**1 SYSTEM ANALYSIS**

**1.1 Objective of the project**

The objective of our project is to design and develop online software named **Payroll Management System of Assam State Employee**. The existing system is such that the payroll system is managed manually on paper. But with the development of this project, the payroll system can be entirely managed online and it will ease the manual work involved.

The project involves gathering the payroll information of various departments of the Assam State Government and creating a database so that it can used to calculate the Net Pay of employees of different grades.

The objective is to:

* Create an online database of the payroll of different employees of different grades.
* Change the existing manual processing of the payroll to computerized processing.
* Ease of work and remove chances of discrepancies that exist in the current system.

**1.2 Introduction**

The payroll system calculates the net pay of an employee depending upon the grades of the employee. The pay band is different for different grades and the payroll system vary from department to department.

The employees of the Assam State Government are divided into 4 categories and they are ranked as Grade A, B, C and D or sometimes I, II, III and IV, with A or I as the highest rank and D or IV as the lowest.

**1.3 About the existing system**

In the existing system, the records are maintained on paper and processing is done manually. The employees have to maintain a huge number of files and calculations are done by human hence there is a chance of error. Also, there are thousand of records so if there is any error for a particular employee it is very difficult to find that error and rectify it.

In our proposed system, all the records will be maintained automatically. And the calculations will be computerized; hence there is no chance of error. Even if there is any mistake, it will be for all the employees and it can be rectified easily. Also to find the data for a particular employee, we don't need to browse through huge files as the database will be maintained online. So we can find any particular record easily by entering the employee code.

In the table below the payroll for different categories of **Assam State Transport Corporation** are listed.

The basic structure of the payroll consists of the Basic Pay and the Grade Pay and in addition to these there are some earnings and deductions. The earnings include some allowances which are, Dearness Allowance (DA), House Rent Allowance (HRA) and Medical Allowance (MA).

The sum of Basic pay and Grade Pay is denoted by ‘A’. The DA is 130% of A and HRA is 15% of A. The MA is fixed for all categories i.e. an amount of ₹600/-. The sum of all the earnings is denoted by ‘B’.

The deductions include Provident Fund (PF) which is 27.6% of A and Tax which is a fixed amount as shown in table. The sum of all deductions is denoted by C.

The Net Pay of the employees of any category is calculated as (A+B-C).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **GRADE A** | **GRADE B** | **GRADE C** | **GRADE D** |
| **BASIC PAY** | 15500 | 12000 | 5200 |  |
| **GRADE PAY** | 7600 | 5400 | 3300 |  |
| **A** | **23200** | **17400** | **8500** |  |
| **DA** | 30160 | 22620 | 11050 |  |
| **HRA** | 3480 | 2610 | 1275 |  |
| **MA** | 600 | 600 | 600 |  |
| **B** | **34240** | **25030** | **12925** |  |
| **PF** | 6403 | 4802 | 2346 |  |
| **P. TAX** | 208 | 208 | 180 |  |
| **C** | **6611** | **5010** | **2526** |  |
| **NET** | **50829** | **38220** | **18899** |  |

Table: Net Pay of different grades of employee of Assam State Government

**1.4 Drawbacks of the existing system**

**1.5 Proposed system**

Our proposed system is an alternative computerized online solution of above problems is described below to overcome the drawback of existing manual payroll management system.

Also our system is a GUI based system hence the interface will be user friendly. It can be used by anyone with a minimum computer operating knowledge.

1. It provides ‘better and efficient’ service to members.
2. Soft copies of the employee’s bill are stored in a single database in systematic way for easy retrieval of data.
3. Various changes to information like increment in salary are easily updated in a short time.
4. It provides facility for proper monitoring, reduce paper work and provide data security. Thus reduce the workload of employee.
5. Data stored in the database is less prone to tampering.
6. Online system keeps back up of all information stored in the database which makes it more secure and easy to retrieve.

**1.6 Minimum hardware and software requirement**

**1.7 Block diagram of project**

**1.8 Feasibility of study**

**1.8.a Economic**

**1.8.b Operational**

**1.8.c Technical**

**2 SYSTEM DESIGN**

**2.1 About System Design**

**2.2 ER Diagram**

**2.3 Contest Diagram**

**2.4 DFD**

**2.5 Data Dictionary**

**2.6 Normalization**

**2.7 Table of Databases**

**3 SYSTEM IMPLEMENTATION**

**3.1 About System Implementation**

**3.2 About front end technologies**

**3.3 About Back-end Technologies**

**4 SYSTEM TESTING**

**4.1 About System Testing**

**4.2 Types of Testing**

**4.3 Snapshot of Project**

**5 CONCLUSION AND FUTURE ENHANCEMENT**

**6 References**