KRISHNASAMY COLLEGE OF ENGINEERING & TECHNOLOGY

Approved by AICTE & Affiliated to Anna University

Anand Nagar, Nellikuppam Main Road, Kumarapuram, Cuddalore – 607 109.

Phone no.(04142) 285 601- 604 www.kcet.in info@kcet.in

20.11.2018

DEPARTMENT OF MECHANICAL ENGINEERING

(Academic Year 2018-2019)

CIRCULAR

It is planned to conduct a value-added course for III & IV year Mechanical Engineering students on the subject given below. Each module is scheduled from 10.12.2018 to14.12.2018. The course plan, test procedure, attendance is followed as per regulation 2013 respectively. It is highly advised that the students should attend all the sessions and get benefited of the course.

The syllabus for the same has been formulated and will be circulated to students. The eminent staff from our department is invited to give lectures on topics from syllabus.

S.No	Year	Code/Name of the subject	Duration in Hours	Subject Incharge
1	IV	ME-VAC1801/Heating,ventilation, Airconditioning (HVAC).	30	Er.G.Senthilvel AP/Mech
2	III	ME-VAC1802/ Advanced Welding Technology	30	Er.E.Gopal,AP/Mech

24/11/18
HOD

20/11/2018
VICE-PRINCIPAL

PRINCIPAL

Copy to :

Class Room

Class In charge

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SYLLABUS

SUBJECT CODE : ME-VAC1801- SUBJECT

NAME : HEATING, VENTILATION, AIR CONDITIONING (HVAC)

Duration: 30 Hours

COURSE OBJECTIVES:

- Understand basic components of the vapor-compression and refrigeration cycles, functions and characteristics of system refrigerants, piping operations.
- Learn proper installation and operation of HVAC systems.
- Understand the troubleshooting the HVAC system.

Module 1: FUNDAMENTALS HVAC **5**

Introduction to HVAC, Basics and importance of HVAC, basic air-conditioning systems Introduction to Ventilation system, future advancement of HVAC.

Module 2: HVAC SYSTEMS **6**

Components of Ventilation system, air handling units its types, chilled water system of air conditioning. Direct refrigerant system of air conditioning.

Module 3: REQUIREMENTS OF COMFORT AIR CONDITIONING **6**

Air purification methods, Comfort, Requirements of temperature and humidity, recommended inside & outside summer design conditions, Indoor Air Quality.

Module 4: INSULATION OF AIR-CONDITIONING SYSTEMS **6**

Desired properties of an ideal insulating material, Factors affecting thermal conductivity Types of insulation materials, insulated systems, Air-conditioning equipment.

Module 5: FAULT FINDING AND TROUBLESHOOTING, MAINTENANCE **7**

Troubleshooting, History of CFCs, Ozone depletion by CFCs, Future refrigerants to replace CFCs, charging the refrigeration unit, Maintenance and servicing the unit.

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COURSE OUTCOMES:

- Understand and apply the principles of thermodynamics in the context of HVAC systems.
- Analyze the relationship between pressure and temperature and their role in HVAC operations.
- Grasp the fundamentals of heat transfer and fluid flow to optimize HVAC performance.

REFERENCE

ASHRAE Handbook

1) Fundamentals, American Society of Heating, Refrigerating and Air - Conditioning Engineers Inc., Atlanta, USA, 2009

2) Refrigeration and Air Conditioning - C. P. Arora- Tata McGraw Hill Publication

3) Refrigeration and Air Conditioning - Arora , Domkundwar - Dhanpatrai & Sons

19/11/18

HOD/MECH

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