COMPUTERIZATION OF STUDENT'S EDUCATION SYSTEM

FOR CHEMISTRY (CLASS IX & X) & PHYSICS (CLASS XI)

BY

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&

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God says in the Holly Quran

In the name of Allah
The most gracious
The most merciful.

Declaration

This is to certify that the dissertation submitted by Syeda Soofia Begum & Farzana Islam is accepted in its present form by the Computer Center, Quaid-I-Azam University Islamabad as satisfying the dissertation requirement for the award of Post Graduate Diploma in Computer Sciences.

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A dissertation Submitted to Quaid-E-Azim University Islamabad

In partial fulfillment of the requirement of Post graduate Diploma in Computer Science 4th, June 2002.

Dedicated

To my parents, teachers. To those who endeavor to discover the secrets of the nature for the benefit of mankind.

Acknowledgment

All glories be to Allah, the omniscient, the omnipresent and the omnipotent and his benediction be upon his Prophet. The savior of mankind from the darkness of Ignorance and Symbol to be and to do right.

"*God always helps those who help themselves.*"

It is a wise saying and has always proved true.

When I started my Project, it seems difficult to me but will of Almighty Allah, I have finished up my project work and I am able present this dissertion in a complied form.

I wish to express my sincere gratitude, heartiest obligation and appreciation to my worthy Supervisor Mr. Abdul Subhan, from Computer Center, Quaid-e-Azam University, Islamabad, for his guidance, valuable suggestion sincere and sympathetic attitude, especially for politeness throughout the study.

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I owe my special thanks to the principal of F.G. College/School who not only promoted me to do this job but also provided me all kind of necessary information and help concerning to my project.

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Last but not least, heartfelt thanks to parents, brothers and sisters without their co-operation and prayers this work would have never been materialized.

PREFACE

Information retrieval is a Major category of computer applications which concentrate on the storage and retrieval of information, retrieval of systems are necessary to cope and fast decision.

They provide administration and other staff of organization with selective and appropriate information and drastically minimize the time formally spent in searching for necessary information.

This project is concerned with the development of software of tutorial system.

This project is concerned with the development of software of Tutorial System.

The entire work has been presented in chapters and one appendix.

Brief description for each chapter and appendix is given below:

Chapter: 1 Describes briefly the introduction about the subjects i.e. Physics and Chemistry, their branches and relationships, problems of students, solution of problems, help to teacher, list of boards and help from course outline.

Chapter: 2 Describes the proper text of Physics for F.Sc. (part I) and chemistry for class 9th & 10th i.e. the total No of chapters of syllabus, their topics and the chapters included in this system.

Chapter: 3 Covers the software development and evaluation of the system.

Chapter: 4 Is the User Guide for the System.

Chapter: 5 Consists of References from different books of Oracle.

Appendix –A Bachmann Diagrams.

Appendix –B Data flow Diagram.

Appendix –C Reports and other related forms.

Project Brief

Project Title:	A computerization of student's Education System.
Objectives:	To computerize the course outline of students.
Undertaken:	by Syeda Soofia Begum and Fazana Islam
Supervised:	By Mr. Abdul Subhan (Computer Center Quaid-I-Azam University Islamabad)
Date of Starting:	15th March 2002
Date of Completion:	4th June 2002.
Software used:	ORACLE
Development Environment	Oracle 7 version
Operating System:	Windows 98, Windows NT
System Used:	IBM Pentium 3, 200 Mhz

Abstract

A computer based information system called "Student's Education and Examination system" has been developed for F.G. School/Colleges.

The main purpose was to develop a computer based system which is capable of replacement of present manual teaching system, promptly and efficiently.

The developed software provide facility on-line retrieval of information in the form of queries and reports required by the students about basis of Chemistry and Physics and other sciences.

The system developed is flexible, comprehensive and user friendly.

Key Words

1. Tutor
2. Chemistry
3. Physics
4. Guide
5. Expert system
6. IT.
7. Computer Based Training.
8. Computer based Education

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CHAPTER 4 *User Guide* ***Page No***

CHAPTER

This chapter consists of following topics

INTRODUCTION

- **Introduction to Physics and Chemistry**
- **Problems of students.**
- **Solution of problems.**
- **Help to Teachers.**
- **List of Boards**
- **Help from course outline**

INTRODUCTION

1.1 Introduction to Physics and Chemistry

Physics is a science based on reason and logic. One cannot learn Physics by mere memorizing the laws and Principles of Physics. In order to learn physics, one has to work on it.

In other words the student's of physics not only be taught physics laws but also trained to apply their knowledge of physics to solve specific problems and to explain physical phenomena. To attain this objective a lot of solved and unsolved problems and critical question have been given in every chapter of this tutor system.

Two important braches of physics are mechanics and field theory. The field theory explains the origin nature and properties of fields such as gravitational electro magnetic and nuclear.

Earlier the division of physics were made on the basis of natural phenomena to which the methods of physics had been applied. These braches consisted of classical mechanics such as dynamics, statics, celestial mechanics, hydrodynamics, aerodynamics, ballistics, heat and thermodynamics, statistical mechanics, optics, acoustics, electricity and magnetism. Many of these are now becoming branches of applied physics or technology rather than that of pure physics.

Most recently the study of modern physics is classified according to the particular aspect of the study. Thus particle physics or high energy physics is concerned with understanding the properties and behavior of elementary particles.

The next branch in this classification is nuclear physics, which is related to neutrons and protons forming the nuclei of atoms, their structure properties, energy states, reactions with nuclei and radio-activity. Atomic physics deals with the structure and properties of atoms as determined by the electrons outside the nucleus. Other branches are molecular physics, solid State physics, plasma physics etc.

Some times classification is made on the basis of technique such as X-ray diffraction, neutron diffraction, mass spectroscopy, infra-red spectroscopy and seismology.

The low temperature physics involves the production and measurement of low temperature and also the phenomena of super conductivity and super fluidity, which occur in the very low temperature range. Other branches are astrophysics, geophysics and biophysics.

Theoretical physics, is mathematical formulation of physical phenomena of physics, it includes statistical mechanics, quantum mechanics, relativity and field theory.

The aim of physics is to express theoretical model in mathematical terms. It emphasizes the accurate instrumentation, precision in measurement and express the results in mathematical forms.

Chemistry is often defined as the study of the composition and transformation of matter. Chemists seek to study:

i) **What things are made of (their composition)**

ii) **How different substances behave (their properties), and**

iii) **The ways in which different substances can be changed and in which they interact with one another (their combination and transformations).**

The name chemistry is derived from 'alchemiya.' An Arabic word which describes many practices undertaken in ancient times, and in middle ages, by scientists who were trying to understand the properties of matter and its transformations into various forms. This word entered Europe through Spain (during the Muslim era there) and ultimately became 'Chemistry'.

Branches of Physics

Physics

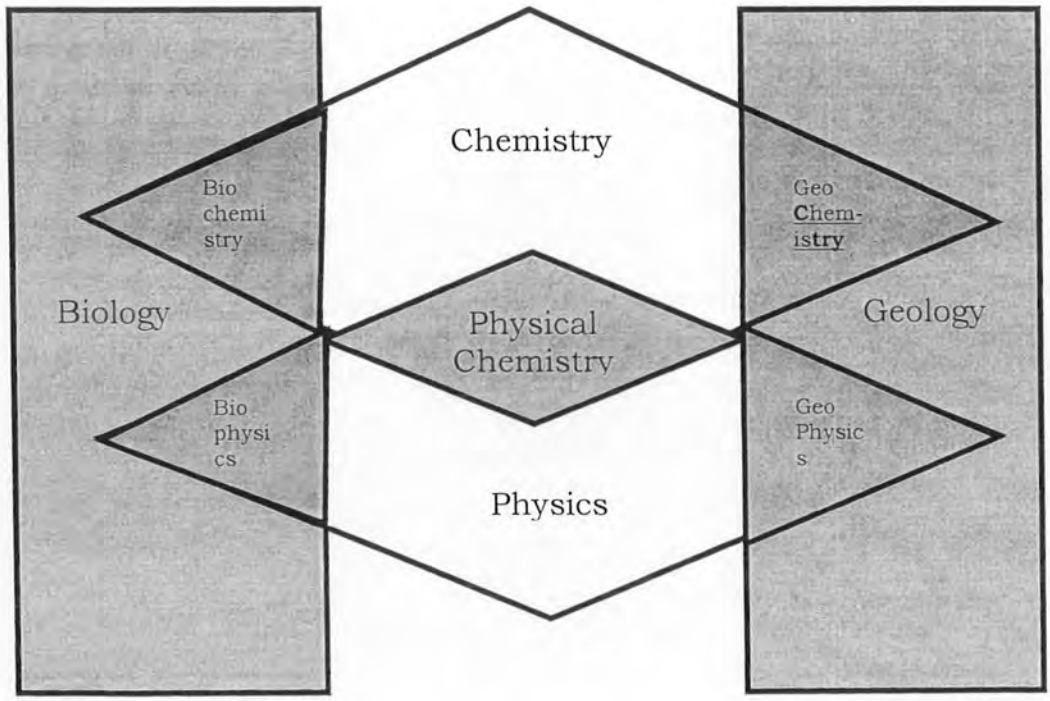
- Field Theory (deals with study of gravitational, electromagnetic and nuclear fields)
- Mechanics (deals with motion of particles/bodies)
  - Dynamics
  - Statics
  - Celestial
  - Hydro dynamics
  - Aerodynamics
  - Ballistics
  - Heat and Thermo dynamics
  - Statistical
  - Optics
  - Acoustics
  - Electricity and Magnetism

Modern Physics
- Particle physics or Atomics physics or energy physics
- Nuclear physics
- Molecular Physics
  - Solid State Physics
  - Plasma Physics

Branches of Chemistry

The field of Chemistry has been divided into the following main braches

i) Organic Chemistry
ii) Inorganic Chemistry
iii) Physical Chemistry
iv) Analytical Chemistry
v) Bio Chemistry
vi) Nuclear Chemistry
vii) Industrial or Applied Chemistry
viii) Environmental chemistry



The term matter has been used in the previous definition. Mater is something that has mass and occupies space. It is that of which "things" are made. Thus stone, soil, wood, air, water, metals, cloth, paper, plastics, medicines, foods and all living things including ourselves are made of matter. But various forms of energy such as heat light, sound and electricity are not matter. Similarly wisdom, moral values, time, language and democracy are not made of matter, nor is a vacuum or any completely empty space.

Chemistry lies at the heart of our efforts to understand and use the materials and phenomena around us. It is sometimes called the central science. Chemistry helps us to develop and produce many new materials that make our lives safer and easier. Our knowledge of chemistry is used to produce metals and a lot of other materials for construction, plastic for all kind of equipment, a variety of fibers for clothing, different medicines to cure and control disease, and pesticides, fertilizers and other chemicals to pro produce more food and preserve it.

Chemistry is an essential component of science education. The basic concepts of chemistry are part of the education required not only by chemists but also by biologists, physicists, medical doctors, engineers, pharmacists and many others. But perhaps the most important contribution of chemistry is that it will develop in us a systematic and logical approach that will serve us well in solving problems in any field. The attitudes and skills developed through learning chemistry and perhaps just as important as the specific knowledge acquired.

1.2 Problems of students

Students usually face the following problems in studying science and specially physics and chemistry as these two subjects are comparatively difficult to understand.

1. Most of the students come from Urdu medium schools and are not able to understand the language of the subject.
2. Most of the students have no aptitude towards science.
3. Most of the students don't express their views however they understand the subject.
4. Most of the students are weak in Mathematics while Physics and Chemistry consist of a lot of mathematics.
5. Most of the students are unable to understand chemical equations.
6. Most of the students don't spend time in studying these subjects while these subjects require a lot of time to study.
7. Most of students unable to prepare them from examination point of view.
8. Most of students are not able to appear in competition test at intercity level.
9. Most of students are unable to appear in debate/quiz programs.

