APPENDIX A: *List of thesis related publications in journal/book*

1. **U. Chakraborty and N. Jaishee.** Plant derived anti-diabetics and antioxidants: potential health benefits in free radical associated diseases. Book review in Biology of useful plants and microbes. Editor- Arnab Sen, Narosa Publishing House, ISBN 978-81-8487-264-4. 45-59, 2013.
2. **Jaishee. N and Chakraborty. U**. Evaluation of in-vitro antioxidant activities of *Pteris biaurita* L. *Int. J. Pharm. Pharm. Sci.* **6(2):** 413-421. 2014.
3. **Nishika Jaishee and Usha Chakraborty.** Pharmacognostical studies and evaluation of antioxidative properties of *Drynaria quercifolia* (L.) J.Smith. *World J. Pharm. Pharm. Sci.* **3(7):** 1205-1216, 2014.
4. **Nishika Jaishee and Usha Chakraborty.** Comparative assessment of various phytochemical present in *Dicranopteris linearis* (N.Burm.) Underw and *Pteris vittata* L. *Int. J. Pharm. Pharm. Sci. Res.* **5(1):**1-7, 2015.

APPENDIX B: ***List of Abbreviations***

µg- Micro gram
µg/ mL- Microgram per milliliter
µL- Microliter
A_{25}- Ampicillin
AAE- Ascorbic acid equivalent
$AlCl_3.6H_2O$- Aluminium chloride hexahydrate
Bc- Bacillus cereus
Bm- Bacillus megaterium
BSAE- Bovine serum albumin equivalent
Bus- Burkholderia symbiont
C- Control
C_{25}- Chloramphenicol
CC- Carotenoid content
Cd- Cyclosorus dentatus
*Cd*AE- *Cyclosorus dentatus* aqueous extract
*Cd*EE- *Cyclosorus dentatus* ethanol extract
*Cd*HWE- *Cyclosorus dentatus* hot water extract
*Cd*ME- *Cyclosorus dentatus* methanol extract
CE- Catechin equivalent
CgcA- Chlorogenic acid
CH_3COOH-Acetic acid
Chl a- Chlorophyll a
Chl b- Chlorophyll b
$CuSO_4.5H_2O$-Copper sulphate pentahydrate
$CuSO_4$-Copper sulphate
DC- Diabetic control
dH_2O- Distillled water
DHBA- 3, 4- dihydroxybenzoic acid
Dl- Dicranopteris linearis
*Dl*EE- *Dicranopteris linearis* ethanol extract
*Dl*HWE- *Dicranopteris linearis* hot water extract
*Dl*ME- *Dicranopteris linearis* methanol extract
DNSA- Dinitrosalicylic acid
DNSA- Dinitrosalicylic acid
DPPH- 2,2-Diphenyl-1-picrylhydrazyl
Dq- Drynaria quercifolia
*Dq*EE- *Drynaria quercifolia* ethanol extract
*Dq*HWE- *Drynaria quercifolia* hot water extract
*Dq*ME- *Drynaria quercifolia* methanol extract
DW- Dry weight
EE- Ethanolic extract
EtOAC- Ethyl acetate
FAE- Ferulic acid equivalent
$FeCl_3$- Ferric chloride
FRAP- Ferric reducing antioxidant power
g- Gram

