PROGRAMME OF WORK

A. SCIENTIFIC

Atmospheric Sciences

Meteorology

- Investigation of the ozone hole plantations.
- synoptic meteorological observations at synoptic hours and transmission on real time basis.
- routine reception and deciphering of satellite cloud pictures.
- weather forecast and outlook of local weather conditions.
- routine servicing of Data Collection Platform (DCP) and Automatic Picture Transmission (APT) equipment.

Radio-Physics

- studies on radio wave communication of varying frequencies.
- experiments on aeronomy and upper atmosphere, using the radio methods.
- studies on tropospheric radjd propaga-tion, using ionosonde, sky camera and magnetometers.

- ground based airglow studies using rotating filter photometer.

- study of "Ozone Hole" using ground based ultra-violet measurements and turbidity measurements.

- study of trace gases and minor constituents using gas chromatograph.

Earth Sciences

Geology & Glaciology mapping about 1000 sq. km. area of the Petermann range :

- collection of samples for petrological, geochronological and geochemical studies.

- rock core sampling at selected location.

- meteorite search in the area east of Gruber massif.

- to initiate a drilling programme, on experimental basis, in the shelf ice and if possible in the polar ice, for isotope glacial studies.

Environmental Sciences

Oceanography & Limnology

- physical, chemical and biological data (temperature, XBT records, salinity, dissolved oxygen, nutrients, chlorophyll,

		primary productivity ATP and other related features) at selected stations and across the convergence zone
	-	study of the environmental features and quantification of nutrients trace elements fertility and productivity in the Antarctic ecosystems
	-	distribution and abundance of flora and fauna in Antarctic waters
	-	assessment of krill resources
	-	food dynamics of Antarctic waters
	-	diurnal and summer productivity of phytoplankton microbial assays and productivity of fresh water ecosystems in relation to soil characteristics and geomorphology of the lakes
Land Biology	-	collection and identification of primitive forms of life in the Schirmacher Oasis
	-	experiments on the nitrogen fixation in the Antarctic land algae
Engineering Sciences		
Non-conventional Energy sources	-	testing of indigenously made solar panels
	-	installation and testing of wind mill generator

Habitat Development		installation and performance evaluation of containerized accommodation during the Antarctic summer and winter
Biomedical Sciences	-	Intensive and extensive psychological evaluation
	-	to record arcadian rhythms perpetual disturbances and to provide a regular check-up of mental and physical abilities
B . LOGISTIC		
Flying	-	transfer of men and material to different regions
	-	support in carrying out the scientific'" work
Telecommunication	-	installation, operation and maintenance of various short distance and long distance communication systems in and from Antarctica
New construc-installations, repairs-		site suitability survey for a permanent station
	-	inspection and repairs to building and other structures
	-	servicing of systems and vehicles

	- installation of containerized accommodation
Healthcare	- Preventing counselling
	- to check medical records quality of food and overall health and hygiene
Documentation	- still and movie photography of the expedition activities
Philately	- marking and cancellation of mail covers with catchet of Dakshin Gangotri-India s manned station in Antarctica