

In- House R&D Projects– LLC

Year 2013-14

1. Synthesis of Pharmaceutical Raw Materials
2. Development of Non-formaldehyde wrinkle free finish
3. Development of Dye Intermediates
4. Development of Eco-friendly Dyes
5. Development of Industrial Chemicals
6. Development of Cosmetics
7. Development Of Oleochemicals& Allied Products
8. Studies on essential oils of locally growing species
9. Development of sodium chromate from chromite and its utilization for the production of basic chrome sulphate.
10. Extraction of lanoline from wool and its use in the manufacture of expensive softener for leather
11. Preparation of Optical Brightener (4,4 (sulphostyryl) biphenyl based)
12. Process for the Development of Viscosity Improver
13. Development of Herbal medicinal Products
14. Process Development for Removal and Control of Hydrogen Sulphide from Wastewater
15. Bioremediation of Polluted Water by Natural Coagulants.
16. Development of Multifunctional Column filters for Safe Drinking water.
17. Development of Refused-Derived Fuel (RDF) from Solid Waste.
18. Bioconversion of Organic Waste into Plant Growth Promoter
19. Treatment of Industrial Wastewater from Meezan Packaging
20. Production of Analytical Grade Acids on Lab Scale (HCl, H₂SO₄, HNO₃, CH₃COOH)
21. Development of Eco-Friendly Product as Larvicidal/Insecticidal against dengue vector
22. Eco-friendly alternative Energy Source from Municipal Solid Waste (PSF-054)
23. Development of Technology for Combustible hydrocarbons from plastic waste materials into Liquid Gold

24. Treatment of industrial sludge through environment friendly practices
25. Minimization of Hazardous Azo dyes (Organic Benzidine based) in Wastewater
26. Design and Development of Tubular Impact Tester (ISO-6272).
27. Design and Development of Three Phase Voltage Protector.
28. Low-cost Biosensor Development for the Detection of Environmental Contaminants in Aqueous Medium
29. Biosynthetic Pathway and the Appearance of Anthocyanins in Small Tropical Fruits Native to Pakistan (Sponsored Project PSF Rs. 2.978 Million)
30. Development of a Kit for the Determination of Sulphates in Water.
31. Development of Natural dyes from indigenous sources
32. Development and Standardization of Test Method for Identification of Cold and Slaughtered Meat (Sponsored Project):
33. Development of Selenium Enriched Foods:
34. Production of Bio-fertilizer for Agriculture Exploitation:
35. Development of a novel composite adsorbent Technology: An Improved adsorptive method for the removal of inorganic and organic water contaminants:
36. Development and Studies for the efficacy of locally available clays as aflatoxin binders in animal feeds:
37. Production of starch degrading enzymes from *Bacillus subtilis* and its Characterization:
38. Conversion of fruits and vegetable waste into bio gas and utilization of its effluent as bio fertilizer:
39. Bioconversion of Mushroom Cultivated Waste (Spent) Into Feed:
40. Quality Assurance and Shelf life Extension of Indigenous Sweets (Sponsored Project):
41. Production of Polyhydroxybutyrate (PHB), a biodegradable polymer (Sponsored Project: Korea Institute of Science & Technology (KIST) , Rs. 1.7 Millions):
42. Production of fermented cereals for Coeliac patients:
43. Assessment of industrial waste for bioavailability of micronutrients:
44. Development of whey powder from indigenous cheese whey:
45. Partial Replacement of Cement with Meta Kaolin
46. Development of Ceramic based Marble polishing Pad

47. Preparation of Industrial Chemicals by Acid Leaching from the Koga NephelineSyenite, Southern Swat, Lesser Himalayas-Pakistan.
48. Geotechnical Studies of Lahore Soil, along with Mapping and Data Base Compilation.
49. Synthesis of Thermochromic Material and their Application on Glass and Ceramics
50. Development of Alumina Ceramic Part for Commercial Applications.
51. Economical Glass Melting by using Naturally Available Flux
52. Development of Ferric Chloride from an Indigenous Source
53. Development of Colloidal Sulphur
54. Development of Graphite Grease Lubricant
55. Up gradation of carbon black (by product of tyre waste)
56. Extraction of antimony metal from indigenous antimony ore
57. Development of Industrial Grade Talc Products
58. Extraction of Silver (Ag) metal from electroplating salt waste
59. Development of HA Coating on Orthopedic Implants with Animal Trials
60. Development of Artificial Bone with Animal Trials
61. A Process for the Development of Coal Water Slurry Fuel (CWSF) From Indigenous Coal
62. A process for the preparation of Strontium Doped Hydroxyapatite
63. Development of Nano-composite Coatings for different Industrial Applications

