All of the above

3. In the figure , the ductwork is _____, and the dimension of the side shown is _____.
   a) Dropping,500
   b) Dropping,300
   c) Rising,500
   d) None of the above



4. The symbol in the figure represents a _____.
   a) Centrifugal fan
   b) Axial fan
   c) Diffuser
   d) Blower



5. Duct sizing and construction specifications are generally stated in terms of the use of_____.
   a) Galvanized Steel
   b) Aluminum
   c) Fiberglass Reinforced Plastic
   d) None of the above

Section – B

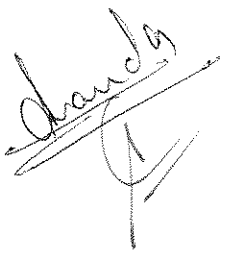
03X02 = 06 Marks

1. What are the types of fan drives arrangements possible?
2. What are filters explain their types.
3. Why are sound absorbers used?

Section – C

03X03 = 09 Marks

1. What are the different materials used to construct ducts?
2. What is the distribution selection criteria for proper air distribution?
3. Write about the components of an air distribution system?



BHARTIYA SKILL DEVELOPMENT UNIVERSITY

Registration No.: .....

School of HVAC&R Skills

Session: 2019-20 (Summer / Winter Semester)

B. Voc. 3rd Semester,

2nd In-Sem. Examination

Course Code: HVA-1303 **Time: 1 Hour**

Course Name: Air Distribution **Max. Marks: 20**

Answer Key

Section – A

05X01 = 05 Marks

1. D
2. A
3. D
4. B
5. A

Section – B

03X02 = 06 Marks

1. Direct drive, where the fan is mounted directly on the motor shaft or an extension of the motor shaft, offers a more compact assembly and ensures constant fan speed. Fan speeds used to be limited to available motor speeds, an economical solution when practical. Today, at additional cost, the motor speed can be adjusted over a wide range by supplying the motor through a variable frequency controller. Capacity is set during construction by variations in fan impeller geometry and motor speed. Belt drive offers flexibility in that the fan speed can be changed by altering the drive ratio. This allows initial adjustments to match the fan output with the system actually installed. In some applications, this flexibility allows for changes in system capacity or pressure requirements due to changes in process, hood design, equipment location or air cleaning equipment.

2. A filter used to remove gases is correctly called an absorber, as the gas is chemically adsorbed onto the filter material rather than mechanically collected on the filter surface. Filters encountered in air system design include:
   A disposable filter has elements that are discarded after use. Efficiencies range from very low to relatively high depending on the construction

   A pleated filter provides a high ratio of media area to face area, thus allowing reasonable pressure drop. The filter media may be self-supporting because of inherent rigidity, or because the air flow inflates it into an extended form, such as with bag filters.

3. A proper acoustical environment is as important for human comfort as other environmental factors controlled by air-conditioning systems. The objective of sound control is to achieve an appropriate sound level for all activities and people involved. Sound absorbers diminish the intensity of sound energy from fans, ducts and other sources.

Section – C

03X03 = 09 Marks

1.

Galvanized Steel	Widely used for most air handling applications. Not recommended for corrosive product handling or temperatures above 200°C.	High strength, rigidity, durability, rust resistance in ordinary conditions, availability, nonporous, workability	Weldability, paintability, weight, corrosion resistance
Carbon Steel (Black Iron)	Breechings, flues, stacks, hoods, other high temperature duct systems, kitchen exhaust systems, ducts requiring paint or special coatings	High strength, rigidity, durability, availability, paintability, weldability, non-porous	Corrosion resistance, weight
Aluminum	Duct systems for moisture-laden air, louvers, special exhaust systems, ornamental duct systems. Often substituted for galvanized steel in HVAC duct systems.	Weight, resistance to some forms of corrosion, availability	Low strength, material cost, weldability, thermal expansion

2. **Building characteristics**:-Determine building materials, areas, external surface colors and shapes from building plans and specifications.
Building configuration: Determine building location, orientation and external shading from building plans and specifications. Shading from adjacent buildings should be carefully evaluated as to its probable permanence before including it in the calculation. The possibility of abnormally high ground-reflected solar radiation (for example, from adjacent water, sand or parking lots), or solar load from adjacent reflective buildings should be considered.
Thermal zones:- The thermal zones within the building should be identified. For example, external offices with windows will have different thermal characteristics than windowless rooms in the buildings interior. Additionally, some areas of the building may have to be kept at different temperatures than others.

3. **Air Handling Units** :- An air-handling unit (AHU) combines fans, coils, filters, dampers, connections to supply and return ducts, and other components into a device that moves air. It may also be used to clean, heat, cool, humidify, dehumidify and mix the air.

