

- Q.23 Write properties and uses of producer gas.
 - Q.24 Tell the meaning of pulverized coal and list its uses.
 - Q.25 Explain working of orsat apparatus.
 - Q.26 Write the classification of coal.
 - Q.27 Explain working of shuttle kiln.
 - Q.28 List example of solid, liquid and gaseous fuels.
 - Q.29 Tell the meaning of theoretical and excess air.
 - Q.30 Define calorific value. State its units. Name the apparatus used to determine calorific value.
 - Q.31 Explain mechanism of draft.
 - Q.32 Discuss burners of gaseous fuels.
 - Q.33 Explain the use of box and damper in kiln.
 - Q.34 Differentiate between Solid and Liquid fuels.
 - Q.35 Define flash & fire point.

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**3rd Sem.
Branch : Ceramic
Sub: Fuels & Furnaces**

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Multiple type Questions. All Questions are compulsory.

- Q.1 _____ is used to find calorific value of coal .

 - a) Abels Apparatus
 - b) Pensky Martin Apparatus
 - c) Bomb calorimeter
 - d) Thermometer

Q.2 Working of Thermocouple is based on _____ effect

 - a) Seebach
 - b) Tyndal
 - c) Brownian
 - d) Optical

Q.3 CO stands for

 - a) carbon pentaoxide
 - b) carbon dioxide
 - c) carbon mono oxide
 - d) carbon trioxide

Q.4 Which of the following can be transported through pipes?

 - a) Lump coal
 - b) Pulverised or powdered coal
 - c) Lump coke
 - d) Wood

SECTION-D

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

- Q.36 How will you determine calorific value of a coal with the help of bomb calorimeter? Explain.

Q.37 Explain the manufacturing process of water gas and list its properties and uses.

Q.38 Describe the proximate analysis of a coal.

Q.5 _____ draft is used in kilns

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

Q.6 The _____ is the measure of heat or energy.

- a) Pressure value
- b) Viscosity value
- c) Density value
- d) Calorific value

Q.7 The _____ is defined as the percentage by volume of iso-octane present in a mixture of n-heptane and iso-octane.

- a) Calorific Number
- b) Octane number
- c) Viscosity Number
- d) Density Number

Q.8 Which of the following indicate burning of vapour for momentarily?

- a) Fire Point
- b) Flash Point
- c) Ignition temperature
- d) None of the above

Q.9 _____ is NOT type of coal

- a) Peat
- b) Lignite
- c) Anthracite
- d) None of the above

Q.10 _____ is used for find the flash point of liquid fuels.

- a) Bomb Calorimeter
- b) Pensky Martin's Apparatus
- c) Abbel's Apparatus
- d) Both 'C' & 'D'

SECTION-B

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

Q.11 _____ is used to analyse flue gas. (Orsat apparatus, Bomb calorimeter)

Q.12 _____ viscometer is used to determine viscosity of oil. (Redwood, Vicat)

Q.13 Rotary kiln is type of batch kiln. (True/False)

Q.14 Seger cones are used to measure temperature. (True/False)

Q.15 Coke is produced from coal. (True/False)

Q.16 Combustion is an _____ reaction. (Electrical / Chemical)

Q.17 Same burner can be used for liquid and gaseous fuel. (True/False)

Q.18 Air contains 78% of oxygen by volume. (True/False)

Q.19 Chimney gas is also known as flue gas. (True/False)

Q.20 The function of draft in a combustion system is to exhaust the products of combustion into the atmosphere. (True/False)

SECTION-C

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

Q.21 List the advantages of solid fuels over liquid fuels.

Q.22 Tell difference between flash and fire point.