1.3 Solution of Problems

1. The English use in this tutor system will be very easy and understandable.
2. An interest will be developed when they study these subjects with computer aid.

3. Multiple choice questions and their answers will help the students to reply the answer in simple and easy way rather than explaining them in difficult ways.
4. The Mathematics used in it is more easy and simple as compare to text books.
5. The way to explain and describe the chemical equation is quite simple and easy.
6. The students feel bore when study from books but they can easily spend a lot of time in sitting in front of computer as it is interesting way of study as compare to books.
7. This tutor system will prepare the students form examination point of view.
8. It will provide help to students in any completion test/debate /quiz programs.

1.4 Help to Teachers

Some of phenomena have not been explained in books so some teachers cannot understand them. These phenomena have been explained in such a way that all the teachers can take help from this subject tutor as it is very simple, precise and understandable.

Any knowledge given by computer is interesting as compare to books so students as well as teachers can take help from it.

The questions and problems given at the end of each chapter are quite difficult for teachers.

In this tutor system, the correct answers have been mentioned so teachers can easily understand them and their can explain them for students.

So this subject tutor will be helpful for lecture preparation.

It will be helpful for the assignment of questions to students.

It will also be helpful for teachers for paper setting for home examination and for Board examination.

1.5 List of Boards

This subject tutor will be applicable to the following boards.

i) Federal Board of Intermediate and Secondary Education Islamabad, and Overseas.

ii) Peshawar Board.

iii) Rawalpindi Board.

iv) Lahore Board.

v) Sargodha Board

vi) Haiderabad Board.

vii) Multan Board.

viii) Karachi Board

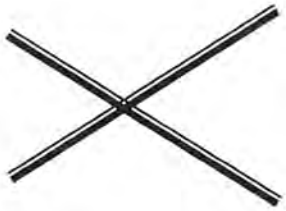
Etc.

1.6 Help from course Outlines

This subject tutor has been made with the help of test books of Physics and Chemistry.

The questions and topics given in various chapters have been described in most easy and understandable way.

At the end of every chapter of book, there are a number of questions and problems. These questions and problems and their solutions have been discussed in this subject tutor in simple and interesting ways.



CHAPTER

This chapter consists of following topics

TEXT OF PHYSICS & CHEMISTRY

- **Course Outline of Physics.**
- **Course Outline of chemistry**
- **Material Included in Tutor system.**
- **Needs of Computerization**

TEXT OF PHYSICS AND CHEMISTRY

The Text Book of Physics consists of the following chapters.

Chapter No	Subject
1	**INTRODUCTION**
1.1	The Nature and Scope of physics.
1.2	Historical Developments.
1.3	Teaching of Islam and Science.
1.4	Physics and Modern Man.
1.5	Measurement and the System of Units.
1.6	Dimension of Physical quantities.
1.7	Significant figures and the Degree of Accuracy.
2	**SCALARS AND VECTORS**
2.1	Scalar and Vectors.
2.2	Vector Representation.
2.3	Multiplication of A Vector By a Number.
2.4	Addition of vectors By Graphical Methods.
2.5	Subtraction of Vector.
2.6	Rectangular components of A Vector.
2.7	Position Vector.
2.8	Addition of Vectors By Rectangular Components.
2.9	Multiplication of Two Vector.

Chapter No **Subject**

Chapter No	Subject
8.4	Characteristics of S.H.M of a Mass Attached to a Spring.
8.5	Wave form of S.H.M.
8.6	The Simple Pendulum.
8.7	Resonance.
8.8	Generation of Wave Pulse and its Propagation.
8.9	Traveling Waves: Period and Wave Length.
8.10	Transverse Waves.
8.11	Water Waves.
8.12	Ocean Waves.
8.13	Waves as Carries of Energy.
8.14	Reflection and Transmission of Waves.
8.15	Standing or Stationary Waves.
8.16	Transverse Stationary Waves in a Stretched String.
8.17	Compressional Stationary Waves.
8.18	Sonometer.
8.19	Longitudinal or Compressional Waves.
8.20	Sound Waves in Air.
8.21	Newton's formula for the Velocity of sound in Fluids.
8.22	Intensity and Loudness of Sound.
8.23	Audible Frequency Range.
8.24	Pitch and Quality of sound.
8.25	Musical Sound and Noise.
8.26	Interference of Sound Waves.

Chapter No	Subject
8.27	Beats.
8.28	Acoustics.
8.29	Doppler's Effect.

9. PHYSICAL OPTICS

9.1	Dual Nature of Light.
9.2	Huygen's Principle –Wave Front and Rays.
9.3	Interference Young's double Slit Experiment.
9.4	Interference in the Film.
9.5	Newton's Rings.
9.6	The Michelson Interferometer.
9.7	Diffraction.
9.8	Diffraction Grating.
9.9	Diffraction of X-Ray by Crystals.
9.10	Polarization of Light Wave.

10. GEOMETRICAL OPTICS

10.1	Lenses.
10.2	Geometrical Construction of Images.
10.3	The Size, Nature and Position of Images Formed by Lenses.
10.4	Magnification and Magnifying Power.
10.5	Lens Aberrations: (Defects in Lenses).

Chapter No	Subject
10.6	Optical Instruments.

2.2 The text book of Chemistry Consists of the following Chapters/topics

Chapter No	Subject
1.	**INTRODUCTION TO CHEMISTRY**
1.1	The Nature of Chemistry.
1.2	The Nature of Matter.
1.3	Atoms and Molecules.
1.4	Chemical Formula.
1.5	Relative atomic and Molecular Masses.
1.6	Percentage Composition.
1.7	Density.
2.	**CHEMICAL REACTIONS AND CHEMICAL EQUATIONS**
2.1	The Nature of Chemical Changes.

Chapter No	Subject
2.2	Some types of Chemical Reactions.
2.3	Exothermic and Endothermic Changes.
2.4	Law of Conservation of Mass.
2.5	Chemical Equations.

Chapter No	Subject
2.6	Mass –Mass Relationships.
3.	**WATER AND SOLUTIONS IN WATER**
3.1	Occurrence and Importance of Water.
3.2	Composition and properties of Water.
3.3	Aqueous Solution.
3.4	Electrolytes and Non-Electrolytes.
3.5	Electrolysis.
3.6	Precipitation Reactions.
3.7	Hard and Soft Water.
4.	**ACIDS, BASES AND SALTS**
4.1	Acids and Bases.
4.2	Some Properties of acids and Bases.
4.3	Weak And Strong Acids And Bases.
4.4	Neutralization and Salts Formation.
4.5	Acid-Base Titrations.
4.6	Acids Bases and Salts in Our Daily Life.
5.	**THE PERIODIC TABLE**
5.1	The Periodic Classification of Elements.
5.2	The Periodic Law.
5.3	The Modern Periodic Table.

Chapter No	Subject
6.	**ATOMIC STRUCTURE**
6.1	The Atomic and the Fundamental Particles.
6.2	Early Ideas About the Structure of the atom.
6.3	Rutherford's Model of the Atom.
6.4	Bohr's Model of Atom.
6.5	Electronic Configuration And Periodic Tale.
6.6	Some characteristics of Atoms.
7.	**CHEMICAL BONDING**
7.1	Formation of Chemical Bonds.
7.2	Ionic Bonds.
7.3	Covalent Bonds.
7.4	Coordinate Covalent Bonds.
8.	**HYDROGEN AND THE ACTIVE METALS**
8.1	Hydrogen.
8.2	Sodium.
8.3	Calcium and Magnesium.
8.4	Aluminum.
9	**IRON, COPPER, ZINC AND LEAD**
9.1	Iron.
9.2	Copper.

Chapter No	Subject
12.	**FUNDAMENTALS OF ORGANIC CHEMISTRY**
12.1	Introduction to Organic Chemistry.
12.2	Basic Concepts.
12.3	Methane.
12.4	Ethene (Ethylene).
12.5	Ethyne (Acetylene).
12.6	Petroleum.
12.7	Petro Chemicals.
12.8	Drugs and Medicines.

2.3 Material of Tutor System

This Tutor System consists of the following chapters/topics from Physics and Chemistry.

Chapter no	Topics
1.	**INTRODUCTION**
1.1	Measurement and the System of Units.
1.2	Dimensions of Physical Quantities.
1.3	Significant figures and the Degree of Accuracy.
2.	**SCALARS AND VECTORS**
2.1	Scalars and Vectors.

Chapter No	Topics
2.2	Vector Representation.
2.3	Addition of Vector by Graphical Method.
2.4	Subtraction of Vector.
2.5	Rectangular Components of A Vector.
2.6	Position Vector.
2.7	Addition of Vectors by Rectangular component.
2.8	Multiplication of Two Vector.
3.	**MOTION**
3.1	Laws of Motion.
3.2	Motion of Connected Bodies.
3.3	Linear Momentum.
3.4	Elastic Collision.
4.	**MOTION IN TWO DIMENSIONS**
4.1	Projectiles
4.2	Circular Motion.
4.3	Centripetal Acceleration and centripetal force.
4.4	Equations of angular Motion.
5.	**TORQUE, ANGULAR MOMENTUM AND EQUILIBRIUM**
5.1	Torque, Acting on a Particle.

Chapter No	Topic
5.2	Angular Momentum.
5.3	Equilibrium and its Examples from daily Life.
5.4	Conditions of Equilibrium.
6.	**GRAVITATION**
6.1	Newton's Law of Gravitation.
6.2	Mass of Earth and its Average Density.
6.3	Variation of 'g'.
6.4	Mass, weight and weightlessness in Satellites.
6.5	Artificial Gravity.
7.	**WORK, POWER AND ENERGY**
7.1	Work.
7.2	Work Done Against Gravitational Force.
7.3	Power.
7.4	Energy.
7.5	Inter-conversion of Kinetic Energy and Potential energy
8.	**WAVES MOTION AND SOUND**
8.1	Motion Under an Elastic Restoring Force.
8.2	Simple Harmonic Motion and Circular Motion.
8.3	Characteristics of S.H.M of a Mass Attached to a Spring.
8.4	Wave form of S.H.M.

Chapter No	Topics
8.5	The Simple Pendulum.
8.6	Resonance.
8.7	Traveling Waves Period and Wave Length.
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8.20	Interference of Sound Waves.
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9.3	Interference - Young's double Slit Experiment.

Chapter No	Topics
9.4	The Michelson Interferometer.
9.5	Diffraction.
9.6	Diffraction Grating.
9.7	Diffraction of X-Ray by Crystals.
9.8	Polarization of Light Wave.

10.	GEOMETRICAL OPTICS
10.1	Lenses.
10.2	Geometrical Construction of Images.
10.3	The Size, Nature and Position of Images Formed by Lenses.
10.4	Magnification and Magnifying Power.
10.5	Lens Aberrations: (Defects in Lenses).
10.6	Optical Instruments.

CHEMISTRY

Chapter No	Topics
1.	INTRODUCTION TO CHEMISTRY
1.1	The Nature of Chemistry.
1.2	The Nature of Matter.
1.3	Atoms and Molecules.
1.4	Chemical Formula.

Chapter No	Topics
1.5	Relative atomic and Molecular Masses.
1.6	Percentage Composition.
1.7	Density.
2.	**CHEMICAL REACTIONS AND CHEMICAL EQUATIONS**
2.1	Some types of Chemical Reactions.
2.2	Exothermic and Endothermic Changes.
2.3	Law of Conservation of Mass.
2.4	Chemical Equations.
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4.1	Some Properties of acids and Bases.
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7.	**CHEMICAL BONDING**
7.1	Formation of Chemical Bonds.
7.2	Ionic Bonds.
7.3	Covalent Bonds.
7.4	Coordinate Covalent Bonds.
8.	**HYDROGEN AND THE ACTIVE METALS**
9.	**IRON, COPPER, ZINC AND LEAD**
10.	**ARBON, SILICON AND NITROGEN**

Chapter No	Subject
11.	**OXYGEN, SULPHER AND CHLORINE**
12.	**FUNDAMENTALS OF ORGANIC CHEMISTRY**
12.1	Introduction to Organic Chemistry.
12.2	Basic concepts.
12.3	Petroleum.
12.4	Petrochemicals.
12.5	Drugs and medicines.

