KERALA AGRICULTURAL UNIVERSITY

B.Tech (Food. Engg) 2013 Admission

IVth Semester Final Examination-June/July -2015

Cat. No: Meen.2205 **Marks: 50.00**

Title: Boiler and Steam Engineering (1+1) **Time: 2 hours**

I Fill up the blanks **(10 x 1=10)**

1. The Mollier diagram is a chart on which enthalpy is the ordinate and _____is the abscissa
2. Throttling calorimeter is used for finding _____of the steam
3. Based on the tube content ,Babcock and Wilcox boiler is an example for _____boiler
4. Molecular mass of nitrogen is _____
5. For steam ,temperature corresponding to critical point is_____^{0}C
6. The ratio of mass of substance in kg to the molecular mass of that substance is known as _____
7. $2CO+O_2=2C\ O_2$.In the chemical equation 1 Kg of CO requires _____Kg of O_2
8. When the steam contains moisture or particles of water in suspension ,it is said to be _____
9. Atmospheric pressure (1atm) is specifically_____mm of Hg
10. The function of _____is to remove sludge or sediments collected at the bottom most point in the water space in a boiler

II Write short notes on any FIVE questions **(5 x 2=10)**

1. Distinguish between HCV and LCV of fuel
2. Explain the terms : a) dryness fraction of steam b) sensible heat of water and c) latent heat of vaporization
3. Name any six boiler mountings
4. Function of a feed pump in a boiler
5. Efficiency of Chimney (draught)
6. Function and working of steam stop valve in a boiler
7. Advantages of gaseous fuels

III Write short essay on any FIVE questions **(5 x 4=20)**

1. Factors influencing boiler efficiency
2. Explain the function of a separating calorimeter with neat sketch
3. Explain flue gas analysis by Orsat apparatus
4. Describe dead weight safety valve and high steam low water safety valve in boilers
5. Steam traps in boilers

6. Compare forced draught and induced draught
7. Describe working of Benson boiler with neat sketch

IV Write an essay on any ONE **(1 x 10=10)**

1. Explain the experimental determination of calorific value of fuel by Bomb Calorimeter with neat diagram
2. Describe with neat sketch ,the construction and working of a locomotive boiler

****