IQRA National University, Peshawar **Name: _____**
Department of Electrical Engineering
Spring 2020
Power Generation

Terminal Examination *course Instructor: Engr.Sanaullah Ahmad*

Note: Attempt all Questions & Draw diagrams where necessary.

Question No 1 ***20***

A. With the help of a diagram show different Elements of a Hydropower Plant? CLO 1
B. Water for a small hydroelectric station is to be made available from a pondage with a volume of $5 \times 10^5 m^3$ located at a height uphill to provide water at a head of 100m at a hydraulic efficiency of 85% If the electrical efficiency is 94% and the water supply is available for 8 hours daily, determine the capacity of the generator to be installed at the power station. CLO 2

Question No 2 ***20***

A. Classify different hydropower turbines, what are the parameters required for the selection of hydropower turbines? CLO1
B. Select a suitable turbine for a hydropower scheme with available head height of 190m and rated discharge of 2.2 m^2/s with overall efficiency of 85%? Also determine turbine diameter and jet diameter? Specific speed $Ns = 85.49/(h)^{0.243}$. $Diameter = 38.56\sqrt{h}/n$. *Jet Diameter* $q = (\prod dj^2)Vj/4$ *where* $Vj = \sqrt{2gh}$ CLO 2

Question No 3 ***10***

Explain different stages of Nuclear Fuel Cycle? CLO 1

GOOD LUCK