NWFP, PUBLIC SERVICE COMMISSION, PESHAWAR

COMPITATIVE EXAINATION FOR PROVINCIAL MANAGEMENT SERVICE,2008

CHEMISTRY PAPER-1

Max. Marks; 100

Time Allowed; 03 Hours

NOTE; - Attempt any **FIVE** questions. All questions carry equal marks.

Q.No.1 Derive Schrodinger's wave equation. How it is applied to a particle in one dimensional box? (20)

Q.No.2 (a) Give the postulates of Deby- Huckel theory and derive an expression for weak electrolytes. (10)
(b) What is a Galvanic cell? How does it differ from an electrolytic cell? (5, 5)

Q.No.3 (a) Define first law of thermodynamics.Give ite mathematical form. (12)
(b) Derive the relationship between standard free energy change an equilibrium constant. (8)

Q.No.4 What are Silicones? How are they prepared? Discuss their properties and uses. (5, 5,10)

Q.No.5 (a) What are the raw material of glass? How glass is manufactured? (4,6)
(b) How Silver occurs in nature? How it is extracted from its ores. (3,7)

Q.No.6 (a) What are Transition Metals? Discuss their characteristics properties. (2,10)
(b) Discuss how CFT explains the colors of the metal complexes. (8)

Q.No.7 What is meant by air pollution? What are the major primary pollutants produced by human activity. (20)