VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT

S.Y. B. SC.

ENVIRONMENTAL PHYSICS

FOR ELECTRONICS PRINCIPAL

(WITH EFFECT FROM JUNE - 2003)

Scope of environment physics, Basic physics, Gas laws, Radiation laws.
The rediation environment, Solar radiation, Long wave radiation Radiation geometry, direct solar radiation, diffuse radiation, radiation in leaf canopies.
Radiation balance, the equation of radiative balance, radiative properties of natural materials, radiation balances (i) Annual (ii) Daily (iii) Instantaneous.
Momentum transfer, Boundary layers, wind and turbulence over uniform surfaces.
Heat transfer - (i) Convection, Non-dimensional groups, measurements of convection, transfer in the atmospherio boundary layer.
Heat transfer (ii) Conduction, Steady state equations, Insulation of animals, Heat conduction in soil.
Mass transfer, non-oimentional groups, measurements of mass transfer, mass transfer through pores.

MAIN BOOK

1. J. L. Monteith, Principles of Environmental Physics, Edward, Arnold, 1973.

RECOMMENDED BOOKS

1. W. D. Sellers, Physical Climatology, University of Chicage Press, 1965.
2. W. P. Lowry, Weather and Life, Academic Press New York, 1969.
3. N. ROBINSON, Solar Radiation ed. Elsevier, Amsterdam, 1966.
4. A. J. Ede, An Introduction to Heat Transfer, Pergamon Press, Oxford, 1967.
5. W. R. Van wijk, Physics of Plant Environment, North - Holland Holland Publishing Company Amsterdam, 1963.