

- Q.22 Give two examples each of solid liquid and gaseous fuels.
- Q.23 List advantages solid fuels.
- Q.24 Define flash and fire point.
- Q.25 Differentiate between solid and liquid fuels.
- Q.26 Define the term octane and cetane number.
- Q.27 Define calorific value. Name the apparatus used to determine calorific value.
- Q.28 Explain ultimate analysis of coal.
- Q.29 Explain the working of Bomb calorimeter.
- Q.30 Explain the working of pyrometer.
- Q.31 What is boller ring where it is used.
- Q.32 Explain the mechanism of draft.
- Q.33 Explain the use of damper in kiln and furnaces.
- Q.34 Write the classification of kilns.
- Q.35 Explain the working of Regenerator.

SECTION-D

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

- Q.36 Explain in brief working of downdraft kiln with diagram.
- Q.37 Write the advantages and disadvantages of solid, liquid and gaseous fuels.
- Q.38 Explain in detail proximate analysis of coal.

No. of Printed Pages : 4 180435/120435/030435
Roll No. /094741

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 Which type of fuel is lignite?
 a) Secondary fuel b) Primary fuel
 c) Liquid fuel d) Gaseous fuel
- Q.2 Combustion is an _____
 a) Exothermic reaction b) Endothermic reaction
 c) Nuclear reaction d) None of the above
- Q.3 Which fuel causes least pollution?
 a) Diesel
 b) Coal
 c) LPG (Liquid Petroleum Gas)
 d) Hydrogen gas
- Q.4 Which one of the following is a high temperature heat recovery device?
 a) Regenerator b) Heat pump
 c) Heat wheel d) Heat pipe
- Q.5 _____ can be intimately and uniformly mixed with air necessary for combustion hence can be burnt completely.

- a) Lump coal
 - b) Pulverised or powdered coal
 - c) Lump coke
 - d) None of the above
- Q.6 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.7 Which of the following fuel needs maximum amount of excess air for complete combustion?
- a) Furnace oil
 - b) Natural gas
 - c) Pulverised coal
 - d) Wood
- Q.8 Thermocouple is used to measure the
- a) Pressure
 - b) Temperature
 - c) density
 - d) calorific value
- Q.9 Draught is produced by
- a) induced fan
 - b) forced fan
 - c) induced and forced fan
 - d) all of the above
- Q.10 _____ 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

(2) 180435/120435/030435
/094741

SECTION-B

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

- Q.11 Combustion is an chemical reaction. (True/False)
- Q.12 Coke is made by heating coal in _____ of oxygen. (Presence/Absence)
- Q.13 First stage of coal formation is lignite.(True/False)
- Q.14 LPG stands for _____.(Liquefied Petroleum / Gas liquefied Pale Gas)
- Q.15 Powdered coal is known as Pulverized coal. (True/False)
- Q.16 Analysis of fuel gas is made by _____ apparatus. (Orsat/Bomb)
- Q.17 Bomb calorimeter is used to determine the _____ value of furl. (Viscosity, calorific)
- Q.18 Moisture is determined by heating coal sample at 105°-110°C.(True/False)
- Q.19 Dampers in the kiln are used to control the exhaust. (True/False)
- Q.20 Viscosity of oil is determined by Redwood viscometer. (True/False)

SECTION-C

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

- Q.21 Explain theoretical air required for combustion.

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/094741