

3rd Sem. / Ceramic Engg
Subject : Fuels and Furnaces

Time : 3 Hrs.

M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

- Q.1 The minimum amount of air which supplies the required amount of oxygen for complete combustion of a fuel is called _____.
- a) Theoretical Air b) Actual Air
c) Excess Air d) All of the above
- Q.2 _____ is also known as black gold.
- a) Petrol b) Coal
c) Wood d) Ash
- Q.3 Furnace pressure is control by
- a) Damper b) Fuel pressure
c) air pressure d) all of these
- Q.4 Thermocouple is used to measure the
- a) Pressure b) Temperature
c) Density d) Calorific value

- Q.5 The _____ value is the measurement of heat or energy produced when a unit mass of fuel is burnt.
- a) Calorific b) Viscosity
c) Density d) Specific gravity
- Q.6 Which kiln is Batch Kiln ?
- a) Rotary Kiln b) Shuttle Kiln
c) Tunnel Kiln d) Natural draft furnace

SECTION-B

Note: Objective/ Completion type questions. All questions are compulsory. (6x1=6)

- Q.7 Combustion is an chemical reaction. (True/False)
- Q.8 Powdered coal is known as Pulverized coal. (True/False)
- Q.9 Moisture is determined by heating coal sample at 105°-110° C. (True/False)
- Q.10 Bomb calorimeter is used to determine _____ the value of fuel. (Viscosity, Calorific)
- Q.11 Thermocouple is used to measure temperature. (True/False)
- Q.12 Shuttle kiln is a batch type of kiln. (True/False)

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

- Q.13 Define theoretical and excess air.

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- Q.14 List advantages liquid fuels.
- Q.15 Explain the mechanism of draft.
- Q.16 Define octane and cetane number
- Q.17 Explain the orsat apparatus.
- Q.18 Explain muffle furnace.
- Q.19 Explain proximate analysis of coal.
- Q.20 Explain the thermocouple pyrometer.
- Q.21 Explain the term fire box and damper of kiln.
- Q.22 Write the examples of the solid, liquid and gaseous fuels.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

- Q.23 Explain in brief working of downdraft kiln with diagram.
- Q.24 Explain the determination of viscosity with the help of redwood viscometer.
- Q.25 Explain the working of infrared pyrometer with neat sketch.

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