

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY-2008

**III B.TECH SUPPLIMENTARY EXAMINATIONS
POWER PLANT INSTRUMENTATIONS
(INSTRUMENTATION & CONTROL ENGINEERING)**

AUG/SEP 2008

**TIME:3HOUR
MARK:80**

ANSWER ANY FIVE QUESTIONS ALL QUESTIONS CARRY EQUAL MARKS.

MARK [16*5=80]

1. Explain the differences between conventional sources and Non-conventional sources of energy.
2. Give a brief description of the boiler process with a neat diagram.
3. (a) Explain the principle of a basic potentiometer used for the measurement of DC voltage. What is meant by standardization?

(b) What are the two types of A.C. Potentiometer? Explain the theory and working of any one type with a neat diagram.
4. Why steam generator outlet temperature is to be measured and controlled? Explain in detail the choice of sensors and the method of measurement.
5. Explain in detail with neat sketches control of main header pressure system used in power plants?
6. What is the importance of chimney used in thermal power plants. Explain in detail.
7. Write short notes on
 - (a) Turbine gland performance
 - (b) Calorimetric tests on generator
 - (c) Centrifuging
 - (d) Hydrogen Purity Meter
8. List the different types of detectors used in chromatography. Explain the principle of thermal conductivity type and thermionic emission type of detectors with a neat schematic.