

- Q.26 Differentiate between continuous and batch type kiln.
- Q.27 Explain flue gas.
- Q.28 Explain infrared pyrometer.
- Q.29 Explain water gas.
- Q.30 Explain thermocouple pyrometer.
- Q.31 Write properties of coal.
- Q.32 Differentiate between fire point and flash point.
- Q.33 Explain muffle furnace.
- Q.34 Explain working of Orsat Apparatus with diagram.
- Q.35 Explain any one burner used for liquid fuel.

#### SECTION-D

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

- Q.36 Explain proximate analysis testing for a fuel.
- Q.37 Describe the any one method of measurement of viscosity of liquid fuel used in ceramic plant.
- Q.38 Explain determination of Calorific Value by Bomb Calorimeter with diagram.

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**4th Sem / Branch : Ceramic Engg**

**Subject:- Fuel & Furnace**

Time : 3Hrs.

M.M. : 100

#### SECTION-A

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

- Q.1 Which of the following fuel has the highest calorific value?
- a) Producer gas                      b) Coal gas
- c) CNG gas                              d) Blast furnace gas
- Q.2 Petrol is \_\_\_\_ fuel.
- a) Solid                                      b) Liquid
- c) Gas                                        d) None
- Q.3 Which kiln is used for cement manufacturing?
- a) Rotary kiln                              b) Batch furnace
- c) Tunnel kiln                              d) Natural draft furnace
- Q.4 Thermocouple is used to measure the
- a) Pressure                                  b) Temperature
- c) Density                                    d) Calorific value
- Q.5 Furnace pressure is normally controlled by

- a) Damper                      b) Speed of ID fan  
c) Fuel pressure              d) Air pressure
- Q.6 Which of this is non combustible?  
a) Peat                              b) Coke  
c) Coal                              d) Stone
- Q.7 Which is famous as black gold?  
a) Coal                              b) Wood  
c) Nitrogen                      d) Sulphur
- Q.8 A bomb calorimeter is used for finding the \_\_\_\_\_ of solid and liquid fuels.  
a) Dew point                      b) Calorific value  
c) Melting point                      d) Strength
- Q.9 Air contains \_\_\_\_\_ % of nitrogen by volume  
a) 21%                              b) 78%  
c) 23%                              d) 15%
- Q.10 Which of this is indirectly heated furnace?  
a) Open hearth furnace      b) Tank furnace  
c) Soaking pit                      d) Muffle furnace

### SECTION-B

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

- Q.11 Combustion reaction of fuels is a \_\_\_\_\_ reaction. (exothermic/endothermic)

- Q.12 Moisture is determined by heating coal sample at 105°-110° C. (True/False)
- Q.13 Water gas is a source of \_\_\_\_\_ gas. (hydrogen/fuel)
- Q.14 Coke is a solid fuel \_\_\_\_\_. (True/False)
- Q.15 Blast furnace is used to produce gold metal. (True/False)
- Q.16 Thermocouple is used to measure temperature. (True/False)
- Q.17 Rotary kiln is used in cement industry. (True/False)
- Q.18 Viscosity of oil is determined by Redwood viscometer. (True/False)
- Q.19 Which of these is a fuel that can be obtained from crude oil? (Diesel/Wood)
- Q.20 Shuttle kiln is a batch type of kiln. (True/False)

### SECTION-C

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

- Q.21 Explain combustion.
- Q.22 What is the difference between natural and manufactured fuels?
- Q.23 Write properties and uses of LPG gas.
- Q.24 Explain working of redwood viscometer.
- Q.25 Discuss pulverised coal.