

The background of the slide features a large, faint watermark of the Jadavpur University logo. It is a circular emblem with a scalloped outer edge. Inside the circle, there is a central lamp with three flames. Above the lamp, the text 'যাদবপুর বিশ্ববিদ্যালয়' (Jadavpur University) is written in Bengali script. Below the lamp, the text 'Department of Civil Engineering' is written in English.

Air Pollution

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Definition of Air Pollution

Air pollution is the presence in the atmosphere of some substances added directly or indirectly generally by an anthropogenic activity, in such quantity and of such duration so as to affect or try to affect human beings, animals, vegetations, materials, climates etc adversely.

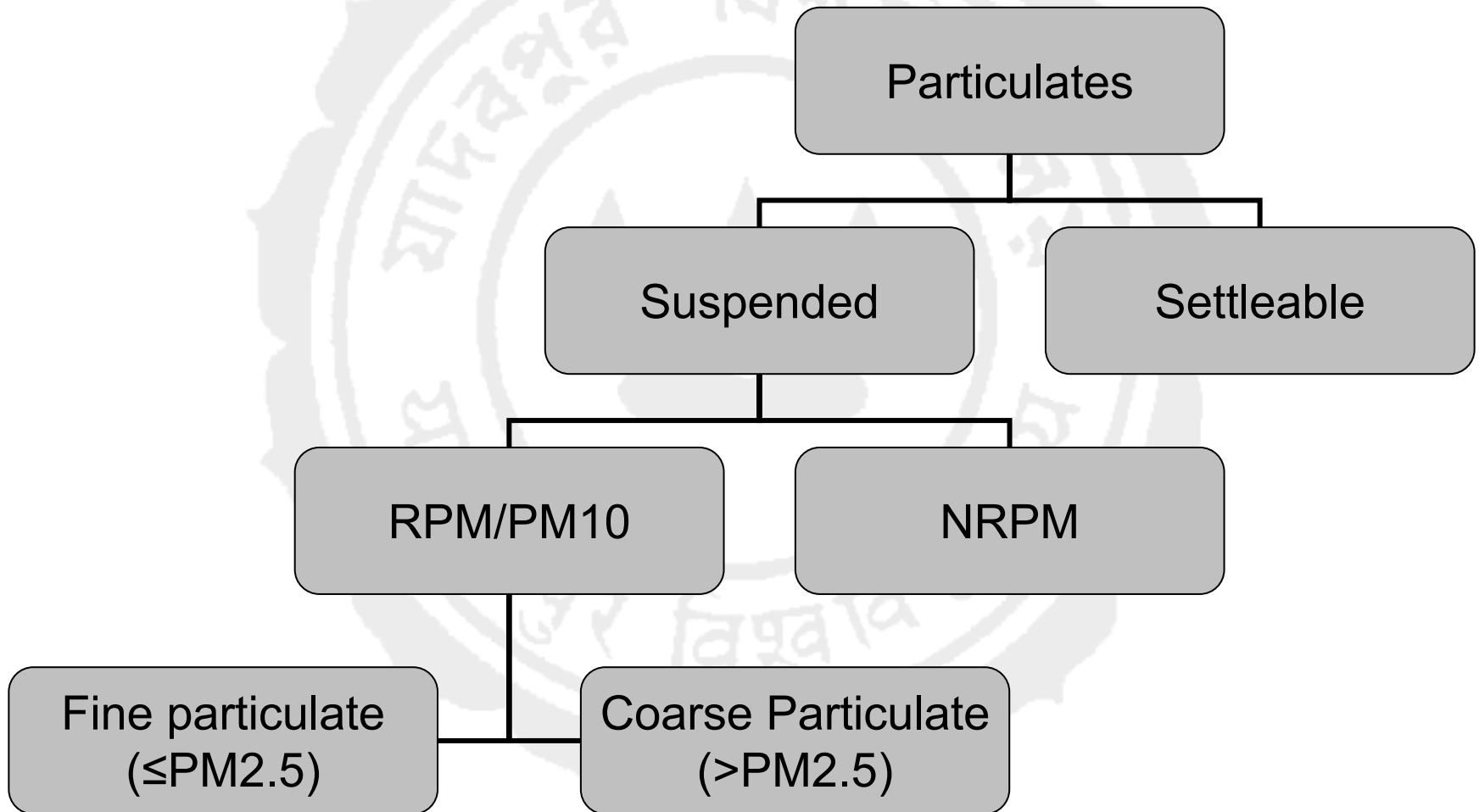
Sources, Properties and Effects of Main Criteria Pollutants