2.4 Needs of Computerization

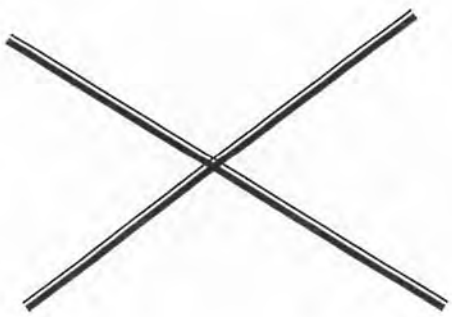
i) It is an interesting way o study.

ii) It consumes less time.

iii) It gives accurate results.

iv) The developed software provide facility on-line retrieval of information in the form of queries and reports required by the students about basics of Chemistry and Physics.

v) It is easy to use.



CHAPTER 3

This chapter consists of following topics

SYSTEM DEVELOPMENT AND EVALUATION

- **Introduction**
- **Development Phase**
- **Entity Relationship Diagram**
- **Logical Design**
- **Physical design**

SYSTEM DEVELOPMENT AND EVALUATION

3.1 Introduction

Once the system design is completed, its development phase starts. In the development phase, the system is built to meet the proposed and designed phase specifications. The development phase focuses on HOW? That is, during development, the software developer attempts to describe how data structures and software components are to be designed, how procedural details are to be implemented, how the design will be translated into a program and how testing will be performed.

The system development activities include preparations of a plan, called an implementation plan, for bringing the system into operational use. Major components of this plan are test plans, training plans and a conversion plans.

During the development phase, computer programs are prepared and tested and preparation is made for changeover from a project environment to an operational environment.

3.2 Development Phase

The method applied during the development phase will vary depending upon the software engineering paradigm applied. However the most important steps are:

- Development approach.
- Implementing the database design.
- Choose the appropriate software tool.

- Develop applications to stone and retrieve information from the database.
- Test the application with sample data for debugging.
- Produce the designed outputs.

The development approach used in developing the system is the bottom-up approach. In this approach all the programs are separately developed and checked, after that, they are linked with the main module. The advantage of this is that each and every program can be tested separately. When the developer is satisfied with the working of each and every program then he will link them with the menus.

Again the system is checked with these menus so that it may not have any error.

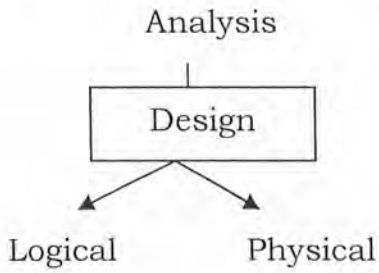
In implementing a database, a good file design is necessary. If the files are properly normalized there in no reason why they should give trouble because in future if we make changes in recodes we will have to make them only once whereas if the file design is poor when fields are duplicated in all of them. In case we don't make changes in all the files then information shall vary in each file which would create a lot of problems for the user. In this system, effort is put in designing the files in such a manner that redundancy can be reduced and integrity is maintain ed. Programs were written for insertion, modification and deletion of records. At the time of all efforts are made that accurate data entry is done.

Once the software tool is selected, the system modules were written. The modules are kept independent of each other to maintain simplicity.

After each module is coded and checked for the desired results, they are linked together with the help of menus. The Programs were developed to display screens and menus for input and output. These are discussed in detail in the User's Guide.

The importance of software testing and its importance w.r.t software quality cannot be over-emphasized. Software testing is a critical element of software quality assurance and represents the ultimate review of specification, design and coding the results of software testing eventually show that data and logic are behaving in predictable and correct ways. Testing usually proceeds from unit testing to system testing.

In unit testing each module was subjected to initial testing using the test data to look for any malfunction in I/O, data formats record keys calculation and comparisons. Alternations were made when necessary.

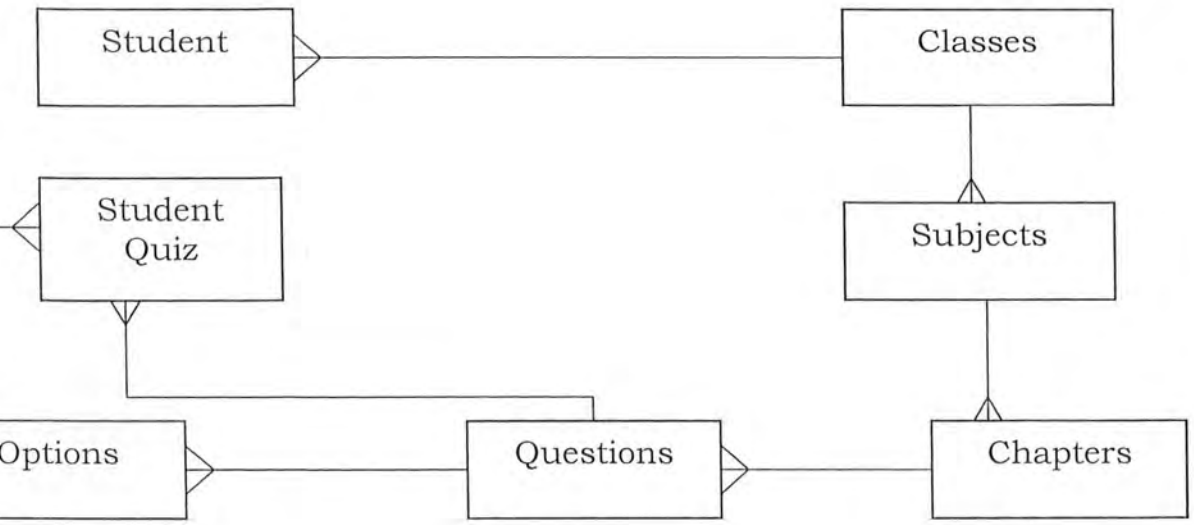


Logical Design

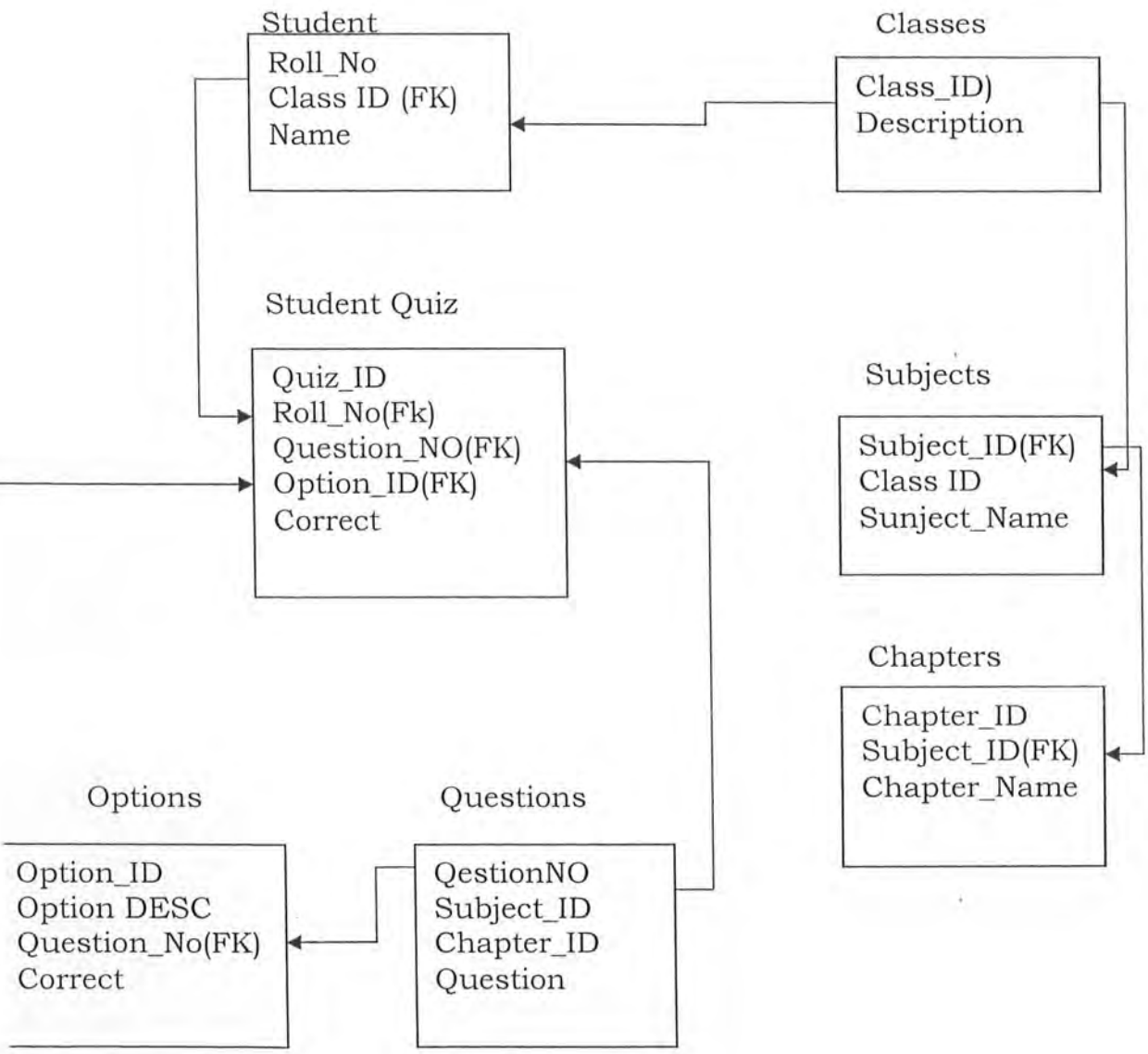
The following are the entities used in tutor system.

