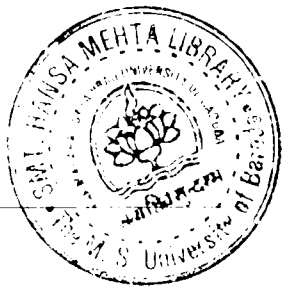
Nomenclature



A	Heat transfer surface area (m^2)	$\dot{W}$	Work done
B	Constant in cost equation	x	Mole fraction
$\dot{C}$	Cost flow rate (₹/hr)	y	Mole fraction with water as liquid
c	Cost per unit exergy (₹/kJ)	$\dot{Z}$	Levelized investment cost of component
$\dot{E}$	Exergy flow rate (kW)	1-34	Stations in the absorption cycle
f	Exergoeconomic factor (%)		***Subscript***
h	Enthalpy	a	Absorber/air
hr	hour	c	Condenser
I	Total Capital Investment	D	Exergy Destruction
i	Interest rate	CE	Condenser Evaporator
$\dot{m}$	Mass flow (kg/sec)	e	Evaporator/Exit
M	Molecular weight	eff	Effective
n	Plant life in years	F	Fuel
p	pressure	g	Generator
$\dot{Q}$	Heat transfer rate (kW)	i	Inlet
r	Escalation rate/Relative cost difference (%)	k	k^{th} component of the system
R	O & M cost invariable to optimization	L	Exergy Loss
₹	Rupees (Indian currency)	m	Motor
sec	Second	p	Pump
S	Entropy	s	Steam
$\dot{s}$	Rate of entropy generation	m	Motor
t	Temperature (°C)	p	Product

r	Rectifier
s	Steam
T	Turbine
Tot	Total system
w	Work

Superscript

CI	Capital investment
OM	Operation and maintenance
OPT	Optimum

Greek letter

α	Exponent
β	Capital recovery factor
χ	Effectiveness of the heat exchanger
ε	Exergetic efficiency (%)
γ	Percentage O&M cost
η	Isentropic efficiency
τ	Annual hours of system operation
ω	Coefficient expressing variable Levelized O&M cost for the
Δ	Difference
λ	Air Fuel ratio

Abbreviations

APH	Air Pre Heater
AC	Air Compressor
CC	Combustion Chamber
COP	Coefficient of performance
CFC	Chloro fluoro carbon
CRF	Capital Recovery Factor
EDM	Exergy Destruction Method
EGM	Entropy Generation Minimization
FD	Forced Draught
GT	Gas Turbine
GCV	Gross Calorific Value
HCFC	Hydro fluoro carbon
HRSG	Heat recovery steam generator
ID	Induced Draught
LHV	Lower Heating Value
M&S	Marshal & Swift
OBF	Objective function
PEC	Purchase equipment cost
PC	Pre-cooler
RHX	Refrigerant heat exchanger
SHX	Solution heat exchanger
TCI	Total capital investment
TEO	Thermoeconomic Evaluation and Optimization
TR	Ton of refrigeration
VAR	Vapour absorption refrigeration
VCR	Vapour Compression Refrigeration