Q.24 Explain the methods used to measure steam pressure and steam temperature in industrial systems.

Q.25 Explain the working principle, instrumentation and applications of Gas Chromatography

No. of Printed Pages : 4 221545A
Roll No. .....

4th Semester/Instrumentation & Control
Subject : Power Plant Instrumentation

Time : 3 Hrs. M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 The most common fuel used in thermal power plants in India is

a) Natural Gas b) Diesel
c) Coal d) Uranium

Q.2 The component that converts hydraulic energy into mechanical energy is

a) Generator b) Turbine
c) Transformer d) Draft tube

Q.3 The main purpose of the feed water system in a thermal power plant is to

a) Remove ash from the boiler
b) Circulate steam through the turbine
c) Supply water to the boiler
d) Condense the steam from the turbine

Q.4 The main purpose of an oxygen gas analyzer in flue gas is to

a) Measure fuel quantity
b) Determine ash content
c) Monitor combustion efficiency
d) Measure boiler water level

Q.5 A pH value below 7 indicates

a) Alkaline solution b) Highly pure water
c) Acidic solution d) Neutrality

Q.6 A thermocouple is used to measure

a) Pressure b) Flow
c) Voltage d) temperature

SECTION-B

Note: Objective/ Completion type questions. All questions are compulsory. (6x1=6)

Q.7 A hydropower plant converts_____.

Q.8 Unit of Current_____.

Q.9 Substances with pH greater than 7 are called_____.

Q.10 Orfice is used to measure_____.

Q.11 RTD stands for _____.

Q.12 The most commonly used fuel in nuclear reactors is _____.

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

Q.13 Explain the working of Hydro power plant.

Q.14 Discuss the importance of instrument in power generation.

Q.15 How to measure current and voltage in power plant.

Q.16 Explain the role of the flow of feed water.

Q.17 What is the purpose of a flue gas oxygen analyzer?

Q.18 What is chromatography, What are the main types of chromatography.

Q.19 What is a glass electrode and how does it work in pH measurement.

Q.20 Explain air/fuel gas controller.

Q.21 Explain the different types of temperature sensors used in industrial applications. Discuss the working principles, advantages and limitations of each.

Q.22 Define speed measurement. Explain different methods used for speed measurement in rotating machinery.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

Q.23 Explain the working principle of a thermal power plant with a neat block diagram. Describe the function of each major component.