GAE- Gallic acid equivalent
GE- Glucose equivalent
h- Hour
H_2O_2- Hydrogen peroxide
H_2O-Water
H_2SO_4- Sulphuric acid
HCl- Hydrochloric acid
HPLC- High performance liquid chromatography
HWE- Hot water extract
IC_{50}- Inhibitory concentration
K- Kanamycin
KOH-Potassium hydroxide
LC- Lipid content
M- Molar
ME- Methanolic extract
mg- Milligram
mg/kg b.w. - milligram per kilogram body weight
min- minutes
mL- Milliliter
mM- Millimolar
Mp- Microsorum punctatum
*Mp*EE- *Microsorum punctatum* ethanol extract
*Mp*HWE- *Microsorum punctatum* hot water extract
*Mp*ME- *Microsorum punctatum* methanol extract
NA- Nutrient Agar
Na^+-K^+ tartarate-Sodium potassium tartarate
Na_2CO_3- Sodium carbonate
NADH- Nicotinamide adenine dinucleotide (reduced)
$NaNO_2$- Sodium nitrite
NaOH- Sodium hydroxide
NBT- Nitroblue tetrazolium chloride
Nc- Nephrolepis cordifolia
NC- Normal control
*Nc*AE- *Nephrolepis cordifolia* aqueous extract
*Nc*EE- *Nephrolepis cordifolia* ethanol extract
*Nc*HWE- *Nephrolepis cordifolia* hot water extract
*Nc*ME- *Nephrolepis cordifolia* methanol extract
NED- Naphthylethylene diamine dihydrochloride
NO- Nitric oxide
ºC- Celsius
OECD- Organization for Economic Cooperation and Development
Pb- Pteris biaurita
*Pb*EE- *Pteris biaurita* ethanol extract
PbHWE- Pteris biaurita hot water extract
PbME- *Pteris biaurita* methanol extract
Pc- Phymatosorus cuspidatus
*Pc*EE- Phymatosorus cuspidatus ethanol extract
*Pc*HWE- Phymatosorus cuspidatus hot water extract
*Pc*ME- Phymatosorus cuspidatus methanol extract
PDA- Potato dextrose agar
PhlognL- Phloroglucinol

PMS- Phenazine methosulfate
PrC- Protein content
Pv- Pteris vittata
*Pv*EE- *Pteris vittata* ethanol extract
*Pv*HWE- *Pteris vittata* hot water extract
*Pv*ME- *Pteris vittata* methanol extract
RSC- Reducing sugar
sdH_2O- sterile distilled water
Sm- Serratia marcescens
sq. mi- square miles
T- Treatment
TC- Tannin content
TCA- Tri carboxylic acid
TChC- Total chlorophyll content
TE- Tocopherol equivalent
TFC- Total flavonoid content
TPC- Total phenol content
TSC- Total sugar
UV-Vis- Ultra violet –Visible
VitC- Vitamin C
VitE- Vitamin E

APPENDIX C: ***List of Chemicals***

0.1 M Sodium acetate buffer (pH 4.7)
0.1M Sodium Phosphate Buffer (pH 7.4)
0.2M Potassium Phosphate Buffer (pH 7.4)
0.2M Sodium Phosphate Buffer (pH 6.6)
1% Ferric chloride
1% Hydrochloric acid
1% Starch
10% ammonia solution
100% Methanol
2,2'– Bipyridyl
2,2-Diphenyl-1-picrylhydrazyl
20% Sodium hydroxide
3,4-dihydroxybenzoic acid
40% Sodium hydroxide
5% Ferric chloride
5% α-naphthol
50% Methanol
50mM Sodium Phosphate Buffer (pH 7.2)
80% Acetone
80% Ethanol
95% Ethanol
Acarbose
Acetic acid
Acetic acid HPLC grade
Acetic anhydride
Acetone
Acetonitrile HPLC grade
Agar
Aluminium chloride
Anthrone's Reagent
Ascorbic Acid
Caffeic acid
Caffeine
Catechin
Catechol
Chloroform
Chlorogenic acid
Cinnamic acid
Copper Sulphate
Dextrose
Dinitrophenylhydrazine
Dinitrosalicylic acid
Di-sodium hydrogen phosphate anhydrous
Ethyl acetate
Ferulic acid
Folin Ciocalteu's Phenol Reagent
Gallic acid monohydrate

Glacial Acetic Acid
Glucose
Griseofulvin
Hexane
HPLC grade water
Hydrogen peroxide
Metformin
Methanol HPLC grade
Naphthylethylene diamine dihydrochloride
Nelson’s Arseno Molybdate Reagent
Nicotinamide adenine dinucleotide
Nitroblue Tetrazolium Chloride
Phenazine methosulfate
Phloroglucinol
Polyvinyl pyrrolidone
Potassium Di-Hydrogen Phosphate
Potassium Ferricyanide
Potassium Hydrogen Phosphate
Potassium hydroxide
Pyrogallol
Resorcinol
Salicylic acid
Silica gel (60-120 mesh)
Sodium Carbonate
Sodium Dihydrogen Phosphate
Sodium Hydroxide
Sodium Nitrite
Sodium nitroprusside
Sodium Potassium Tartarate
Sodium Sulphate Anhydrous
Streptozotocin
Sulphanilic acid
Sulphuric acid
Thiourea
Trichloroacetic Acid
Vanillic acid
Vanillin
α- Amylase