Name of the pollutant	Sources	Properties	Most relevant effects
Carbon monoxide (CO)	Mainly from mobile sources (due to incomplete combustion)	Colourless, odourless, tasteless, poisonous, haemoglobin has more affinity towards CO than oxygen.	Asphyxiation, Aggravation of angina pectoris; decreased exercise tolerance; possible risk to fetuses;
Nitrogen dioxide (NO ₂)	NO is produced in combustion with high temperature. NO ₂ is produced generally from oxidation of NO	Brown coloured, only air pollutant which is photolytically dissociable.	Formation of O ₃ , aggravation of respiratory disease; atmospheric discolouration
Sulfur dioxide (SO ₂)	Static sources like thermal power plants.	Odorous, water soluble	Wheezing, shortness of breath, chest tightness; plant damage and odour, synergy with particulate.

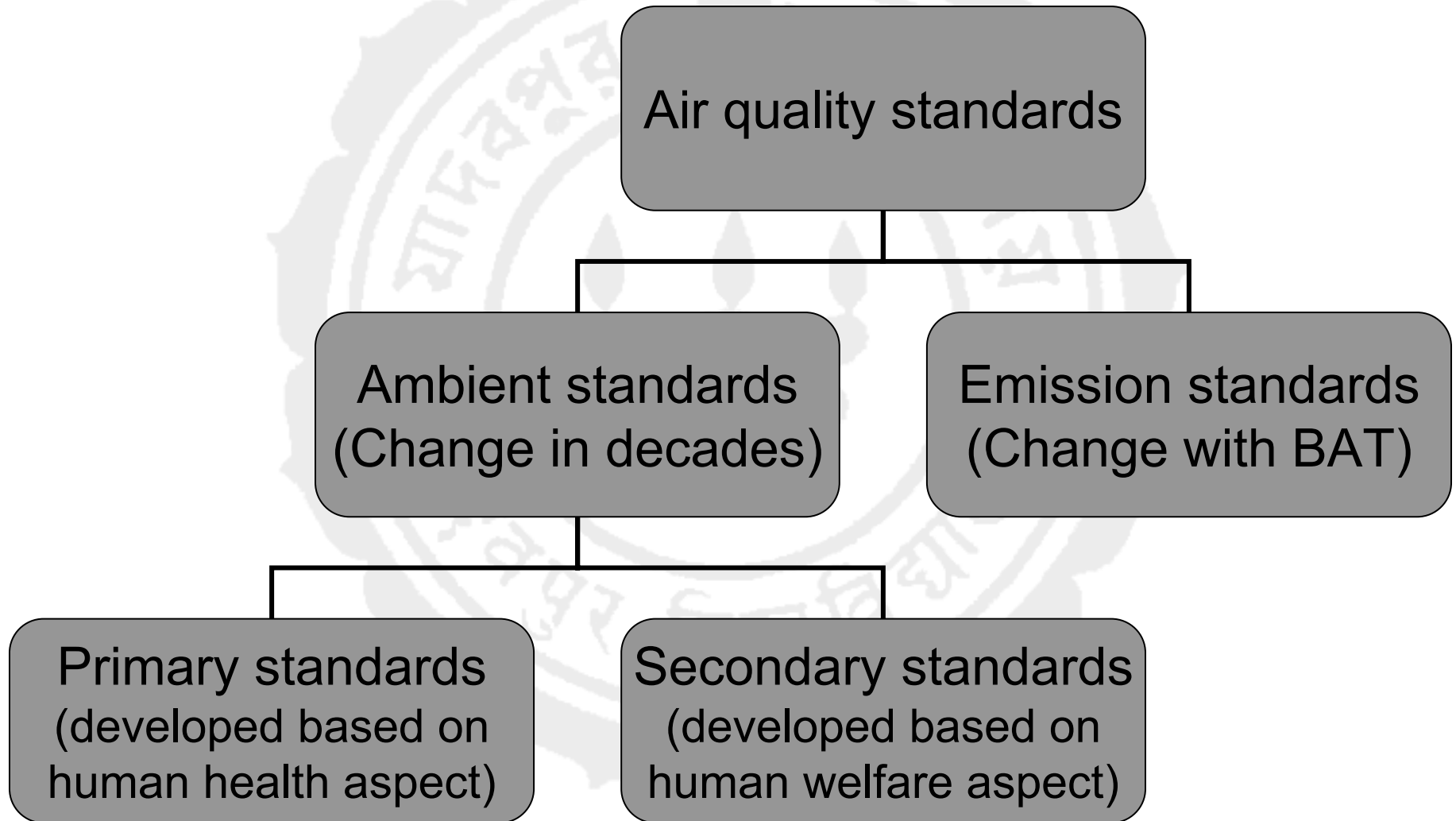
Sources, Properties and Effects of Main Criteria Pollutants

