SCHEDULE OF INORGANIC CHEMISTRY PRACTICALS
B.Sc (Biotech.) Sem-I
July-August, 2014

Turn I : Determine the value of x n a sample of $Na_2S_2O_3.XH_2O$ 6.2 g of which are dissolved/litre. Gven $N/_{40}$ Iodine solution.
Give : $N/_{40}$ Iodine solution, $Na_2S_2O_3$.

Turn II : The given solution has been prepared by dissolving 6.2g of $M_2s_2O_3.5H_2O$ per litre of the solution. Determine Volumetrically the atomic weight of the metal.
Give : $N/_{40}$ Iodine solution
Turn III : Determine Volumetrically value of molecule of water of crystallization in Mohr's salt. 19.6g of which have been dissolved per litre of solution provided $N/_{20}$ $K_2Cr_2O_7$.
Give : Mohr's salt:$(NH_4)_2SO_4.FeSo_4.6H_2O$,Potassium Dichromate ($K_2Cr_2O_7$).
Turn IV : To the given solution has been prepared by mixing $FeSo_4.7H_2O$ and anhydrous $Fe2(so_4)_3$. Determine volumetrically the %age composition of mixture you are provided with $N/_{20}$ $k_2cr_2O_7$ solution.
Give : $N/_{20}$ $k_2cr_2O_7$, $Feso_4.7H_2O$ and anhydrous ferric sulphate
Turn V : Determine volumetrically the %age purity of given solution Mohr's salt. 21g of which have been dissolved per litre of given solution. Provided $N/_{20}KMNO_4$.
Give : Mohr's salt:$(NH_4)_2SO_4.feso_4.6H_2O$.

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Turn VI : Determine volumetrically value of water of crystallization in Mohr's salt. 19.6g of which have been dissolved per litre of solution provided $N/_{20}KMNO_4$.

Give : $KMNO_4$, Mohr's salt, Dil.H_2SO_4.

Turn VII : The given sample was prepared by dissolved 10g of $CaCo_3$ in Dilhcl and diluting the volume to 1L. Determine volumetrically the % of ca^{2+} ions in the sample.

Give : $CaCo_3$,EDTA,dil.Hcl.

Turn VIII : To Determine volumetrically the %age purity of given Sample of the Magnesum sulphate 27g of which are dissolved per litre of given solution provided 1M EDTA solution.

Give : EDTA solution, $MgSo_4$ (27g)

Turn IX : Determine the value of x in a sample of $Na_2S_2O_3.XH_2O$ 6.2 g of which are dissolved/litre. Gven $N/_{40}$ Iodine solution.

Give : $N/_{40}$ Iodine solution, $Na_2S_2O_3$.

Turn X : Determine Volumetrically value of molecule of water of crystallization in Mohr's salt. 19.6g of which have been dissolved per litre of solution provided $N/_{20}$ $K_2Cr_2O_7$.

Give : Mohr's salt:$(NH_4)_2SO_4.feso_4.6H_2O$, $N/_{20}$ ($K_2Cr_2O_7$) solution.

Turn XI : To Determine volumetrically the %age purity of given Sample of the $Mgso_4$.27g of which are dissolved per litre of given solution provided 1M EDTA solution.

Give : EDTA solution, $MgSo_4$.

Turn XII : The given solution has been prepared by dissolving 6.2g of the $M_2S_2O_3.5H_2O$ pe litre of the solution. Determine volumetrically the atomic weight of the metal.

Give : $N/_{40}$ Iodine solution, $M_2S_2O_3.5H_2O$.

Schedule of organic chemistry practical
B.Sc(Bio-tech) Sem-I
July-August, 2014

Turn –I : To analyse the given organic compound by ignition test and solubility test.
Turn-II : To analyse the given organic compound for aldehyde group.
Turn-III : To analyse the given organic compound for ketone group.
Turn-IV : To analyse the given organic compound for carbohydrate group
Turn v To analyse the given orgnic compound for aromatic hydrocarbon
Turn-VI : Preparation of derivative for aldehyde group.

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Turn-VII : Preparation of derivative for ketone group.
Turn-VIII : prepration of derivative for carbohydrate group.
Turn-IX : prepration of derivative for aromatic hydrocarbon

Turn-X : To analyse the unknown organic compound and prepare its derivative.
Turn-XI : To analyse the given unknown organic compound and prepare Its derivative.
Turn-XII : To analyse the given unknown organic compound and prepare its derivative.

Schedule of organic chemistry practical
B.Sc(Bio-tech) Sem-II
January to Febrary, 2015

Turn I : To analyse the given mixture by physical examination, dry heating test, charcoal cavity and cobalt nitrate test.
Turn II : To analyse the given mixture by flame test and Borax Bead test.
Turn III : To analyse the given mixture by dilH_2SO_4 test conc H_2SO_4 , independent acid radcial.
Turn IV : To analyse the given mixture for acid radcial by confirmatory test.
Turn V : To analyse the given mixture for basic radicals of group 0 And 1.
Turn VI : To analyse the given mixture for basic radicals of group 2.