1. Student
2. Classes
3. Student Quiz
4. Subjects
5. Options
6. Questions
7. Chapter

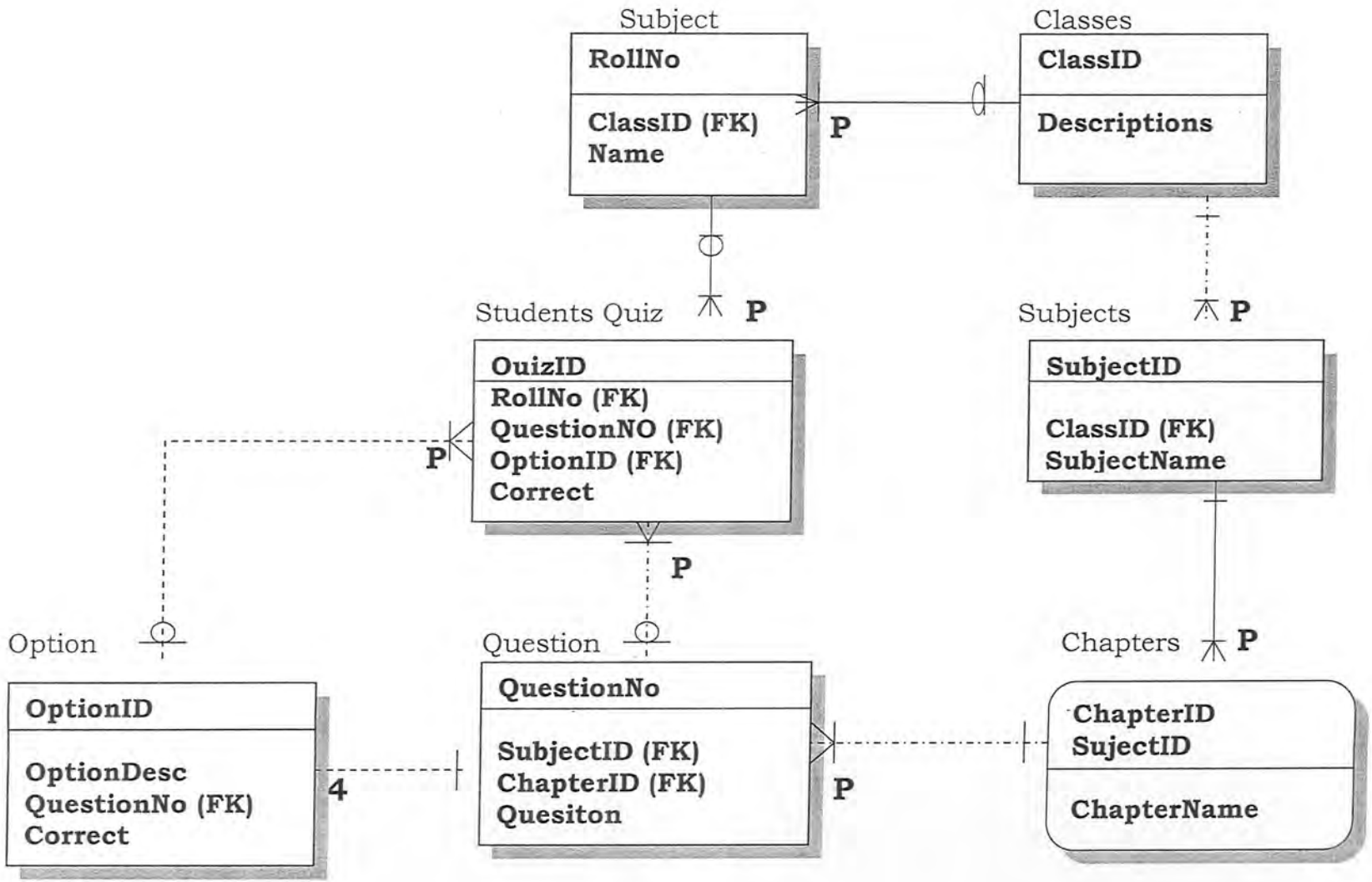
3.3 Entity relationship Diagram (ERD



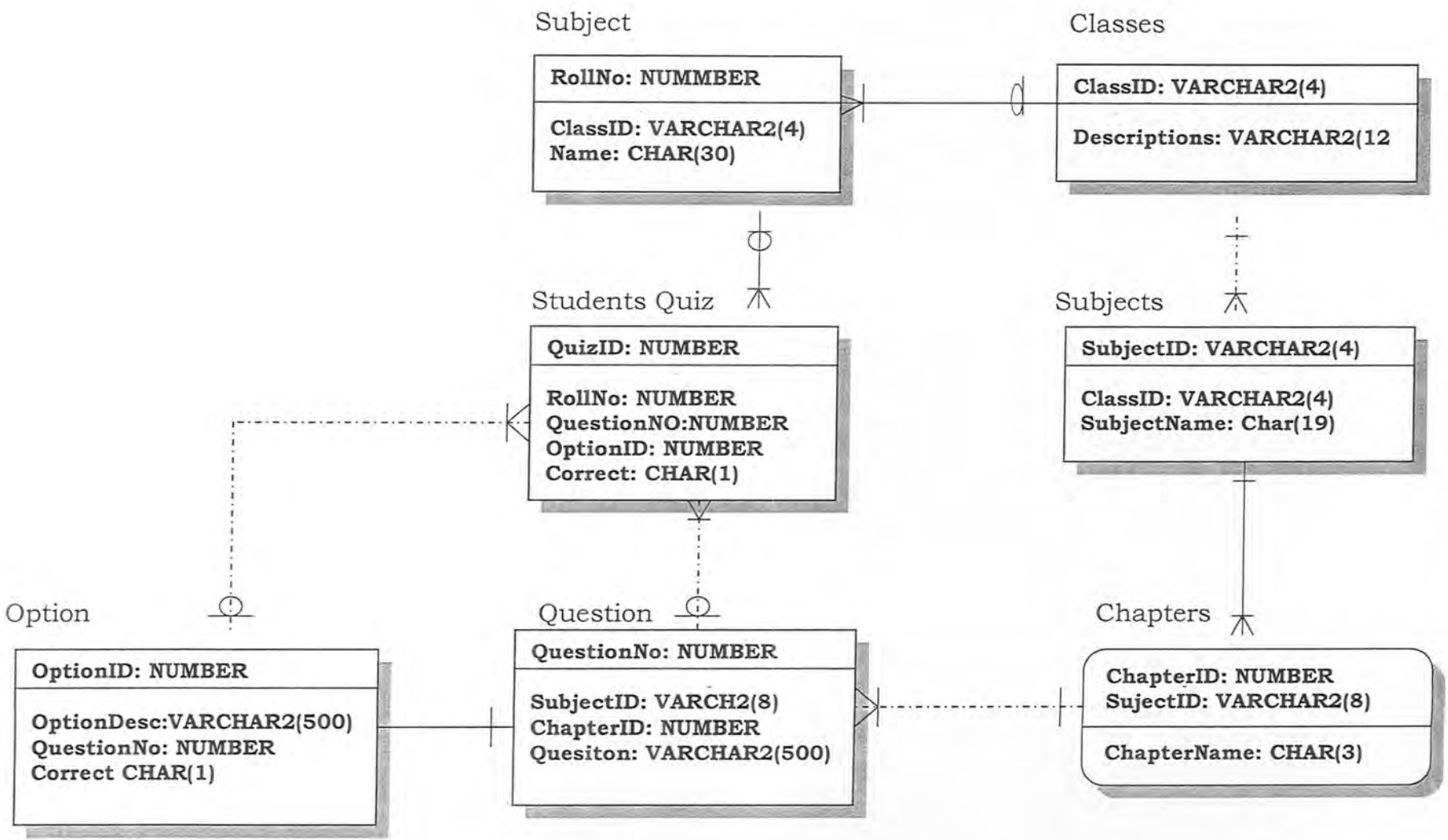
3.4 Logical Design



LOGICAL DESIGN



PHYSCIAL DESIGN



3.5 Physical Design

Roll_NO	Number	
Class_ID	Varchar 2	(4)
Name	Char	(30)

Classes

Class_ID	Varchar 2	(4)
Description	Varchar 2	(12)

Student Quiz

Quiz ID	Number	
Roll_NO	Number	
Question NO	Number	
Option ID	Number	
Correct	Char	1

Subjects

Subject_ID	Varchar 2	(6)
Class_ID	Varchar 2	(4)
Subject Name	Char	(18)

Options

Opton ID	Number	
Option Desc	Varchar 2	(100)
Question NO	Number	
Correct	Char	(1)

Questions

Question_NO	Number	
Subject_ID	Varchar 2	(6)
Chapter ID	Number	
Questions	Varchar 2	(500)

Chapters

Chapter ID	Number	
Subject ID	Varchar2	(6)
Chapter Name	Char	(30)

CHAPTER 

This chapter consists of following topics

USER GUIDE

- **Introduction**
- **Structure of the System**
- **Welcome**

  Teaching Tutor
- **Welcome**

  Test Tutor
- **Student Entry**
- **Subjects**
- **Chapters**
- **Student paper**
- **Questions**
- **Question Options**
- **Student Quiz**
- **Questions**
- **Students**
- **Student Record**

USER'S GUIDE

4.1 Introduction.

This chapter is written, as to give detail working and understanding of the system.

Chapter is appropriate both for the experienced programmer and for the novice programmer. It includes the step by step working of the system, so that operator doesn't have to face any kind of irritation while operating the system.

4.2 Structure of the System

The system consists of different forms, reports queries and students records etc.

To start the system, user will enter

- Name : Tutor
- Password : Test

And then will connect with the system.

There are two menus, one for students and another is for teaching.

The record of student will be displayed at the end.

The purpose and procedure of each form has been mentioned below:


Developer/2000 Forms Runtime for Windows 95 / NT [Teaching Tutor]
Core Entry Reports Action Query Block Records Window
WELCOME
TEACHING TUTOR
Record 1/1
Start
Developer/2000 Form...

4.3 Heading of the Table

"WELCOME"

"TEAHING TUTOR"

PURPOSE: The purpose of this form is just to say welcome to users in Teaching Tutor.


Developer/2000 Forms Runtime for Windows 95 / NT - [Teaching Tutor]
Window
WELCOME
TEST TUTOR
Continue
Exit
Help
Record: 1/1
Start
Developer/2000 Form...
11:3 AM

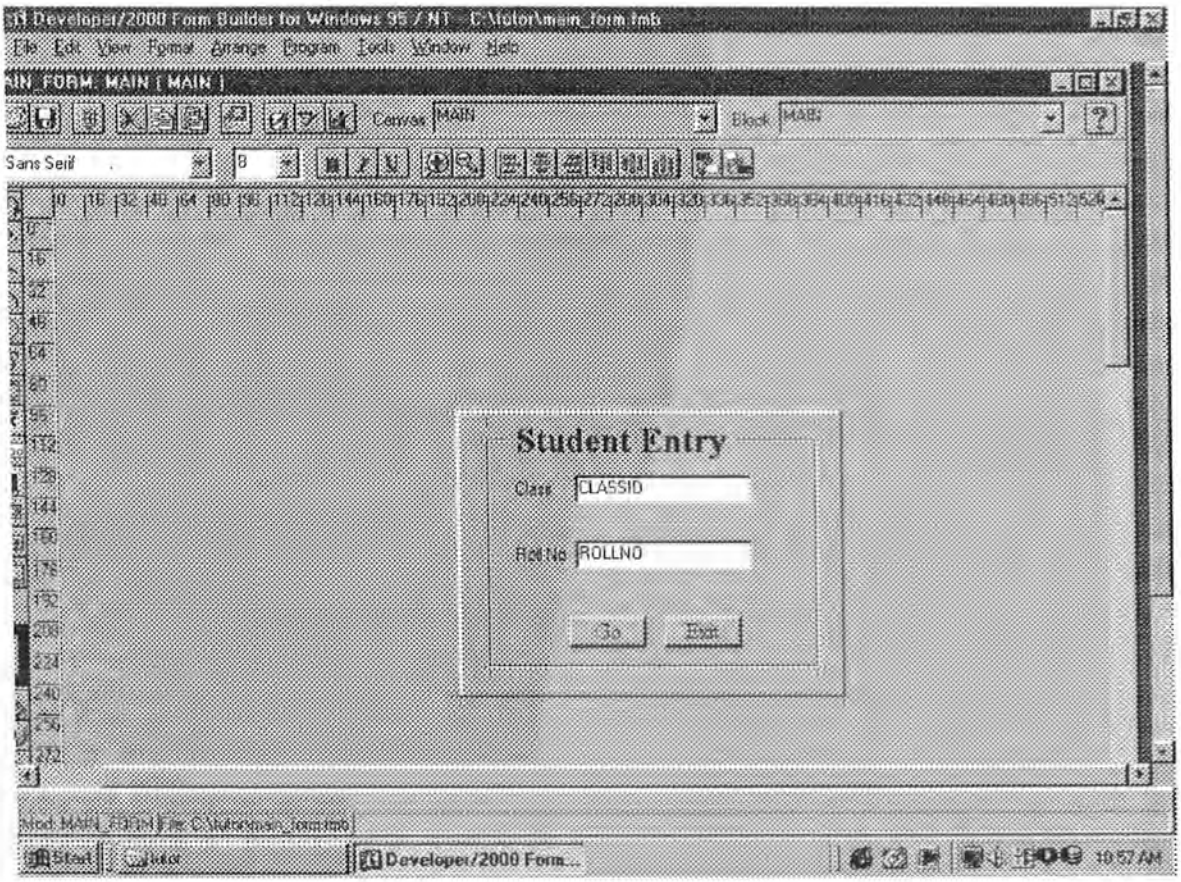
4.4 Heading of the table

"WELCOME"

"TESTING TUTOR"

PURPOSE: The purpose of this form is just to say welcome to users in Testing Tutor.

