APPLICATION PERFORMA FOR RECOGNITION OF LABORATORIES BY PUNJAB POLLUTION CONTROL BOARD, PATIALA

(To be filled in Duplicate)

1. Name of the Laboratory/Organization and full address ……

   ……

   ……

   Telex……. Telegraph……... Phone…….…..

2. Registered/Head Office……

   ……Phone……

3. Year of establishment ……

   Total area [in sq. mts] ……

   Total skilled manpower ……

   Recurring expenditure per annum on salaries of staff ……

   Establishment and Recurring cost [in Lakhs] …….

   [I] Total cost of Instruments/equipments provided ……

   [II] Expenditure on infrastructural facilities and consumables ……

   (a) Infrastructure ……..

   (b) Consumables ……..

   [III] Recurring cost on consumables ……

4. Type of organization; [please specify]

	If yes, Mark If no, Mark
Laboratory/Research/Academic	
Government	[ ]
Autonomous	[ ]
Private	[ ]
Public Sector	[ ]
Any other	[ ]

Signature of the
Head of the Organisation

5. Head of the organisation

   Name……. Designation……

6. Laboratory Incharge

   Name……. Designation……

7. Name of the organisations from which the Laboratory has been already recognized

   ……

   ……

   ……

8. Which of the following type of analytical works are being carried out in the Laboratory [please specify]

a) Tests for Water and Wastewater

i)	Physical	[	]
ii)	Chemical	[	]
iii)	Radioactive	[	]
(iv)	Microbiological	[	]
(v)	Bacteriological	[	]
(vi)	Toxicological	[	]

b) Tests for Ambient Air/Exhaust Gases

i)	Ambient Air/Fugitive Emission	[	]
ii)	Micro Meteorological	[	]
iii)	Source Emission	[	]
iv)	Vehicular Emission	[	]
v)	Toxic and Hazardous Gases	[	]

9. Mark the parameters given in Appendix "A" which can be analysed in the laboratory for the Water and Wastewater samples.

10. Mark the equipment/instrument given in Appendix "B" which are available in the Laboratory

11. Mark the parameters given in Appendix C, which can be analysed for the air samples.

12. Fill up the information regarding Instruments/Equipment available for the air in Appendix: D

Signature of the
Head of the Organisation

13. Please enclose a list of personal working in the Laboratory with their names, designation qualification and experience (Detail of duration and type of analytical work done in present Laboratory and other Laboratory)

14. Which of the methods given below are being followed for the analytical work (please specify)

(a) Water and Waste water Analysis

i) APHA [ ]
ii) EPA [ ]
iii) BIS [ ]
iv) Any other [ ]

(b) For Air Pollution Monitoring & Analysis

i) APHA [ ]
ii) EPA [ ]
iii) BIS [ ]
iv) Central Board [ ]
v) Any other [ ]

15. Enclose a brief information regarding library facilities available with the Laboratory, research development activities carried out or being carried out, scope of expansion, other fields of interest, etc.

16. Provide a map showing a lay out of the existing Laboratory and future expansion plans, if any (along with approx. area)

17. Provide details of testing charges in case of each parameter and also the sample collection charges in appendix 'E'

18. No. of samples being analysed year [ ]

a. Water [ ]
b. Ambient Air [ ]
c. Stacks [ ]

19. Publication Related ……

20. Any other relevant information ……

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APPENDIX- A

PHYSICAL TESTS	***Mark if yes*** ***Mark x if yes***	***Specify the Method of Analysis***
1. Colour	[	[
2. Conductivity	[	[
3. pH	[	[
4. Suspended Solids (SS)	[	[
5. Suspended Volite Solids (SVS)	[	[
6. Settleable Solids	[	[
7. Sludge Volume Solids (SVS)	[	[
8. Salinity	[	[
9. Total Dissolved Solids (SDS)	[	[
10. Total Voltile Solids (TVS)	[	[
11. Temperature	[	[
12. Turbidity	[	[
13. Velocity of Flow	[	[
14. Any Other Parameter	[	[

CHEMICAL TESTS	***Tick, if yes*** ***Mark, if yes***	***Specify the Method of Analysis***
A. General		
1. Acidity	[	[
2. Alkalinity	[	[
3. Ammonical Nitrogen	[	[
4. Ammonia Free	[	[
5. Biochemical Oxygen Demand (BOD)	[	[
6. Bromide	[	[
7. Chlorine	[	[
8. Carbon Dioxide	[	[
9. Chlorine Demand	[	[
10. Chlorine Residual	[	[
11. Cyanide	[	[
12. Chemical Oxygen Demand (COD)	[	[
13. Dissolved Oxygen	[	[
14. Fluoride	[	[
15. Hardness (Total and Calcium)	[	[
16. Iodide (Traces)	[	[
17. Kjeldahl nitrogen (Total)	[	[
18. Tanin and Lignin	[	[
19. Nitrite Nitrogen	[	[
20. Nitrate Nitrogen	[	[
21. Oil and Grease	[	[
22. Phosphate	[	[
23. Sulphate	[	[