Coils

A coil is a cooling or heating element made of pipe or tube. Coils are usually finned, and are found in a number of shapes (serpentine, helical, etc.).

Ducts

A duct is a tube or conduit for conveying air. Ducts are classified in terms of application and pressure. HVAC systems in public assembly, business, educational, general factory and mercantile buildings are usually designed as commercial systems. Air pollution control systems, industrial exhaust systems and systems outside the pressure range of commercial system standards are classified as industrial systems.

BHARTIYA SKILL DEVELOPMENT UNIVERSITY

Registration No.: .....

School of RAC Skills

Session: 2019-20 (Summer Semester)

B. Voc. Program, 1st Semester,

2st In-Sem. Examination

Course Code: HVA1304 **Time: 1 Hour**

Course Name: Thermal Insulation **Max. Marks: 20**

Section – A

05X01 = 05 Marks

1. FoamGlass is made of?

   a) fiber-reinforced plastic
   b) Fine fibres of glass
   c) Volcanic Glass
   d) Granulated Glass

2. Fiberglass is made of?

   a) fiber-reinforced plastic
   b) Recycled Glass
   c) Plastic
   d) Polymers

3. Which thermal insulating material has highest corrosion rating?

   a) Mineral wool
   b) Cellulosic fibre
   c) Phenolic foam
   d) Perlite

4. What is Service temperature of Vermiculite?

   a) 860 °F
   b) 760 °F
   c) 560 °F
   d) 660 °F

5. What is SI unit of R-value?

   a) W/ M. K
   b) M. K/ W
   c) W/ M^2. K
   d) M^2. k/ W

Section – B

03X02 = 06 Marks

1. Explain various thermophysical properties of Calcium Silicate.
2. What are pros and cons while using cellulosic fibre also explain its thermophysical properties?
3. Write a short note on natural insulating materials?

Section – C

03X03 = 09 Marks

1. Write a note on vapour barriers.
2. Define the following properties of thermal Insulating material
   (a) PERM
   (b) Thermal Conductivity
3. What are the thermophysical properties of Mineral Fibre describe in details?

BHARTIYA SKILL DEVELOPMENT UNIVERSITY

Registration No.: .....

School of RAC Skills

Session: 2019-20 (Summer Semester)

B. Voc. Program, 1st Semester,

2st In-Sem. Examination

Course Code: HVA1304 **Time: 1 Hour**

Course Name: Thermal Insulation **Max. Marks: 20**

Section – A

05X01 = 05 Marks

1. (d)
2. (a)
3. (b)
4. (b)
5. (d)

Section – B

03X02 = 06 Marks

Answer 1

It is granular in nature, is composed of hydrous calcium silicate. This substance is noted for its tough, hard composition, as well as for its ability to withstand repeated wetting.
Like other materials, it does exhibit some thermal degradation as a result of moisture absorption; after it dries, however, the thermal performance is unchanged. Calcium silicate has excellent fire resistance properties; it is non-combustible and has a flame spread. In certain applications where a high compressive strength is needed, calcium silicate is used to insulate industrial tanks. It has applications as a pipe covering insulation.

thermal conductivity (k) Btu in/hr ft2 °F	0.35
thermal resistance (R) hr ft L °F/Btu in.	2.86
Material density (p) li lb/ft	1.5
Specific heat (Cp) Btu/ lb °F	0.28
Maximum service temperature °F	1200
Water vapor permeability perm-in	high
Coefficient of thermal expansion in/in	0
Corrosiveness	none

Answer 2

It has good thermal properties, its relative ease of installation, low cost, and simplicity of production.

If cellulosic fiber insulation is applied at densities significantly less than the nominal density, it will gradually settle up to 20 percent because of temperature changes, vibration and

moisture effects. Such settling causes both a reduction in installed thickness and a decrease in the material thermal resistance.

Without a fire retardant, cellulosic fiber is a naturally combustible material. cellulosic fiber insulation should have a weight gain from water absorption not exceeding 15 percent by volume. Loose fill cellulosic fiber insulation has a high degree of water vapor permeability and will absorb up to 98 percent by weight; consequently, this could cause problems in high-humidity environments.

thermal conductivity (k) Btu in/hr ft2 °F	0.27 – 0.31
thermal resistance (R) hr ft L °F/Btu in.	3.7 – 3.2
Material density (p) li lb/ft	2.6 – 3.0
Specific heat (Cp) Btu/ lb °F	0.33
Maximum service temperature °F	180
Water vapor permeability perm-in	high
Coefficient of thermal expansion in/in	N/A
Corrosiveness	May corrode, Al, Cu, Steel

Answer 3

Human are using natural insulation from a very long time. Different tree products like wood panels, fibber's, wood shaving etc., were being used as insulation products. People started to taught their home roofs with insulating materials to protect against sun radiation. These organic materials provide high insulation properties but there is a disadvantage with these materials that they are highly reactive with water, that reduce their life span. Reed panels were first used in the 19th century as thermal insulation mainly in ancillary buildings.
The first cork insulating panels were produced in the 1870s. Nevertheless, they had serious problems, beneath the panels condensation developed and various kinds of parasites (fungus, insects) established inside.
In the early 20th century wood shavings and sawdust were very popular insulation products because their costs were very low and the raw material

was readily available. 20th century insulating blankets made of sheep's wool appeared on the market.