PROCEDURE: If student /user wants to continue in quizzes, he will click the button of [CONTINUE] otherwise he will leave the system by clicking the button [EXIT]


Developer/2000 Form Builder for Windows 95 / NT - C:\folder\main_form.fmb
File Edit View Format Arrange Program Tools Window Help
Canvas MAIN
Block MAIN
Sans Serif
Student Entry
Class CLASSID
Roll No ROLLNO
Go
Exit
Developer/2000 Form...
10:57 AM

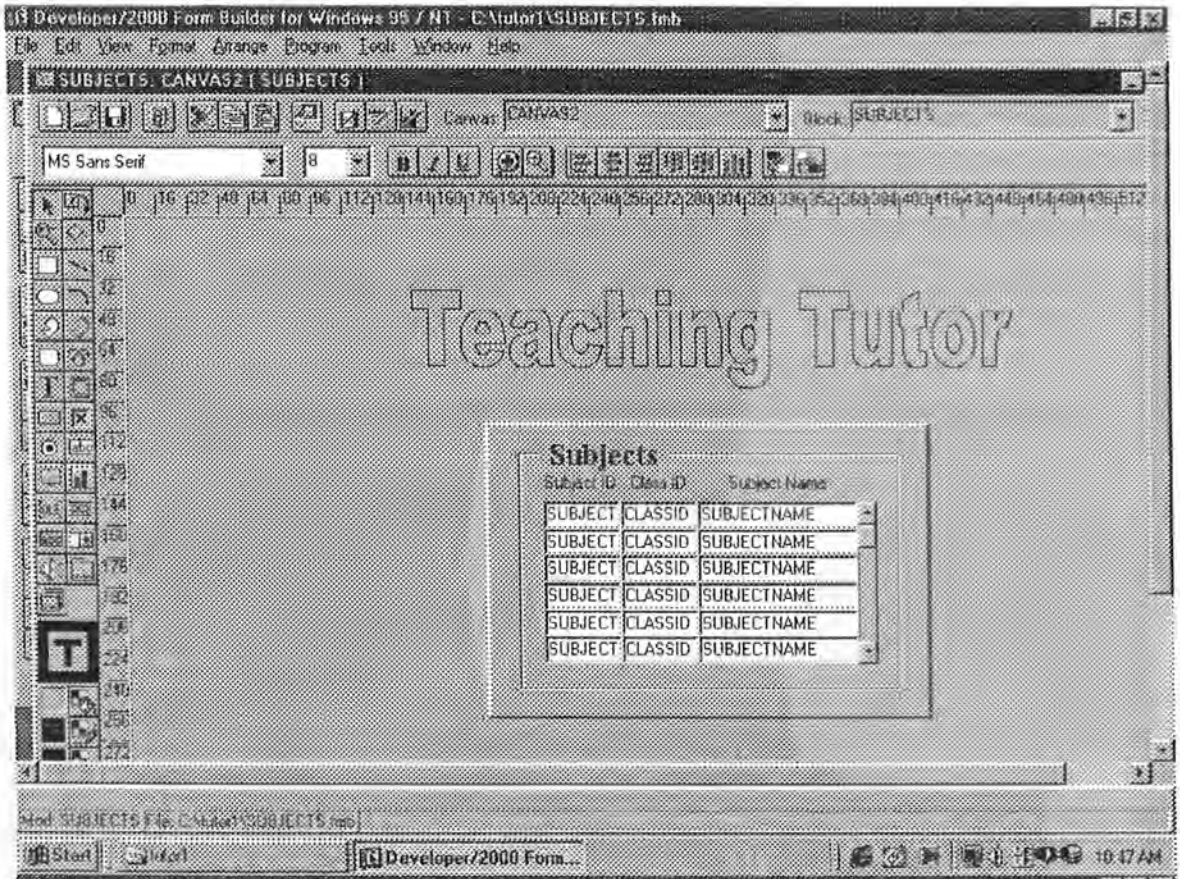
4.5 Heading of the Table

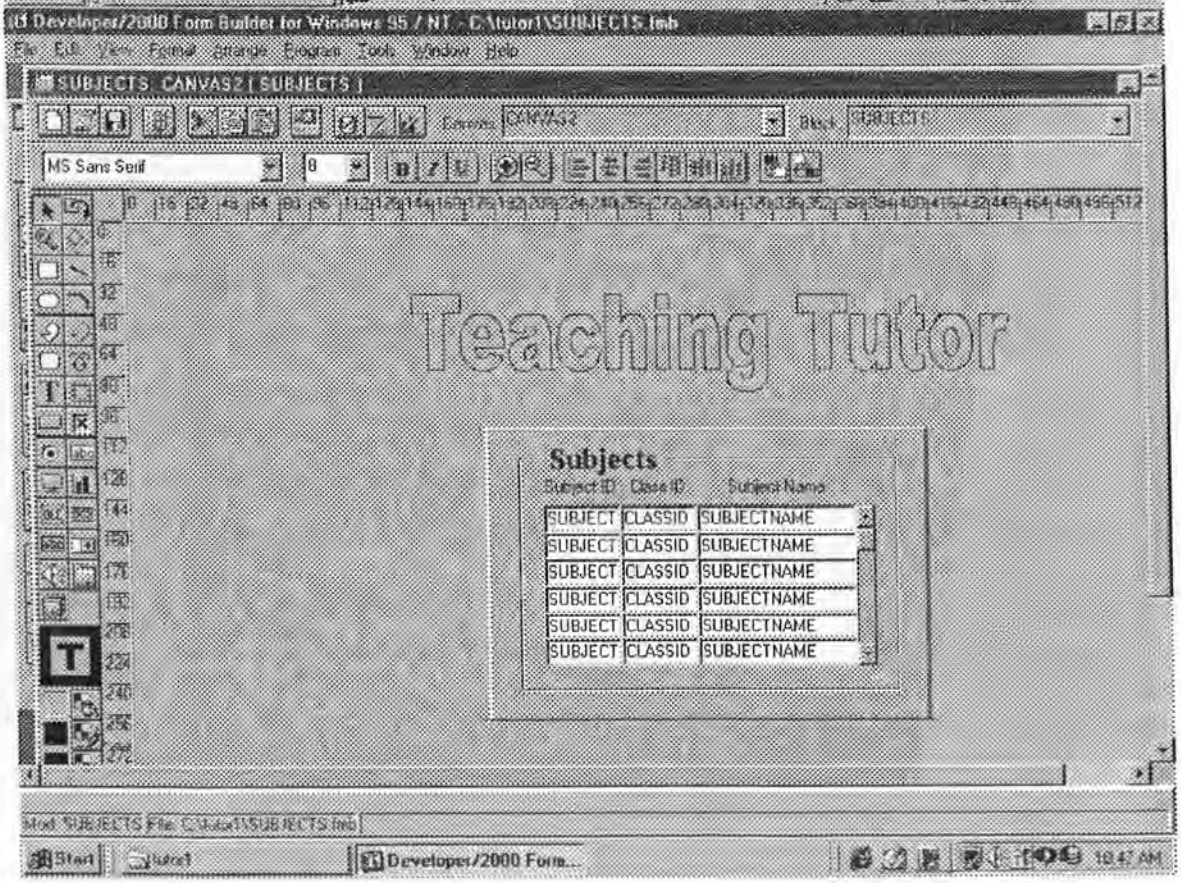
"STUDENT ENTRY"

PURPOSE: The purpose of this form is to record the Class of student i.e. from which Class he/she belongs to, and his /her Roll No.

PROCEDURE: The student/user will enter his class ID in front of class and Roll No in front of Roll No.

The user will continue by clicking the button [GO] provided in this from, and if the user wants to break here, he will click the [EXIT] button of


Developer/2000 Form Builder for Windows 95 / NT - C:\tutor1\SUBJECTS.fmb
File Edit View Format Arrange Program Tools Window Help
SUBJECTS.CANVAS2 [SUBJECTS]
Canvas: CANVAS2
Block: SUBJECTS
MS Sans Serif
8
Teaching Tutor
Subjects
Subject ID Class ID Subject Name
SUBJECT CLASSID SUBJECTNAME
SUBJECT CLASSID SUBJECTNAME
SUBJECT CLASSID SUBJECTNAME
SUBJECT CLASSID SUBJECTNAME
SUBJECT CLASSID SUBJECTNAME
SUBJECT CLASSID SUBJECTNAME
Start
Developer/2000 Form...
10:47 AM


Developer/2000 Form Builder for Windows 95 / NT - C:\tutor1\SUBJECTS.fmb
File Edit View Format Arrange Program Tools Window Help
SUBJECTS.CANVAS2 [SUBJECTS]
MS Sans Serif
8
Teaching Tutor
Subjects
Subject ID Class ID Subject Name
SUBJECT CLASSID SUBJECTNAME
SUBJECT CLASSID SUBJECTNAME
SUBJECT CLASSID SUBJECTNAME
SUBJECT CLASSID SUBJECTNAME
SUBJECT CLASSID SUBJECTNAME
SUBJECT CLASSID SUBJECTNAME
Start
Developer/2000 Form...
10:47 AM

4.6 Heading of the Table

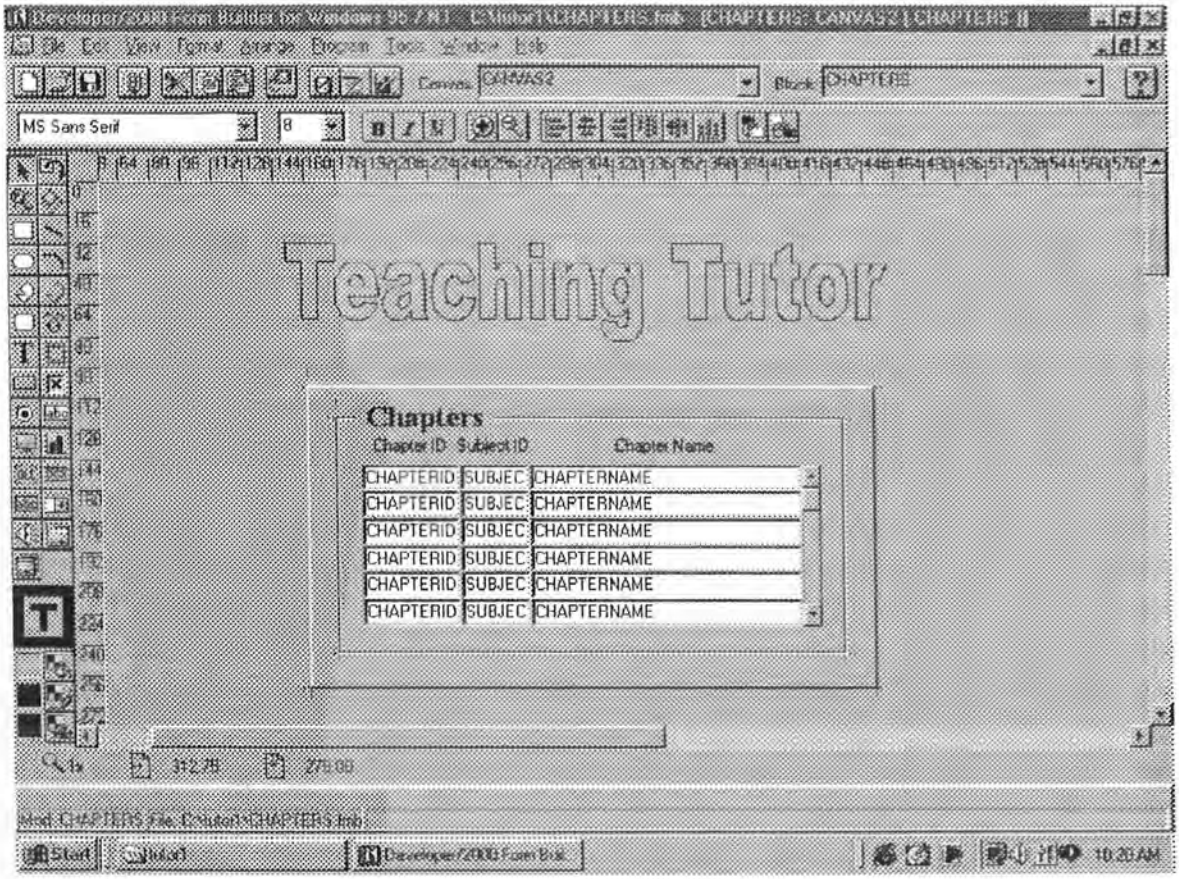
"SUBJECTS"

PURPOSE: The purpose of this form is to choose the subjects from tutor system as it consists of two subjects:

- Physics
- Chemistry

Note: other subject may be added.