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24.	Sulphide	[	[
25.	Sulphite	[	[
26.	Silica	[	[
27.	Urea Nitrogen	[	[
28.	Any other parameter	[	[

A. METALS

1.	Arsenic	[	[
2.	Aluminium	[	[
3.	Boron	[	[
4.	Barium	[	[
5.	Cadium	[	[
6.	Barilium	[	[
7.	Calcium	[	[
8.	Chromium (Total Chromium (Hexavalent)	[	[
9.	Copper	[	[
10.	Iron (Total)	[	[
	Iron (Ferrous)		
11.	Lead	[	[
12.	Lithium	[	[
13.	Magnesium	[	[
14.	Manganese	[	[
15.	Mercury	[	[
16.	Nickel	[	[
17.	Potassium	[	[
18.	Selenium	[	[
19.	Silver	[	[
20.	Sodium	[	[
21.	Strontium	[	[
22.	Tin	[	[
23.	Vanadium	[	[
24.	Zinc	[	[
25.	Any Other Parameters	[	[

C. ORGANICS

1.	Hydrocarbons	[	[
2.	Pesticides and Insecticides	[	[
	i) Organo Chlorine		
	ii) Organo Phosphorus		
3.	Phenols	[	[
4.	Any other parameters	[	[

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D. MICROBIOLOGICAL PARAMETERS

1.	Fecal Streptococci	[	[
2.	Fecal Coliform Organism (MPN)	[	[
3.	Pathogens	[	[
4.	Seprophtic Identification	[	[
5.	Total Plate Count	[	[
6.	Total Coliform Organisms (MPN)	[	[
7.	Any Other	[	[

E. BIOLOGICAL PARAMETERS

1.	Benthic organisms count	[	[
2.	Chlorophyll Estimation	[	[
3.	Estimation of various Diversity indices	[	[
4.	Macrophytic Identification	[	[
5.	Planktonic count	[	[
6.	Primary Productivity	[	[
7.	Any Other	[	[

F. BIOASSAY OF TOXIC POLLUTANTS

1.	Bio-accumulation	[	[
2.	Bio-magnification and Bio-transforumation studies	[	[
3.	Estimation of the effect at tissue level	[	[
4.	Estimation of LC50 on Fish or other organisms like dephina, Algae etc.	[	[
5.	Estimation of LC50 on Fish	[	[
6.	Any other	[	[

G. RADIOACTIVE TESTS

1.	Gross Alpha & Gross Beta Radio activity	[	[
2.	Any Other	[	[

APPENDIX- B

	List of Equipment	***Quantity***	***Cost in Rs***
1.	Refrigerator	[	[
2.	Deep Freezer	[	[
3.	BOD Incubator	[	[

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4.	Bacteriological incubator	[	[
5.	Oven	[	[
6.	Muffle Furnance	[	[
7.	Autoclave	[	[
8.	Water Bath	[	[
9.	Centrifuge	[	[
10.	Distillation Assambly	[	[
11.	Heating mantle	[	[
12.	Hot plate	[	[
13.	Magnetic stirrer with Hot plate	[	[
14.	Vaccum filteration pump	[	[
15.	Electronic colony counter	[	[
16.	Inocilation Hood	[	[
17.	Aquarium for bioassay & Aerator	[	[
18.	Water deionizer	[	[
19.	Water current meter	[	[
20.	Depth sampler	[	[
21.	Colour comparator	[	[
22.	Flocculator	[	[
23.	Laminar Flow	[	[
24.	Flask shaker	[	[
25.	Fuming chamber	[	[
26.	Inoculation chamber	[	[
27.	Rotatory shaker	[	[
28.	Stop watch	[	[
29.	Thermometer different ranges	[	[
30.	Water purification system	[	[
31.	Bottom sampler	[	[
32.	Millipore Filtration Assembly	[	[
33.	Any other equipment	[	[

GLASS ASSEMBLIES

1.	Fluoride distillation assembly	[	[
2.	Cyanide distillation assembly	[	[
3.	Ammonia distillation assembly	[	[
4.	Kjeldahl nitrogen assembly	[	[
5.	COD digestor assembly	[	[
6.	Soxlet estration assembly	[	[
7.	Arsenic estimation assembly (Gutzeit generator)	[	[
8.	Semi micro nitrogen estimation	[	[
9.	Any other assembly	[	[