Year 2014-15

1. Development of Personal Care/Cosmetics Products
2. Development of Oleo-Chemicals & Fats Product
3. Synthesis of Pharmaceutical Raw Materials
4. Development of Non-formaldehyde wrinkle free finish
5. Development of Eco-friendly Dyes
6. Development of Industrial Chemicals
7. Studies on essential oils of locally growing species
8. Extraction of Lanoline from Wool and its use in the Manufacturing of expansive softener for leather
9. Preparation of Optical Brightener (4,4 (SulphonateStyryl) Bi-phenyl based)
10. Process for the Development of Viscosity Improver
11. Development of valuable food products comprising bioactive ingredients:
12. Development of Yellow Color from Natural Sources: (Completed)
13. Development of Pink Color from Natural Sources:
14. Detection of Salmonella spp. In food samples using PCR.
15. Development of non-antibiotic bio-feed additives for animals use.
16. Bioconversion of mushroom cultivated waste (spent) into feed. (Completed)
17. Innovative strategies for water conservation technology development. (Completed)
18. Nutritional management strategies for malnutrition in patients with hepatic diseases. (On going)
19. Development of a Kit for the Determination of Sulphates in Water. (Completed)
20. Development and Standardization of Test Method for Identification of Cold and Slaughtered Meat:
21. Production of biodegradable plastic, polyhydroxybutyrate (PHB) and its dissolution studies, Principle investigator; Dr.YasirSaleem, Funded by Korea institute of Science and Technology (KIST), Cost: 1,700,000/-KRW Rs. 16, 47959/-.
22. Quality Assurance and Shelf life Extension of Indigenous Sweets (Rs. 250,000/-, Fazal Sweets & Bakers, Lahore) (Sponsored Project): (Project completed)
23. Treatment of Industrial Wastewater for Meezan Packaging (completed)

24. Development of Technology for Combustible hydrocarbons from plastic waste Materials into Liquid fuel.
25. Treatment of Industrial Wastewater for Wire Galvanizing Industry.
26. Development of Eco-Friendly Product as Larvicidal/Insecticidal against Dengue Vector (funded by PSF).
27. Eco-friendly alternative Energy Source from Municipal Solid Waste (funded by PSF).
28. Treatment of industrial sludge through Environment friendly practices
29. Minimization of hazardous organic Benzedrine based azo dyes in wastewater
30. Production of Analytical Grade Acids on Lab Scale (HCl, H₂SO₄, HNO₃ and CH₃COOH).
31. Partial Replacement of Cement with Meta Kaolin
32. Development of Ceramic based Marble polishing Pad
33. Preparation of Industrial Chemicals by Acid Leaching from the Koga NephelineSyenite, Southern Swat, Lesser Himalayas-Pakistan.
34. Mechanical Tailoring of Alumina Particles for Casting 2-D and 3-D Geometries
35. Synthesis of Thermochromic Material and their Application on Glass and Ceramics
36. Economical Glass Melting by using Naturally Available Flux
37. Development of process for the production of Strontium Nitrate
38. Development of process for the production of Hexamethylenetetramine

Year 2015-16

1. Economical Hot Plate
2. Enhancement of methane gas by using different additives
3. Micro feeder control
4. Development of Micro Feeder for wheat flour fortification
5. Preparation of protein hydrolysate bait to control fruit flies
6. Determination of Nitrosamines in grilled, fried and smoked meat samples
7. Biodiesel from Animal Hides Waste.
8. Development of Pet Food and Feed from Food Wastes
9. Development of value added nutraceutical products (Brain Powder) from Meat By-products
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11. Development of Zinc Nitrate
12. Development of Hexamine
13. Stabilization of Rice Bran for Phytochemically Enriched Edible Oil
14. Synthesis of novel organic materials for applications in third generation cell
15. Development of Pink Colour from indigenous sources
16. Close loop conversion of poultry waste for sustainable Environment
17. Physio-chemical and Fenton oxidation process for the textile waste water treatment
18. Fortification of Rice with Vitamins and Minerals
19. Bio-Hydrometallurgical Extraction of Metals
20. Development and Production of Cosmetics Products
21. Development of Dioctyl Phthalate
22. Development of Lithium Soap Grease
23. Development of oleo chemicals and allied products
24. Development of Strontium Nitrate
25. Development of Technology for combustible hydrocarbon from Plastic Waste Material in to Liquid Fuel
26. Development of Zinc Borate
27. Preparation of Ferric Chloride

28. Industrial Utilization of Coal Fly Ash
29. Process development for utilization of spent clay from edible oil refinery
30. Treatment of Industrial Wastewater from the Wire Galvanizing Industry