PROCEDURE: The student will enter subject ID (i.e. 01 for Physics and 02 for Chemistry), then his class ID and Lastly Subject Name.

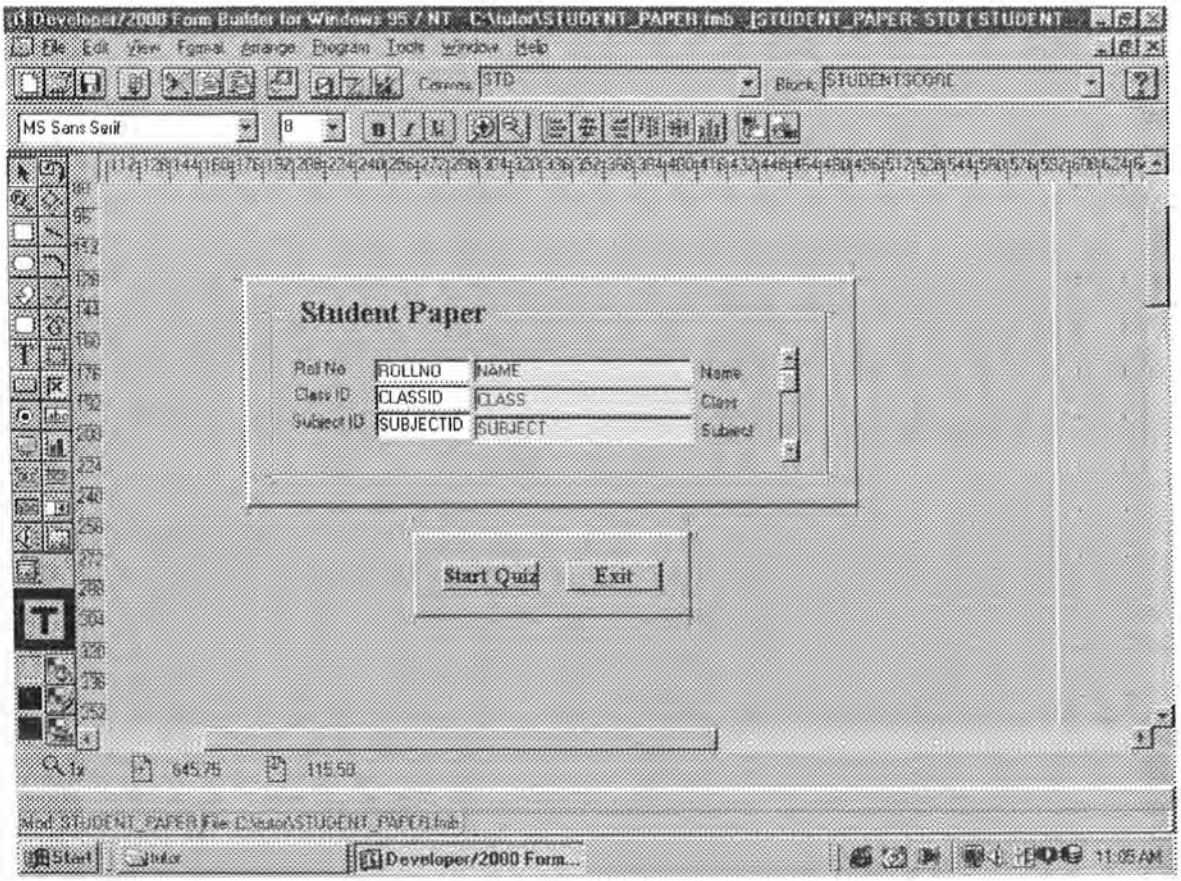

Teaching Tutor
Chapters
Chapter ID
Subject ID
Chapter Name
CHAPTERID
SUBJEC
CHAPTERNAME

4.7 Heading of the Table

"CHAPTERS"

PURPOSE: The purpose of his form is to decide the subject from which Subject he wants to give quizzes

PROCEDURE: In this form, the student will enter chapter ID, subject and then Chapter Name


Developer/2000 Form Builder for Windows 95 / NT - C:\tutor\STUDENT_PAPER.fmb - STUDENT_PAPER: STD (STUDENT
File Edit View Format Arrange Program Tools Window Help
Canvas STD
Block STUDENTSCORE
MS Sans Serif
Student Paper
Roll No
ROLLNO
NAME
Name
Class ID
CLASSID
CLASS
Class
Subject ID
SUBJECTID
SUBJECT
Subject
Start Quiz
Exit
645.75
115.50
Start
Developer/2000 Form...
11:05 AM

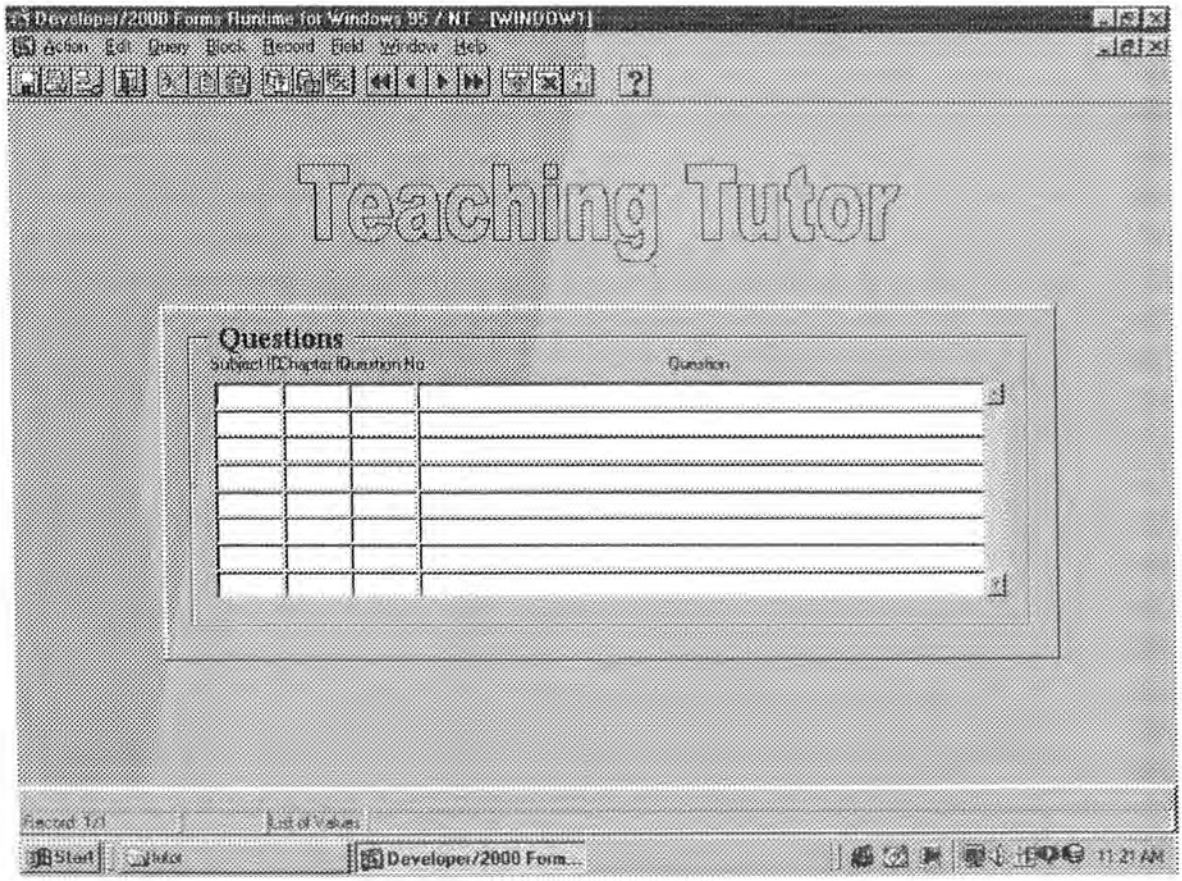
4.8 Heading of the Table

"STUDENT PAPER"

PURPOSE: The purpose of this form is to start quiz by the student and to leave the form.

PROCEDURE: The student will enter his RollNo, NAME, ClassID and Subject.

Then he will start his quiz by clicking the button **Start Quiz** and if he wants to break will click the button of **Exit**

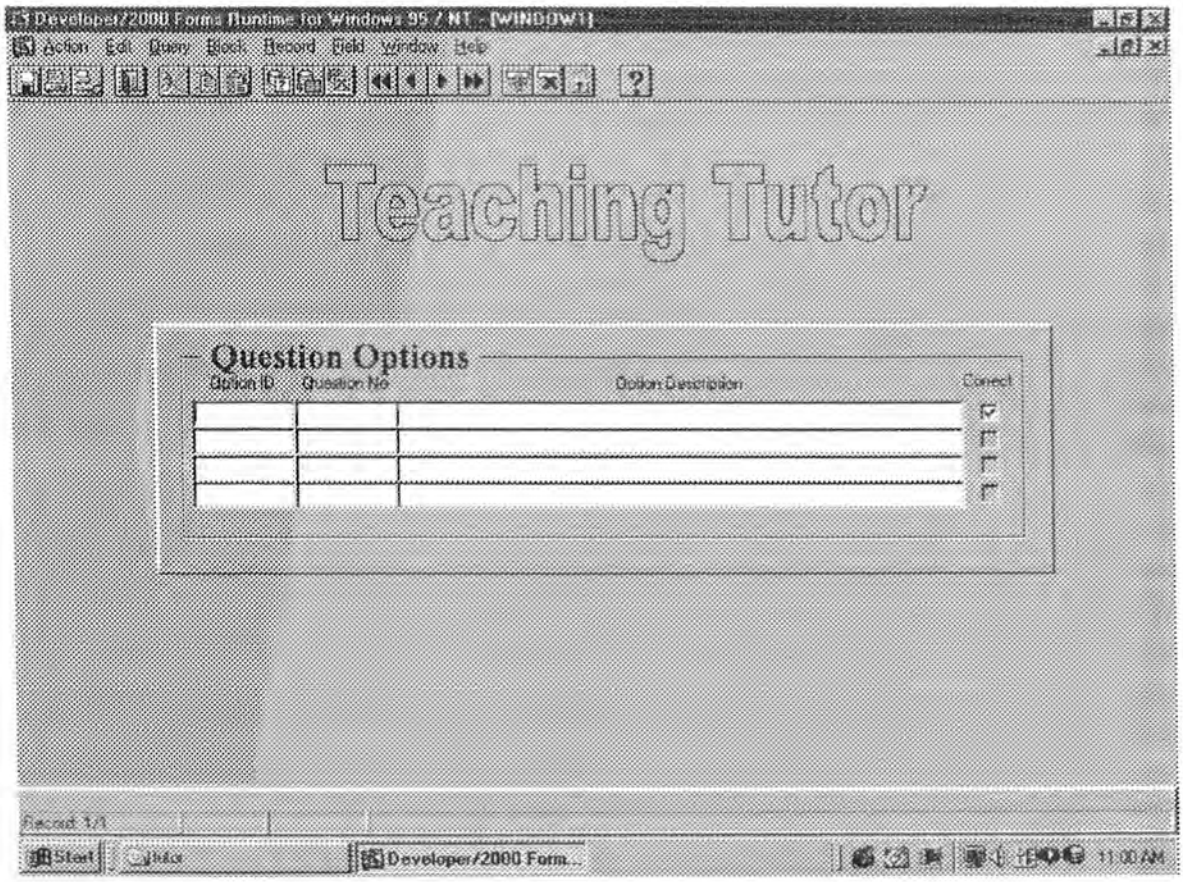

Developer/2000 Forms Runtime for Windows 95 / NT - [WINDOW1]
Action Edit Query Block Record Field Window Help
Teaching Tutor
Questions
Subject ID
Chapter ID
Question No
Question
Record 1/1
List of Values
Start
Developer/2000 Form...
11:21 AM

4.9 Heading of the Table

"QUESTIONS"

PURPOSE: The purpose of this form is to write question with subject ID, Chapter and Question No, by the teacher.