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Turn VII : To analyse the given mixture for basic radicals of group 3.
Turn VIII : To analyse the given mixture for basic radicals of group 4.
Turn IX : To analyse the given mixture for basic radicals of group 5.
Turn X : To analyse the given mixture for basic radicals of group 6.
Turn XI : To analyse the given mixture for acid radical and basic radicals.
Turn XII : To analyse the given mixture for acid radical and basic radicals.

Schedule of organic chemistry practical
B.Sc(Bio-tech) Sem-II
January to Febrary, 2015

Turn-I :To analyse the given organic compound by ignition test and
: solubility test.
Turn-II : Preparation of L.E. and detection of special element (N,S or Halogen)
Turn-III :To analyse the given organic compound for carboxylic acid group.
Turn-IV :To analyse the given organic compound for phenolic group.
Turn-V :To analyse the given organic compound for amine group.
Turn-VI :To analyse the given organic compound for amide group.

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Turn-VII : Preparation of derivative for carboxylic acid group.
Turn-VIII : Preparation of derivative for phenolic group.
Turn-IX : Preparation of derivative for amine group.
Turn-X : Preparation of derivative for amide group.
Turn-XI : To analyse the unknown organic compound and prepare its derivative.
Turn-XII : To analyse the given unknown organic compound and prepare Its derivative.

Schedule of Physical Chemistry Practical

BSC. (Biotechnology) Sem III

July to August 2014

Turn 1:- Determine the surface tension of a given liquid by drop weight method using stalgmometer
Give: Acetone, Ethanol, Propanol, Butanol.
Turn 2:- Determine the surface tension of given liquid by drop number method.
Give:- Acetone, Ethanol, Propanol, Butanol.
Turn 3:- To determine the viscosity of liquid using viscometer.
Give:- Acetone, Ethanol, Propanol, Butanol.
Turn 4:- To verify Lambert-Beers law for solution of $K_2Cr_2O_7$ in H_2O.
Give:-$K_2Cr_2O_7$.
Turn 5:- To verify Lambert-Beers Law for solution of $COCl_2.5H_2O$ in H_2O
Give:- $COCl_2.5H_2O$
Turn 6:- Determine pH of Buffer solution and strength of HCl by titrating it against standard solution of NaOH.
Give:- NaOH, Buffer solution, HCl

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Turn7:- determine the normality and strength of acetic acid with ph meter and Determine the ionization constant of a weak acid ie. . CH_3COOH
Give:- CH_3COOH.
Turn8:- Study of distribution law of Benzoic Acid between Benzene and water.
Give:- Benzoic acid, Benzene.
Turn 9 :- Study of distribution law by iodine distribution between water and CCl_4. Give standard solution $NA_2S_2o_3$.
Give:- CCl_4, $Na_2S_2O_3$, Iodine solution
Turn 10:- Determine composition of HCL and CH_3COOH in the given solution pH metrically.
Give:- HCl, CH_3COOH
Turn 11:- Determine the surface tension of given liquid by drop number method.
Give:- Acetone, Ethanol, Propanol, Butanol.
Turn 12:- To determine the viscosity of given liquid by viscometer.
Give :- Acetone, Ethanol, Propanol, butanol

Schedule of physical chemistry practical
B.Sc(Bio-tech) Sem-IV
January to Febrary, 2015

Turn 1 : To determine refractive index of given liquid and calculate their specific and molar refraction.
Give : Acetone,distilled water.
Turn 2 : Determine the %age composition of an unknown mixture of benzene and acetone with the help of abb's refractometer.
Give : Acetone,distilled water benzene.
Turn 3 : Determine the %age composition of an optically active solution.
Give : Sugar solution.
Turn 4 : To determine the enthalpy of neutralization of a strong acid(HCl) and a strong base calorimetrically.
Give : HCl, NaoH.
Turn 5 : To Determine the enthalpy of neutralization of weak acid with a strong base calorimetrically.
Give : CH_3COOH,NaoH
Turn 6 : Determination oh Heat of solution of KCl,NH_4Cl,KNO_3.
Give : KCl,NH_4Cl,KNO_3.

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Turn 7 : To determine the specific conductance and equivalent conductance of a given electrolyte at different dilutions.
Give : HCl Solution.
Turn 8 : To Determine the strength of given solution of H_2o by titration against NaoH.
Give : Oxalic acid, N/10 HCl solution.
Turn 9 : To determine the strength of acetic acid solution by titrating It against N/2 standard solution by NaoH.
Give : oxalic acid,acetic acid,NaoH
Turn 10: Precipatation titration of Na_2 So_4vs. $Bacl_2$.
Give : Na_2 So_4,$Bacl_2$.
Turn 11: Determination of adsorption isotherm of oxalic acid on charcoal.
Give : oxalic acid.
Turn 12: Determination of heat of solution of KCL,NH_4Cl,KNO_3.
Give : KCL,NH_4Cl,KNO_3.