Section – C

03X03 = 09 Marks

Answer 1
Vapour Barriers

Thermal insulating material can perform efficiently only if they are wet. One reason for this is that the wet insulation will conduct heat 10 times faster than dry insulation.
Presence of gaseous water vapour within an insulation is normally not a problem. Only when the vapor condenses or freezes, effects insulation performance.

Mineral fiber insulation (also called mineral rock slag wool) is produced similarly to glass fiber insulation. the material most commonly used to manufactur- mineral fiber is slag, from the production of steel, copper, or lead.

Mineral fiber is made from rock or slag; therefore, the base material is non-combustible and its melting point is above 1200°C. However, binders added to the wool may be flammable. The flame spread rating of this material is reported to be less than 25 when tested according to ASTM-84.

Asphalt coated or foil-laminated kraft paper may be used as a vapor retardant facing on batts. Because these facings are flammable, they should be protected from open flames or high temperatures. Burning of facings or organic binders could produce toxic vapors.

Thermal conductivity is affected by moisture content, but the change is transient and the material returns to its original properties upon drying.

Mineral fiber does not support the growth of fungus, bacteria, or vermin, exudes no odor and is non-corrosive.

	Batt	Loose Insulation	Bonded
k	3.23	3.10	0.28
U-Value	0.31	0.32	0.28
Density	2	1.7	9 to 11
PERM	high	high	high
Cp	0.20	0.20	0.20
Corrosion	NONE	NONE	NONE
Maximum Service temperature	370	1000	400

Vapor migration into insulation is caused by a difference in water vapor partial pressure in the air on opposite sides of a surface. In general, the indoor vapor pressure will be higher than the outdoor vapor pressure during the winter. Sources of indoor water vapor include

kitchen and lavatory areas, as well as the occupants themselves. Cold outdoor air cannot hold as much moisture as warm indoor air so water vapor will migrate toward the outside, through insulated walls and roofs, if necessary.
Condensation will occur inside the wall or ceiling if the temperature at some point is equal to the dew point temperature corresponding to the indoor dry-bulb temperature and humidity. For this reason, it is usual to install a vapor barrier as close to the **inside surface of a building as possible** - the "warm-in-winter" side - to retard the flow of water vapor through the building surfaces.

The exception to this rule occurs in humid climates where the vapor pressure inside a cooled building may be lower than that outside. Such climates occur in Hawaii and along the Gulf and Southern Atlantic coasts in the United States, and in other coastal areas within about 30 ° latitude of the equator worldwide. For these buildings, **the vapor barrier should be applied near the outside surface.** For buildings that must be both heated and cooled during different times of the **year, a vapor barrier may be applied near both surfaces.** Alternatively, the insulation itself may be highly vapor resistant, such as cellular glass or reflective insulation.

By definition, a vapor barrier is a material that has a permeance of 1 "perm" or less. A perm is an English unit equal to 1 grain of vapor transmitted per hour per square foot per inch of mercury difference in vapor pressure; i.e.

$$1 \text{ PERM} = 1 \text{ Grain/ hr ft}^2 \text{ in-Hg}$$

Water vapor transmission is measured in grains per hour per square foot.

Answer 2

(a) PERM:

By definition, a vapor barrier is a material that has a permeance of 1 "perm" or less. A perm is an English unit equal to 1 grain of vapor transmitted per hour per square foot per inch of mercury difference in vapor pressure; i.e.

$$1 \text{ PERM} = 1 \text{ Grain/ hr ft}^2 \text{ in-Hg}$$

Water vapor transmission is measured in grains per hour per square foot.

(b) Thermal Conductivity

$$\mathbf{Q = k A \Delta T / L}$$

where k, the proportionality constant, is commonly known as the thermal conductivity of the material. Examining the equation above reveals that k is a measure of how rapidly heat may be conducted through a unit area and thickness of a material when driven by a 1" temperature difference. If area is given in square feet and thickness in inches, then k has the units of Btu-in/ft 2-hr-°F

Answer 3

Registration No.: .....