PROCEDURE: The teacher will enter subject ID, Chapter, Question No and then will give question description.

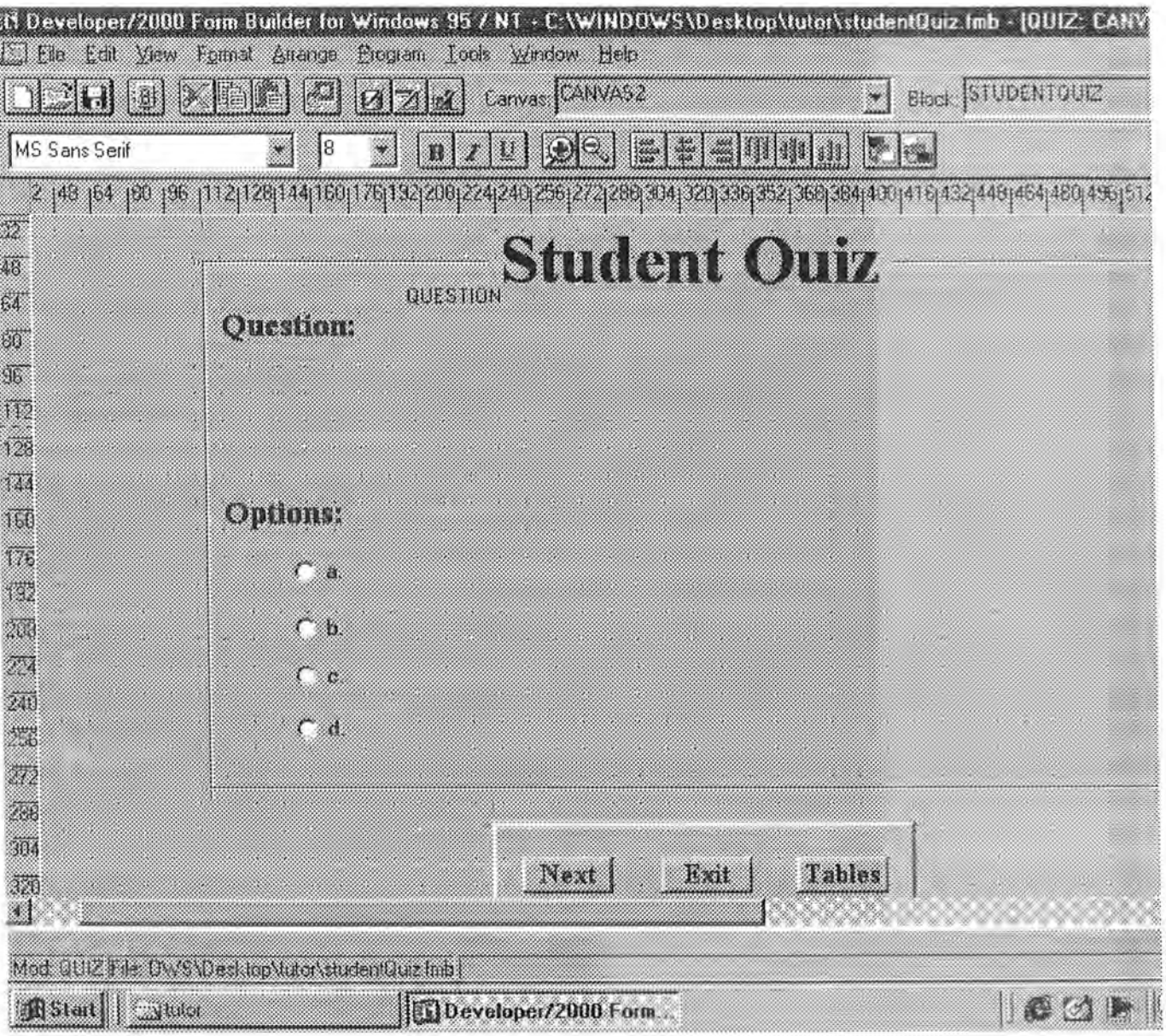

Developer/2000 Forms Runtime for Windows 95 / NT - [WINDOW1]
Action Edit Query Block Record Field Window Help
Teaching Tutor
Question Options
Option ID
Question No
Option Description
Correct
Record: 1/1
Start
Developer/2000 Form...
11:00 AM

4.10 Heading of the Table

"QUESTION OPTIONS"

PRUPOSE: The purpose of this form is to describe the options of answers by the teacher.

PROCEDURE: The teacher will enter Option ID, Question No and Option description and will mark tick ☑ in front of correct answer.


Developer/2000 Form Builder for Windows 95 / NT - C:\WINDOWS\Desktop\tutor\studentQuiz.fmb - [QUIZ: CANV
File Edit View Format Arrange Program Tools Window Help
Canvas: CANVAS2
Block: STUDENTQUIZ
MS Sans Serif
8
Student Ouiz
QUESTION
Question:
Options:
a.
b.
c.
d.
Next
Exit
Tables
Mod: QUIZ File: D:\WS\Desktop\tutor\studentQuiz.fmb
Start
tutor
Developer/2000 Form...

4.11 Heading of the Table

"STUDENT QUIZ"

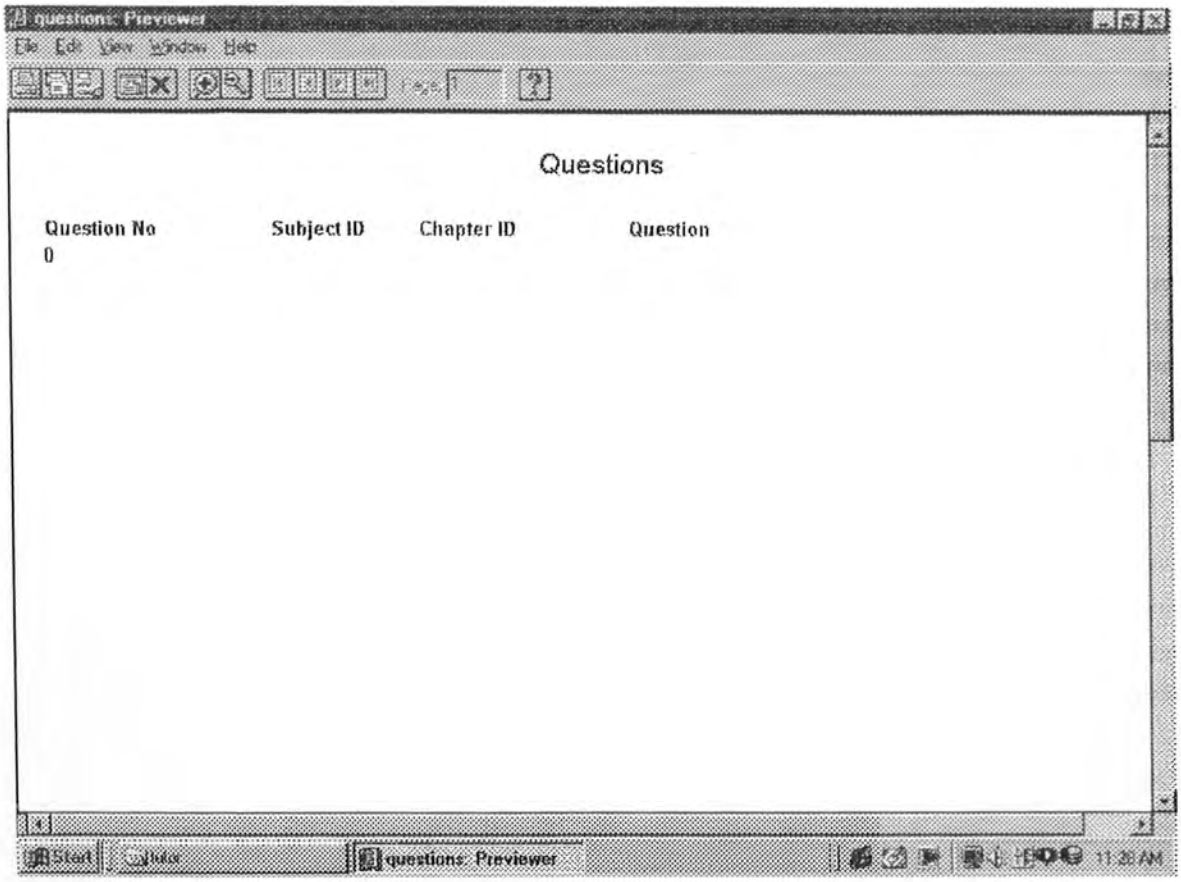
PRUPOSE: The purpose of this form is to display the question mentioned in last form and to describe the multiple answers as a, b, c and d.

PROCEDURE: The student will read the question from this table and will click either in front of a or b or c or d to choose one answer.

Then he will click the button. [Next] For the next question and may be continued by clicking the button [Next] up to Q No.- 10.

