KHYBER PAKHTUNKHWA, PUBLIC SERVICE COMMISSION

<u>COMPETITIVE EXAMINATION FOR THE POSTS OF PROVINCIAL MANAGEMENT SERVICES (BPS-17).</u>

2013

<u>CHEMISTRY PAPER-II</u>

TIME ALLOWED: 03 HOURS　　　　　　　　　　　　　MAX:MARKS: 100

NOTE: Attempt Any Five questions. All questions carry equal Marks.

Q1 A) Describe Optical and Geometrical Isomerism. Illustrate your answer with examples.　12

B/ Draw i; Chair and Boat Conformations of Cyclo hexane
ii Eclipsed and Staggered Conformations of Ethane
8.

Q2 A). Discuss atleast one method of Synthesis for Aldehyde and Ketone. each.　14.

B/. What is Haloform reaction? Discuss its mechanism　6.

Q3. A). Define Huckle Rule; Draw resonating Sturcture of phenol　6

B). Describe Electrophitic Substitution Reaction of Benzene with particular reference to i. Friedel-Crafts Acylation, Bromination and Nitration.　14

Q4. A). what are Carbohydrates? How are they classified?　5

B/. Discuss different Chemical reactions of D-glucose and Specify no. of Chiral Carbons in D-glucose.　15

Q5 A/. Define Atomic Orbitals, Molecular Orbitals and Hybridisation

B/. Draw the Molecular Geometry or Shape of the following　6
Molecule-. H_2O, BF_3, BeH, NH_3 and CH_4.　14

Q6 A). what is meant by Order of a Chemical reaction? What are the Differences armong Zero, First and Second Order Reaution.　10

B/ Write a Note on Catalysis　10

Q7. A) What are Organic Polymers? Illustrate with examples　8

B/ Describe Condensation Polymerisation and Free-Radical Addition Polymerisation　12

Q8. Write a Comprehensive note on 'Diazonium Salts' and their Synthetic applications.　20