BHARTIYA SKILL DEVELOPMENT UNIVERSITY

School of HVAC & R Skills
Session: 2019-20 (Summer Semester)
B. Voc. Program, 3rd Semester,
2nd In-Sem. Examination

Course Code: HVA 1305 **Time: 1 Hour**
Course Name: Electrical and Electronics Safety Testing **Max. Marks: 20**

Instruction: Answer all questions from section A, each question carries one mark. Answer all questions from section B, each question carries two marks. Answer all questions from section C, each question carries three marks. Scientific calculator is allowed.

Section – A

05X01 = 05 Marks

1. The worst of fire accident occurred on 23rd December 1995 in which 540 people killed due to fire caused by an electric generator short circuit and the stampede:
   (a) Multistory market complex Kolkata
   (b) At Shri Krishna Aided higher secondary school at Kumbakonam Tamilnadu
   (c) Uphaar Cinema at Delhi
   (d) At Dabwali in Haryana

2. Which city was affected by the worst air pollution disasters (smog) in the world so far?
   (a) Kanpur in December, 2016 (b) Delhi in October, 2019
   (c) London in December 1952 (d) None of these

3. The full form of PM in reference to air pollution is:
   (a) Program manager (b) Particulate Matter
   (c) Past meridiem (d) Per-trophic matrix

4. National safety council of India was founded on:
   (a) 4th March 1966 (b) 4th march 1956
   (c) 4th March, 1948 (d) 4th march 1962

5. Smoke detectors to be located on:
   (a) Ceiling of the fire risk zone (b) Ground floor
   (c) Walls of risk zone (d) Windows

Section – B

03X02 = 06 Marks

1. Why is there no pressure gauge on a CO_2 fire extinguisher?
2. What is the maximum discharge time of a CO_2 fire extinguisher?
3. In which country class C fire is called class E fire?

Section – C

03X03 = 09 Marks

1. What requirements are mandatory for certifying the fire-fighting readiness at the plant?
2. Why national fire service day is being observed every year?
3. What are the duties/ responsibilities of fire safety manager?

6/11/19

Set - B

BHARTIYA SKILL DEVELOPMENT UNIVERSITY

School of HVAC & R Skills
Session: 2019-20 (Summer Semester)
B. Voc. Program, 3rd Semester,
2nd In-Sem. Examination

Course Code: HVA 1305 **Time: 1 Hour**
Course Name: Electrical and Electronics Safety Testing **Max. Marks: 20**

Section – A

05X01 = 05 Marks

1. **(d)**
2. **(c)**
3. **(b)**
4. **(a)**
5. **(a)**

Section – B

03X02 = 06 Marks

1. Why is there no pressure gauge on a CO_2 fire extinguisher?

Ans. CO_2 extinguishers have no gauge because they are filled with liquefied CO_2.

2. What is the maximum discharge time of a CO2 fire extinguisher?

Ans. The approximate time of for the 10 to 15 pounds of CO_2 rages from 1 to 30 seconds.

3. In which country class C fire is called class E fire?

Ans. In America electrical fire is called class C fire but in Australia electrical fire is called class E fire.

Section – C

03X03 = 09 Marks

1. What requirements are mandatory for certifying the fire-fighting readiness at the plant?

Ans. The following requirements are mandatory for certifying the fire-fighting readiness at the plant.

(i) Premises are safe
(ii) Escape routes, stair cases,
(iii) Portable fire extinguishers, sand buckets have been placed as required.
(iv) Fire prevention boards have been displayed.
(v) Personnel have been trained.
(vi) Rehearsals of activities (in the event of fire) are carries out.
(vii) Fixed type fire-fighting systems have been installed, tested and commissioned.
(viii) Insurance team has inspected the Plant and conveyed approval of fire-fighting facilities and safety provisions.

BSDU

BHARTIYA SKILL DEVELOPMENT UNIVERSITY

2. Why national fire service day is being observed every year?

Ans. National fire service day is being observed to remember those 66 fire fighter who lost their lives during the explosive that took place at freighter SS Fort Stikine at the Victoria Docks **in** the then Bombay Port on 14th April, 1944.

3. What are the duties/ responsibilities of fire safety manager?

Ans. The fire safety manager normally carries out a wide range of functions within a given organization. These duties are mainly to ensure the safety of workers within such organization.

The job description below is a typical example of what the tasks, duties, and responsibilities of a fire safety manager entail:

- Ensure that all fire and safety equipment in an establishment are in good shape always.
- Make sure that there are well-developed plans for easy evacuation of people in a building in the case of a fire outbreak.
- Conduct fire safety checks from time to time
- Enforce safety codes and regulations/guidelines within a particular organization
- Carry out training and enlightenment of co-workers or employees as regards general fire safety rules and procedures
- Address any form of violation of safety codes within the organization
- Investigate and implement appropriate disciplinary action on violators of safety codes within the establishment.

Set-B