He/She can also consult different corresponding tables by clicking the key of [Tables]

And lastly he will exit from this form by clicking the button of [Exit]

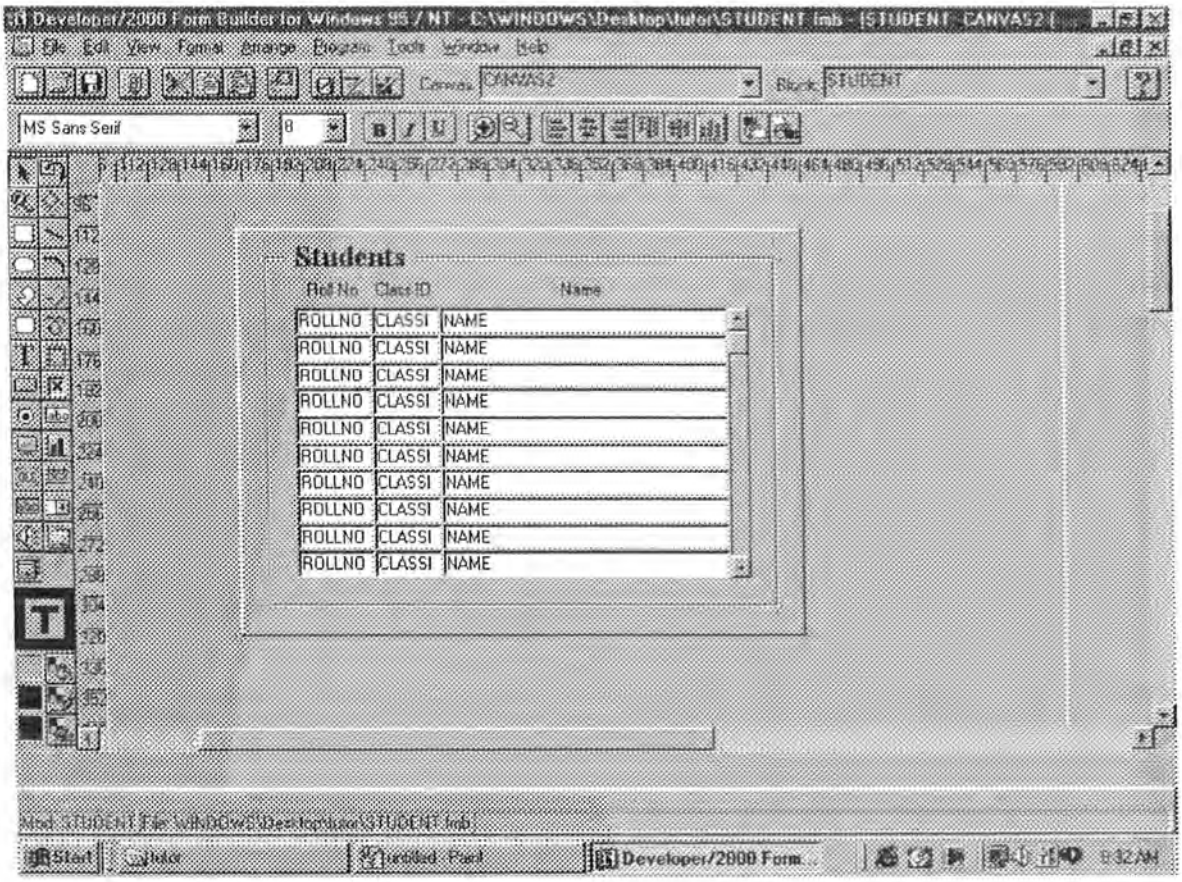

questions: Previewer
File Edit View Window Help
Questions
Question No
Subject ID
Chapter ID
Question
0
Start
questions: Previewer
11:20 AM

4.12 Heading of the Table

"QUESTIONS"

PRUPOSE: The purpose of this form is to record the total No. of questions entered in the system

PROCEDURE: This form displays the question NO., Subject ID, Chapter ID and Question description already entered in the table of Questions previously.

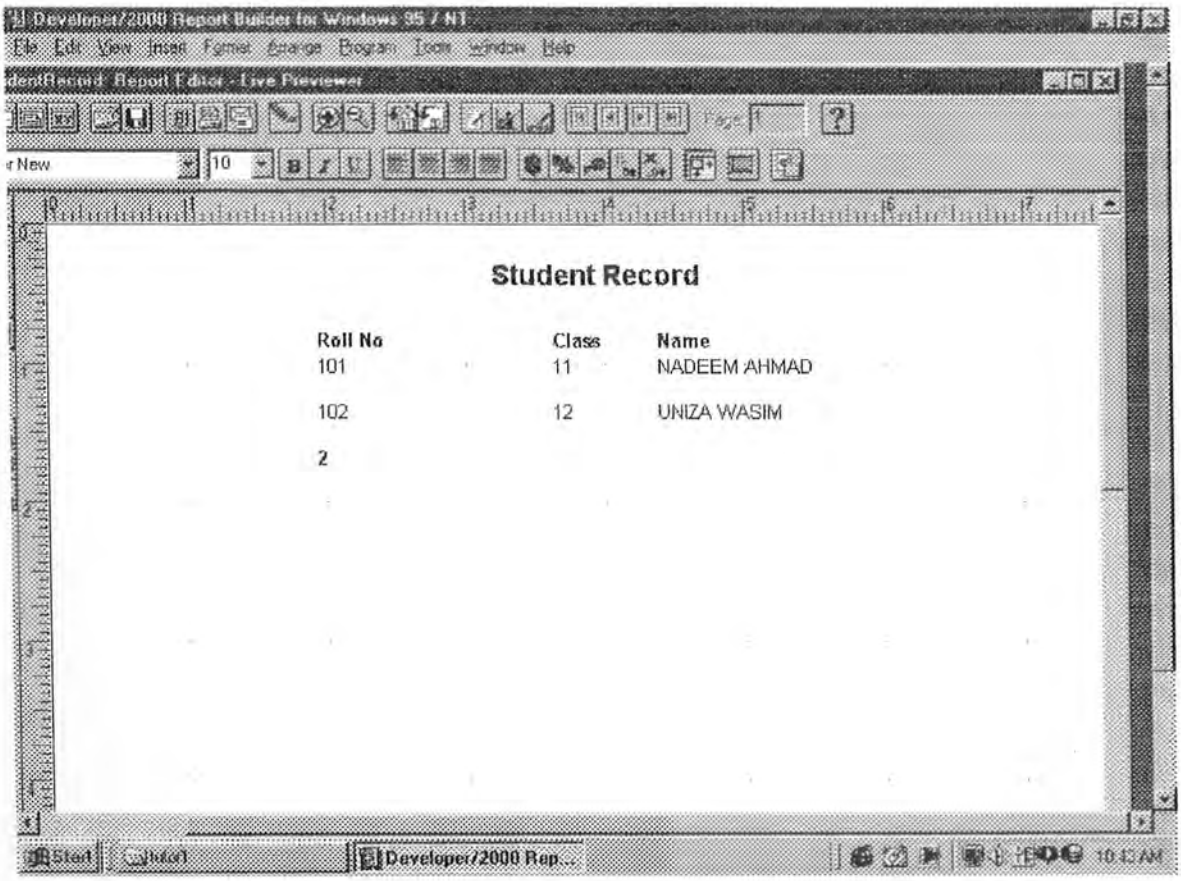

Developer/2000 Form Builder for Windows 95 / NT - C:\WINDOWS\Desktop\tutor\STUDENT.fmb - [STUDENT - CANVAS2 (
File Edit View Format Arrange Program Tools Window Help
Canvas: CANVAS2
Block: STUDENT
MS Sans Serif
Students
Roll No
Class ID
Name
ROLLNO CLASSI NAME
Start
tutor
untitled - Paint
Developer/2000 Form...
8:32 AM

4.13 Heading of the Table

"STUDENTS"

PRUPOSE: The purpose of this form is to enter the ROLL NO, Class ID and Name of Students who participated in this tutor System.

PROCEDURE: The students will enter his ROLL NO, CLASS ID and NAME in corresponding columns of the given table.

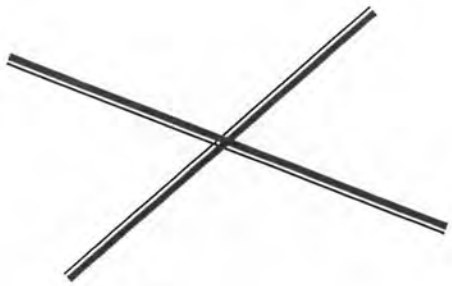

Developer/2000 Report Builder for Windows 95 / NT
File Edit View Insert Format Arrange Program Tools Window Help
dentRecord Report Editor - Live Previewer
Student Record
Roll No
Class
Name
101
11
NADEEM AHMAD
102
12
UNIZA WASIM
2
Start
Developer/2000 Rep...

4.14 Heading of the Table

"STUDENT RECORD "

PRUPOSE: The purpose of this form is to display the total No of Students with their Roll NO, class and Names.

PROCEDURE: This forms displays the Roll NO, Class and Names of all Students who participated in this tutor system and lastly displays the total No of students.



CHAPTER 5

This chapter consists of following topics

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REFERENCES OF BOOKS

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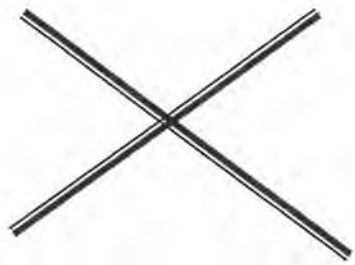
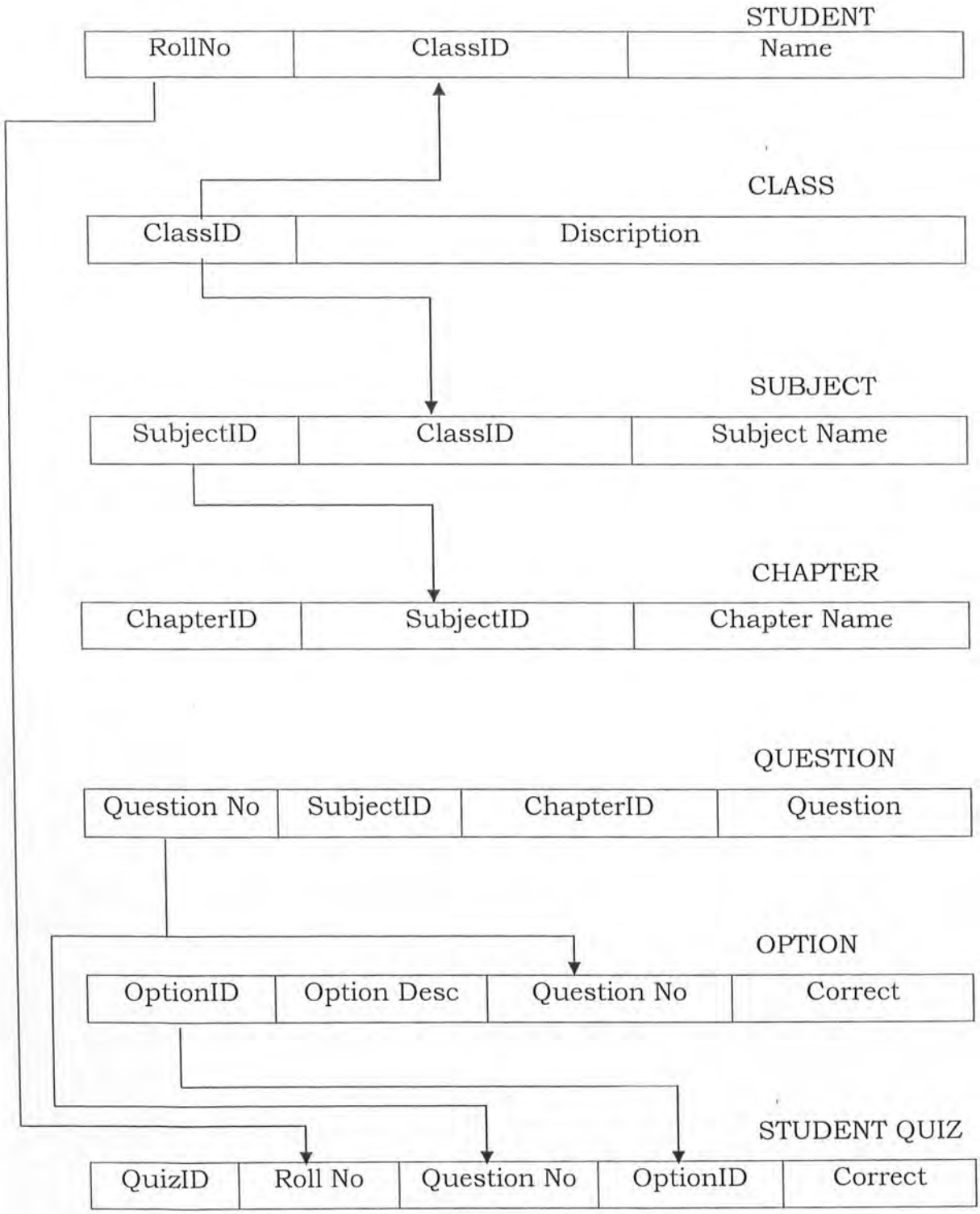


BATCHMANN DIAGRAM



DFD OF EXISTING SYSTEM