CHAPTER 1

INTRODUCTION
1.1 SYSTEM SYNOPSIS

As a part of the plan to computerize the whole activities in Gujarat Ambuja Cements Limited (GACL), this Hotel Management System (HOTMANS) has been developed for providing convenient work to the company's Guest houses.

OBJECTIVES :-

The main objectives of the system are:

** On-line Processing
** To provide Integration
** To provide greater processing speed and accuracy.
** To provide faster information retrieval.
** To provide generalized system.
** To provide improvement in consistency.
** To provide Better decision making to support management objectives.
** To provide more convenient work
** To becoming Simplified entire system

SALIENT FEATURES :-

Some of the silent features of HOTMANS are:

** Completely menu driven application.
** Modular Design.
** Supported by Queries.
** User friendly.
** On-line help facility.
** Efficiency of storage & speed.
** Two level of security (password).
** Works for multibranch (guest house).

** Setup facility (password, etc..)

ADVANTAGES :-

The proposed Hotel Management System (HOTMANS) will have the following advantages:

** On-line Transaction processing thus Up-to-date

Information get at any time.

** Well designed computer reports.

** Easy storage and retrieval of information.

** Instant access to stored database information.

** Validation and cross checking of each and every field

with another fields of same table or fields of other tables.

** Standardization in Screen Design, Help Message, Error

Message, Form name convention etc..
1.2 COMPUTERISATION OF HOTEL MANAGEMENT SYSTEM

INTRODUCTION :-

There is a clear need for bringing, under the scope of rapid computerisation, the activities of the Guest house Function. The five possibilities that can flow from this function namely:

** Book Keeping.
** Decision Support.
** Validation of Past Assumption.
** Generation of useful Reports.
** Cost Consciousness.
** Business Trend.
** Better Management.

Only the first need seems to be fully satisfied with the current, manual system. Computerisation could immediately facilitate timelines, accuracy analysis along different parameters, the meeting of multiple requirements of various levels and different Guest house in the organization. The basic needs that will be satisfied will lead to the release of competent professional time for more productive and useful work. An immediate example of routine tasks that can be easily computerised to release five individuals would be bill passing.

BASIC APPROACH :-

At present, there are three Guest Houses in Ambuja:

(i) GIR Guest house (ii) VIP Guest house (iii) Executive G.H.

Book keeping was followed by manual procedure for various activities of Guest house. A system is for Guest house to computerized all these manual activities.

After seeing all the three Guest houses and corresponding practical activities and various registers (files) which were being maintained the activities like Reservation of the guest, Allotment of the rooms in G.H. by category of the guest, Breakfast facility, Lunch,
Dinner and external activities in Store, HOTMANS was implemented. By discussing about various problems which had to be faced in keeping all these information manually, System was made in which they can work more conveniently and the entire system becomes more simplified one, which looked very rigid and incompatible to any good existing system.
1.3 ABOUT ORGANIZATION - GACL

PROMOTERS :-

Gujarat Ambuja Cements Limited has been jointly promoted by Gujarat Industrial Investment Corporation Limited and Shri N. S. Sekhsaria (Managing Director) and his associates Shri Vinod K. Neotia (Chairman) and Shri Suresh Mulani with investment of Rs 81 Crores. The Company has about 76,000 share holders.

PRODUCTION SITE :-

Located near Kodinar of Amreli District, GACL has three production units:

1. AMBUJA CEMENT :-

Commercial production of this unit was started from October 1986. The unit produces cement at the rate of 3000 Tonne per day which is 110 percent of its operating capacity.

2. GUJAMBUJA CEMENT :-

Commercial production of this unit was started from October 1993. The unit produces cement at the rate of 3100 Tonne per day which is 115 percent of its operating capacity.

3. GUJAMBUJA LINE II :-

Commercial production of this unit has started recently and is running almost upto its operating capacity at the rate of roughly 2800 Tonne per day.

The company has set up one production unit namely HIMAMBUJA at village Suli in Himachal Pradesh. This unit also produces 1 million tonne cement per year. This unit caters entire North Indian market.

The company has also set up a cement grinding and packing facility at village Ropar in Punjab.

LAND ACQUIRED :-
The company is spread over an area of Hectare 82-16-41 Sq.Mt. This area includes land occupied by all the three production units, mines, administrative buildings, colony, school, etc.

Factory: 82 Hactares

Colony: 41 Hactares

They have got about 315 Houses in the colony and about 1800 people are residing in the colony.

Mines: 568 Acres

Other: 16 Hactares (School, etc.)

MAN POWER EMPLOYED :-

In all there are 850 direct employees which includes workers also.

