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**DEPT: MMECHANICAL ENGINEERING**

**MAT NO: 19\ENG06\045**

**COURSE CODE: CHM 102**

ASSINGMENT

1. Name the functional group present in each of the following molecules.

i. CH2=C(OH)HCHO: Hydroxyl group or alkanol (OH) and aldehyde , alkanal (CHO) and alkene(double bond)

ii. C6H5CH(NH2)COCH3: Amine(NH2) and ketones(c=o)

iii.CH3C=CHCH(OH)CHO: Hydroxyl group or alkanol (OH), aldehyde or alkanal (CHO) and alkene(double bond)

2.A O.856g sample of pure (2R,3R) – tartaric acid was diluted to 10cm3 with water and placed in a 1.0 dm polarimetre tube the observed rotation at 20⁰C was +1.0⁰ calculate the specific rotation of (2R,3R) tartaric acid.

i. Specific rotation is given by[ α] in g-1 cm3 dm-1

ii. α= observed rotation in degree

iii .c=concentration of optically active solute in gcm-3

iv. L=path length in dm

Recall that,

 $\left[ α\right]= α$\CL

C=O.0856g\cm3 ,

 L=1.0 dm,

 α=1.0⁰,

 T=20⁰c , wavelength=589nm



3.draw the possible geometric isomers (where possible) for each of the following compounds

i. Hexa-2,4 diene

ii.2,3 di methyl but 2-ene

