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Question Paper Code: 39516

B.E. / B.Tech. DEGREE EXAMINATION, DEC 2020

Elective

Electronics and Instrumentation Engineering

01UEI916 - INSTRUMENTATION FOR POWER PLANTS

(Regulation 2013)

Duration: 1.15 hrs

Maximum: 30 Marks

PART A - (6 x 1 = 6 Marks)

(Answer any six of the following questions)

- The function of moderators in nuclear reactor is to
 - absorb the secondary neutrons
 - slow down the secondary neutrons
 - control the chain reaction
 - none of the mentioned
- In a steam power plant water is used for cooling purposes in
 - boiler
 - economizer
 - condenser
 - super-heaters
- Which instrument can be used to measure the flow of a liquid through a pipe?
 - Pitot tube
 - Venturimeter
 - Pressure gauge
 - orifice
- Which of the following acts as quenching gas in Geiger Muller counter?
 - Alcohol
 - Argon gas
 - Krypton
 - Hydrogen

5. To improve paramagnetic oxygen analyzer, the quartz suspension must be replaced with which of the following?
 (a) Platinum-iridium (b) Phosphor-bronze (c) Gold-palladium (d) Antimony
6. Chromatography is a physical method that is used to separate and analyse
 (a) simple mixtures (b) complex mixtures (c) viscous mixtures (d) metals
7. What is the purpose of deaerator ?
 (a) to remove the dissolved oxygen and carbon dioxide
 (b) to remove the dissolved nitrogen
 (c) to remove the dissolved impurities
 (d) to supply more oxygen to feedwater
8. In a Superheater
 (a) Pressure raises, temperature drops
 (b) Pressure rises, temperature remains constant
 (c) Pressure remains constant and temperature rises
 (d) Both pressure and temperature remains constant
9. Governing principle of steam turbine is
 (a) Nozzle control governing (b) Throttle governing
 (c) Bypass governing (d) All of the mentioned
10. A turbine is said to have an axial discharge when the steam leaves the blade tip atto the direction of the blade motion
 (a) 90° (b) 60° (c) 270° (d) 180°

PART – B (3 x 8= 24 Marks)

(Answer any three of the following questions)

11. Draw the schematic layout of modern thermal power plant and explain in detail. (8)
12. Explain the operation of smoke and dust monitor. (8)
13. Discuss the important analytical measurements carried out in flue gas with neat diagram. (8)

14. Draw and explain the different levels of DCS with different buses for power plant automation. (8)
15. Discuss the cooling systems operating in turbo alternator process with neat diagram. (8)