COURSE CODE: 14B11BT211

COURSE NAME: GENRAL CHEMISTRY

COURSE CREDITS: 4

MAX. MARKS: 15

MAX. TIME: 1Hr

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means. Use of calculator is allowed

Q1.a) Explain potential energy profile of *n*-butane as a function of dihedral angle by drawing Newman projection. [2.5]

b) Draw Newman projection of chair form of cylcohexane. [0.5]

Q2. a) What are the main factors which influence the strength of acid and bases? [1.5]

b) Why reactivity of anion is higher in polar aprotic solvent? [1.0]

c) Why NaCl dissolves in water? [0.5]

Q3. a) What weight of $KmnO_4$ will be required to prepare 250 ml of its N/10 solution if eq. wt of $KmnO_4$ is 31.6? [1.0]

b) A 3.5 g sample of an enantiomer is dissolved in ethanol to make 30 ml of solution. Find the specific rotation at standard condition, if solution has an observed rotation of +2.79° in 10 cm polarimeter. [1.5]

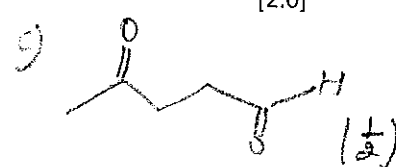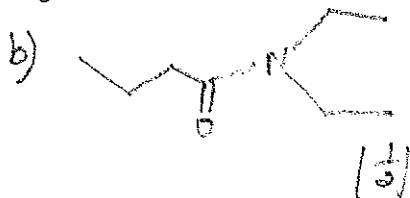c) What is enantiomeric excess? [0.5]

Q4. a) Assign R/S or E/Z configuration to each of the following compounds. [1.5]
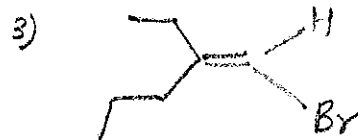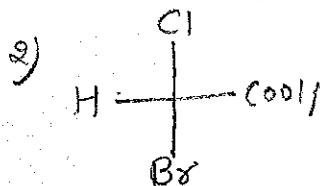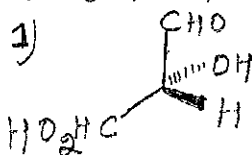
b) Convert the following Fischer Projection to corresponding Sawhorse and Newman projections. [1.5]
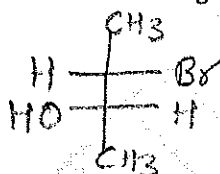
Q5a) Give IUPAC names of the followings? [2.0]

Q5b) Draw arrow to explain following reaction. [1.0]