Name of the pollutant	Sources	Properties	Most relevant effects
PM ₁₀	Static sources like thermal power plants.	Aerodynamic diameter $\leq 10\mu\text{m}$, respirable	Exacerbation of respiratory mean disease symptoms; excess death; visibility
O ₃ (tropospheric)	NO-NO ₂ -O ₃ photolytic cycle	Oxidant	Decreased pulmonary function; surrogate for eye irritation; materials and vegetation damages
Lead	TEL used as additives in petrol/gasoline	Heavy metal	Impaired blood formation; infant development.
Ammonia	Industrial processes.	Odorous, form secondary particulate, water soluble	Generation of secondary fine particulates, odour

Classification of Particulates



Classification of Air Quality Standards

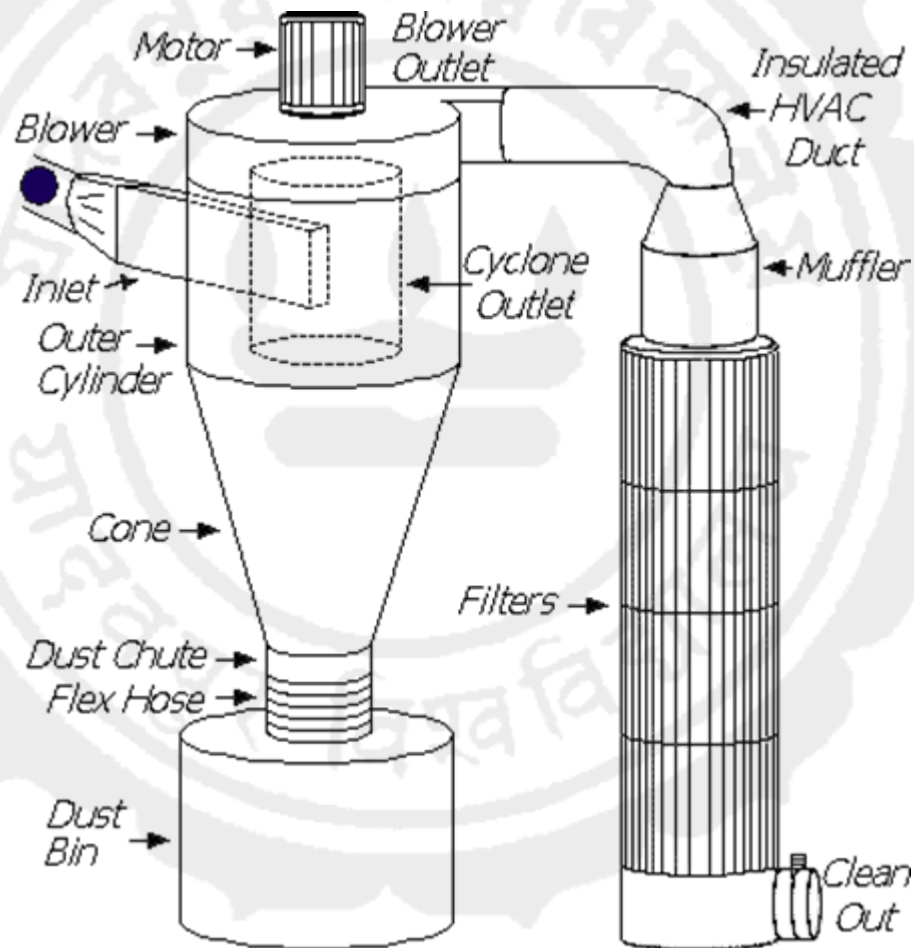


Control of Air Pollution

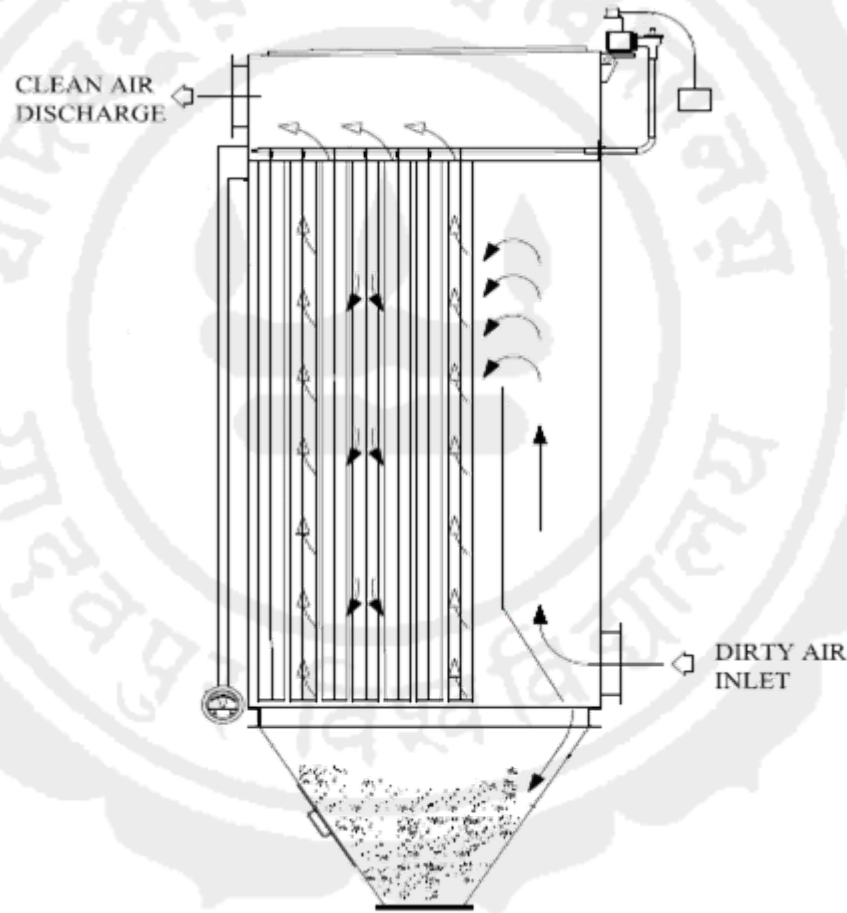
(Downstream Air Pollution Control Equipments)



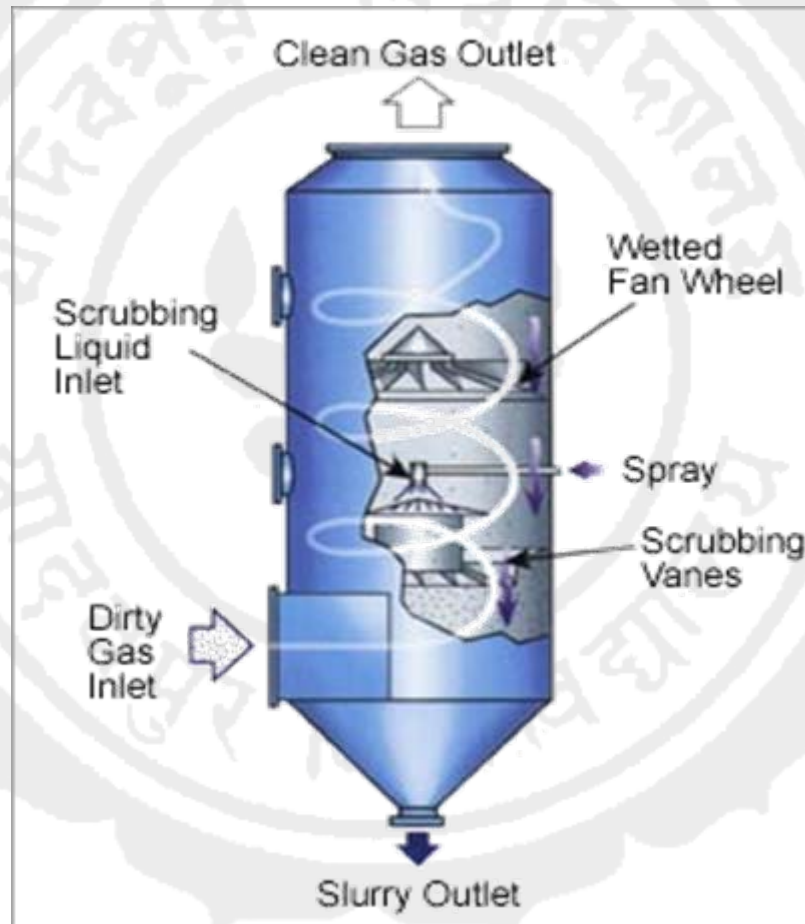
Control of Air Pollution (Downstream Air Pollution Control Equipments)



Control of Air Pollution (Downstream Air Pollution Control Equipments)



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Control of Air Pollution

(Downstream Air Pollution Control Equipments)