Executives / Managerial staff: 60

Engineers / Administrative staff: 195

Supervisors / Foremen / Non-teach staff: 260

Total average strength: 850

ACHIEVEMENTS :-

* The production units are fully automized incorporating latest technology like Pollution control equipment's, Electronic packing machine, Computerized process control rooms, Advanced kiln automation system, Fuzzy logic machines etc.

* GACL is the first cement company to receive ISO9002 standard certificate in India. This certificate ensures quality management.

* Production units are 100 percent pollution free having the standard of 50-100 which is well within the international standard of 100-150.

* GACL has lowest power and fuel consumption. The power consumption is 90 units per tonne and fuel consumption is 720 K. cal. per kg. of clinker.
* The company exports cement and clinker in neighbouring countries and countries in the middle east. For this there is a BULK CEMENT TRANSPORTATION PROJECT. Port facilities place the company in most advantageous position for exports. The company owns five specially designed Ships and three Jetties located at Mul-Dwarka near Kodinar, Magdalla near Surat and Panvel near Mumbai.

**COMPUTER RESOURCES :-**

**Mini Computers**

AViiON - 5520(PCS/DG)88100 based with 128 MB main memory, 3.5 GB secondary memory. This system has an active 48 terminals attached to it.

HORIZON - III(HCL - MODEL2016)68020 based with 8 MB main memory and 340 MB secondary memory. This system has a capacity of 10 terminals.

**LAN servers**

* Two file servers each running on a Pentium processor (100 Mhz) having Novell 3.2 (10 User) as network operating system.
* One file server running on Pentium processor (100 MHz) having Novell 3.2 (25 Users) as network operating system.
* One client server running on a Pentium processor (100 MHz) having Windows NT 4.0 as network operating system.

**Micro Computers**

There are more than 200 micro computers (PC's) with 386/486/Pentium processors.

**Printers**

Dot Matrix printers - More than 100

Laser printers - 3

Inkjet printers - 2

**LOGO OF THE G. A. C. L. :-**
CEMENT

AMBUJA
1.4 LOCAL AREA NETWORK

A LAN is a communication network that interconnect computers and computer system components within a limited area. Within the communications network can be a variety of computer equipment, including microcomputers, workstations and terminals, printers and file servers. These are usually interconnected for reasons like,

* Distribution of information and messages
* Sharing of processing, storage and input/output equipment
* Interconnection with a public network

**LAN CHARACTERISTICS** :-

* A large personal computer or a microcomputer serves as the hub of the LAN.
* Attached to the hub is high capacity hard disk, which functions as a file server.
* Personal computers stationed in various areas are attached to the network through communication cards inserted in the individual processing units and by cable running from the card to the network cable.
* Files are stored on the network file server and retrieved by various users when needed. The copies can be read or modified.
* Software can be loaded on the file server and used by any of the user when needed.
* The specific features of a LAN depend on the channels, topology and access control methods designed into the network.
Introduction

CHANNELS :-

LANs can be designed to use any of the channels which typically involve either telephone wire, coaxial cable, or fiber-optic cables. Following characteristics are considered in selection of channels:

* Low cost installation, maintenance and management
* High resistance to electrical interference
* High band width (high transmission speed)
* Interconnection of computers and communications equipment

NETWORK TOPOLOGIES :-

Communication networks use any of four different topologies:

1. Point-to-Point

Here terminals at one location are directly connected to a system in another location using a dedicated communication line. The locations are the points in a Point-to-Point system. One machine is a terminal and the other is a computer. Point-to-Point systems can link computers, thus interconnecting several separate locations that are capable of communicating with one another.

2. Multidrop

Multidrop lines share a single communications line between several locations. Although only one location can send data at a time, all locations can receive data simultaneously.

3. Star

The nodes in a star topology interconnect directly with a central system and not with other nodes in the network. Transmitting information from one node to another can be done only by sending details to the central node, which in turn sends them to destination.

4. Ring

A ring network permits direct communication between nodes and with
central computer. The central system does not handle data transmitted from one node to another. Here if one node fails the entire network may be unusable.

**LAN ACCESS METHODS:**

The access method determines how stations and components share the network facility for transmission or receipt of data. Mainly two access methods are used:

1. **Access Contention**

   Most LANs use a broadcast topology in which every message is send to every node. Nodes however act on a message only if it is address to them. The devices tap into the transmission bus to send and receive data. If more than one device wish to transmit at a particular moment, the situation is handle by access contention.

   Carrier Sense Multiple Access (CSMA)

   Carrier Sense Multiple Access/Collision Detection (CSMA/CD)

2. **Token Ring**

   A token is string of bits sent around the network. Whenever a device has a message to transmit it waits for the token, takes it off the network and then transmits data on the network. After transmission, the device returns the token to the network.