Q.22 List advantages liquid fuels.

Q.23 Define flash and fire point.

Q.24 Explain what you understand by theoretical air required for combustion

Q.25 Define combustible and non combustible components of coal.

Q.26 Tell calorific value and uses of natural gas.

Q.27 Define draft and write its types.

Q.28 List utilization of pulverized coal.

Q.29 Tell the purpose of dampers in kiln.

Q.30 List properties and uses of coke.

Q.31 Name burners of liquid fuels. Explain any one.

Q.32 Define octane and cetane number.

Q.33 Explain the term fire box and chimney.

Q.34 Explain in brief tunnel kiln.

Q.35 Write advantages and disadvantages of solid fuels.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

Q.36 Explain proximate analysis of coal.

Q.37 Explain determination of calorific value with the help of bomb calorimeter.

Q.38 Explain construction and working of blast furnace.

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3rd Sem / Ceramic Engineering
Subject:- Fuels and Furnaces

Time : 3Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 _____is used for finding the calorific value of solid an liquid fuels.

a) Bomb Calorimeter
b) Orsat Apparatus
c) Abbel's Apparatus
d) Pensky Martin's Apparatus

Q.2 Air contains _____% of nitrogen by volume

a) 21% b) 79%
c) 23% d) 15%

Q.3 _____can be handled with ease like a liquid fuel and can be transported through pipes.

a) Lump coal
b) Pulverised or powdered coal
c) Lump coke
d) None of the above

Q.4 The_____of a fuel is the lowest temperature at which the fuel can be heated so that the vapour gives off flashes momentarily when an open flame is passed over it.

a) Fire point b) Flash point

c) Ignition temperature d) None of the above

Q.5 _____are those constituents of coal and coke which take part in combustion.

a) Non combustible b) Combustible
c) Both a & b d) None of these

Q.6 Which of the followings are types of drafts used in kilns?

a) Natural Draft b) Balanced Draft
c) Mechanical Draft d) All of these

Q.7 A_____ is a type of vertical pipe, channel through which combustion product gases are exhausted to the outside air.

a) Crown b) Stack
c) Damper d) Chimney

Q.8 _____is mainly used as a fuel & as a reducing agent in smelting iron ore in a blast furnace.

a) Coal b) Diesel
c) Coke d) Petrol

Q.9 The_____ of petrol is defined as the percentage by volume of iso-octane present in a mixture of n-heptane and iso-octane which has the same knocking property as the fuel itself.

a) Cetane number b) Octane number
c) Viscosity d) Density

Q.10 _____are convenient to store without any risk of spontaneous explosion.

a) Gaseous fuels b) Liquid fuels
c) Solid fuels d) All of these

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

Q.11 Air contains_____% of oxygen by volume.(79, 20.9)

Q.12 The minimum amount of air which supplies the required amount of oxygen for complete combustion of a fuel is called the_____.(Theoretical air, Actual Air)

Q.13 First stage of coal formation is peat. (True/False)

Q.14 Coke is made by heating coal in _____of oxygen. (Presence, Absence)

Q.15 LPG stands for _____. (Liquified Petroleum Gas, Liquified Pale Gas)

Q.16 Analysis of flue gas is made with the help of _____ apparatus. (Orsat, Bomb)

Q.17 Tunnel kiln is a _____type of kiln. (Batch, continuous)

Q.18 _____is used to measure temperature. (Thermocouple, Thermocol)

Q.19 Dampers in the kiln are used to control the exhaust. (True/False)

Q.20 Natural draft produced by a chimney alone. (True/False)

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 Give two examples each of solid, liquid and gaseous fuels.