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3rd Sem / Ceramic
Subject:- Fuels and Furnaces

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 Bomb calorimeter is used to determine the calorific value of

a) Solid fuels b) Liquid Fuels
c) Both 'a' and 'b' d) None of these

Q.2 The difference of actual air supplied and the stoichiometric air required for complete combustion of fuel is called

a) Excess air b) Theoretical air
c) Combustion air d) Dry air

Q.3 Pusher kiln is an example of_____ kiln.

a) batch b) continuous
c) both d) none

Q.4 Thermocouple is used to measure high_____.

a) Density b) Temperature
c) Pressure d) Specific Gravity

Q.22 List properties of coal.
Q.23 Explain working of Bomb's calorimeter.
Q.24 Tell role of fire box in Kiln.
Q.25 Discuss working of tunnel drier.
Q.26 List advantages of pulverized coal.
Q.27 List properties of water gas.
Q.28 Define forced and natural deaft.
Q.29 Explain determination of viscosity of liquid fuel.
Q.30 Explain cup and cone burner.
Q.31 Discuss working of annealing furnace.
Q.32 Write classification of coal.
Q.33 Explain working of thermocouple.
Q.34 Discuss downdraft kiln.
Q.35 Discuss what you understand by furnace atmosphere.

SECTION-D

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

Q.36 Explain determination of flash and fire point of a fuel.

Q.37 Explain ultimate analysis of coal.

Q.38 Describe construction and working of pusher kiln.

Q.5 Exhaust and kiln's atmosphere is controlled by

a) Voltmeter b) Stack

c) Damper d) Crown

Q6 Which of the following indicate burning of vapor for atleast for 5 seconds?

a) Fire point b) Flash point

c) Ignition temperature d) None of the above

Q.7 _____ is mainly used as a reducing agent in a blast furnace.

a) Coal b) Wood

c) Coke d) Diesel

Q8 Which of the following is used for cement manufacturing?

a) Rotary kiln b) Batch furnace

c) Tunnel Kiln d) Natural draft furnace

Q.9 Damper is located

a) Before ID fan b) after ID fan

c) top of chimney d) anywhere after ID fan

Q.10 Example of non combustible material is_____.

a) Peat b) Lignite

c) Carbon d) Sand

SECTION-B

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

Q.11 Combustion is an exothermic reaction. (True/False)

Q.12 Viscosity of oil is determined by Redwood viscometer. (True/False)

Q.13 LPG stands for_____. (Liquefied Petroelum Gas, Liquefied Pale Gas)

Q.14 Optical _____ is used to measure high temperature. (Pyroscope/ Pyrometer)

Q.15 First stage of coal formation is peat. (True/False)

Q.16 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.17 Coke is made by heating coal in _____ on oxygen. (presence, Absence)

Q.18 Flash point is always more than fire point of fuel. (True/False)

Q.19 _____ draft is produced by a chimney alone. (Natural draft/ Forced)

Q.20 Down Draft kin is used to make window glass. (True/False)

SECTION-C

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

Q.21 Differentiate theoretical air and excess air required for combustion.