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LIST OF INSTRUMENT

1.	Analytical balance	[	[
2.	Physical balance	[	[
3.	pH meter portable table model	[	[
4.	Conductivity meter	[	[
5.	Portable water analysis kit (for DO, pH, Temp., Conductivity Redox)	[	[
6.	Turbidimeter	[	[
7.	Binocular microscope (research)	[	[
8.	Flame photometer	[	[
9.	Dissection microscope	[	[
10.	Inverted plankton	[	[
11.	Stereoscopic microscope	[	[
12.	Colorimeter	[	[
13.	Dissolved oxygen meter	[	[
14.	Any other instrument	[	[

SOPHISTICATED INSTRUMENTS

1.	Atomic absorption spectrophotometer	[	[
2.	Gas liquid chromatograph	[	[
3.	Mercury analyser	[	[
4.	Visible spectrometer	[	[
5.	Micro analytical balance	[	[
6.	Specific ion meter	[	[
7.	Specific ion meter with microprocessor	[	[
8.	Polarograph	[	[
9.	Spectro colorimeters	[	[
10.	Total organic carbon analyser	[	[
11.	Beta Ray particulate matter analyser	[	[
12.	Pulse fluorescence ambient sulphur dioxide analyser	[	[
13.	Non dispersive ambient	[	[
14.	Ozone analyzer	[	[
15.	Chemiluminesceme based NO_x analyzer	[	[
16.	Exhaust CO/HC analyser	[	[
17.	Exhaust, NO_x analyser	[	[
18.	Solar system	[	[
19.	Wind speed direction recorder with data logger	[	[
20.	Any other parameters	[	[

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APPENDIX- C

Make the parameters given below which can be analysed in your lab

	Parameters	***Ambient Air/Fugitive stack specify method of analysis***	
1.	O	[	[
2.	NO_x	[	[
3.	SPM	[	[
4.	SO_2	[	[
5.	NO_2	[	[
6.	CO	[	[
7.	H_2S	[	[
8.	NH_3	[	[
9.	O_3	[	[
10.	Velocity	[	[
11.	Flow	[	[
12.	Acid mist	[	[
13.	SO_2	[	[
14.	Total Flouride	[	[
15.	Particulate Flouride	[	[
16.	Gaseous Fluoride	[	[
17.	Metals	[	[
18.	Any other metals	[	[

For yes marked parameters give details such as method of analysis instrument used for sampling and analysis range of sensitivity etc. Enclose separate sheet

MICRO METEOROLOGICAL

1.	Wind speed	[	[
2.	Wind direction	[	[
3.	Temperature	[	[
4.	Mixing depth inversion height	[	[
5.	Any other	[	[

VEHICULAR EMISSION

1.	Smoke	[	[
2.	Carbon monoxide	[	[
3.	Oxides of nitrogen	[	[
4.	Hydrocarbons	[	[
5.	Any other	[	[

Toxic and Hazardous gases……

…….

Provide a list of parameters which could be analysed in your lab specifying method of sampling & analysis

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APPENDIX- D

Mention the names of the instruments/equipments which are available in and analysis of each of the following group of tests. Also mention sensitivity and range of each instrument/equipment and cost of each instrument/equipment.

1. Ambient Air/Fugitive emissions …….

   …….

2. Micro Metrorological …….

   …….

3. Source …….

   …….

4. Vehicular emission …….

   …….

5. Toxic and hazardous gases …….

   …….

6. Does the facility of calibration of various flow measuring devices Rotameter dry gas flow meter. Blower of high volume sampler, pilot tube etc. exist in your lab. If yes then please provide the detail of calibration system (use separate sheet if required).

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Head of the Organisation

APPENDIX- E

Sampling collection charges.

Effluent/Water (Prevention and Control of Pollution) Act, 1974

Distance upto Grab	100 km	500 km	1000 km	More than 1000
Composite				
For 24 hour study				
4 Hourly				
6 Hourly				
8 Hourly				
Every subsequent day				
Any other charges				

AIR (Stack Monitoring)

Distance upto First day	100 km	500 km	1000 km	More than 1000
Every Subsequent day				
Any other charge				

Ambient Air Monitoring Station

Distance upto First	100 km	500 km	1000 km	More than 1000
Every Subsequent day				
Any other charge				

Note: 1. 8 Hours monitoring at site will constitute a day.

2. Boarding lodging & local transport facilities should be include in the sample collection charges

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