Schedule of Chemistry Practical's

B.Sc(Bio Tech) Sem- V

July to August 2014

Turn 1 : Record its IR spectra diethylether, ethyl acetate and butanone.

Give : spectra diethylether, ethyl acetate and butanone

Turn 2 : Convert cyclohexanone to cyclohexanol and hydrazine of cyclohexanone. Compare UV vis and IR spectra of product with that of starting material.

Give : cyclohexanol.

Turn 3 : Preparation of $[Fe(PY)_4(NCS)_2]$ and its IR characteristics.

Give : Pyridine, ammonium thiocyanate.

Turn4 : Take commercial sample of methed arrange and record it UV-vis and fluarescene spectra under neutral , acidic and basic medium and make comparison .

Give : Methylarrange.

Turn5 : Synthesis and electronic spectral studies of d-d bands of $[Ni(NH_3)_6]Cl_2$ and

$[Ni(en)_3]Cl_2$ Complete a compression of their electronic spectra with that of

$[Ni(H_2o)_6]Cl_2$ for the conclusion of100q valve .

Give : $[Ni(NH_3)_6]Cl_2$, $[Ni(en)_3]Cl_2$.

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Turn 6 : To Verify Beer-Lambert Low For $KMnO_4/K_2Cr_2O_7$ and determine concentration of given $KMnO_4/K_2Cr_2O_7$ Solution.

Give : $KMnO_4$, $K_2Cr_2O_7$.

Turn 7 : Record its IR spectra diethylether, ethyl acetate and butanone.

Give : spectra diethylether, ethyl acetate and butanone

Turn 8 : Convert cyclohexanone to cyclohexanol and hydrazine of cyclohexanone. Compare UV vis and IR spectra of product with that of starting material.

Give : cyclohexanol.

Turn 9 : Preparation of $[Fe(PY)_4(NCS)_2]$ and its IR characteristics.

Give : Pyridine, ammonium thiocyanate.

Turn10 : Take commercial sample of methed arrange and record it UV-vis and fluarescene spectra under neutral , acidic and basic medium and make comparison .

Give : Methylorange.

Turn11 : Take To verify beer-lambert law for $KMnO_4/K_2Cr_2O_7$ and determine concentration of given $KMnO_4/K_2Cr_2O_7$ Solution .

Give : $KMnO_4$, $K_2Cr_2O_7$.

Turn12 : Synthesis and electronic spectral studies of d-d bands of $[Ni(NH_3)_6]Cl_2$ and $[Ni(en_3)_6]Cl_2$ Complete a compression of their electronic spectra with that of $[Ni(H_2o)_6]Cl_2$ for the conclusion of100q valve .

Give : $[Ni(NH_3)_6]Cl_2$, $[Ni(en)_3]Cl_2$

Schedule of chemistry practical
B.Sc(Bio-tech) Sem-VI
January to Febrary, 2015

Turn 1 : Recard the ‘H NMRspectra of ethylacctate and ethylacetoacetate (In $cdcl_3$ or ccl_4 **)**and shows the presence of tantomeric structure.
Give : $Cdcl_3$, ethylacctate,ethylacetoacetate
Turn 2 : Prepration of Benzilic acid from Benzaldehyde (Green- Chemistry experiment)
Give : Benzaldehyde
Turn 3 : Seperate the components of spinach using column chromatography.
Give : Spinach leaves,alumina
Turn 4 : Prepare p-nitoacetanilide and make comparison of ‘H NMR spectra data of aniline acetanilide (starting material) and p-nitroacetanilide (poduct).
Give : acetanilide
Turn 5 : Compare IR and HNMR spectra of aspirin
Give : Aspirin,$cdcl_3$
Aim : Compare IR and ‘H NMR spectra of salicyclic acid
Give : Salicyclic acid,$cdcl_3$

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Turn 7 : Preparation of Benzilic acid from Benzaldehyde.
Give : Benzaldehyde.
Turn 8 : Separate the components of spinach leaves using column chromatography.
Give : spinach leaves,alumina
Turn 9 : Record the ‘H NMR spectra of ethylacetate and ethyacctocetate (in $cdcl_3$ or ccl_4)and show the presence of tantomeric structure.

Give : cdcl3, ethylacetate or ethyacctocetate.
Turn 10 : Compare the IR and ‘H NMR spectra of aspirin.
Give : Aspirin
Turn 11 : Compare the IR and ‘H NMR spectra of solicyclic acid.
Give : salicyclic acid, $cdcl_3$
Turn 12 : Prepare p-nitoactavlide and make comparison of ‘H NMR spectra Data of aniline,acetanilide (starting material) and p-nitroacetaanilide).
Give : acetanilide