CHAPTER 1

1.1 INTRODUCTION:

The QPODS system which serves as the best way to deliver the question paper, has to maintain the details of each and every college to which question papers has to be delivered and the examiners who access it before distributing to the students. This System which uses the multiple layer of security has to store the confidential details such as IP and MAC address of the system, passwords of the examiner, etc. for authentication purpose. The passwords for the examiner is generated and made available just an hour prior to the exam. The three examiners get different passwords to their email. These passwords have to be entered to download the question paper.

1. First security level - IP-based address

- Only registered colleges, whose computers have a unique static IP (Internet Protocol), have access to the server.
- Even this connection to the server goes to a firewall to verify college details. All logins and connections are monitored and time-stamped by server software.

2. Second security level – MAC address

- Apart from IP addresses, the computer's unique MAC (Media Access Control) address is registered into the QPDS server.
- Access to server through verification of the MAC address and CPU ID implies that only selected computers have access to the server.

3. Third security level – Three-part security key mechanism

- Three IDs are required for accessing the question papers: those of the Principal, Deputy Chief Superintendent and the System Administrator.
- These three IDs are color-coded with the keys having masked letters.
- These passwords and masking characters are changed for every examination.
- A secret key to access the question paper is delivered to each college around 30 minutes before the examination.

4. Fourth security level – Timing restriction

- Security keys on the university website are made available just an hour prior to the exam.
- Question papers are delivered only 45 minutes prior to the exam through the software.

1.2 OBJECTIVE:

To provide a working environment that will be flexible and comprehensive computerized system, which can capture, collate and analyse the data from these wards and evaluate the impact of the program.

1.3 SCOPE:

This is a system which will reduce the bulk of paperwork, provide ease of work, flexibility, modifying, adding, removing and generating the question paper.

CHAPTER 2

REQUIREMENTS

2.1 Hardware Requirements

Processor	-	1.1 GHz and above
RAM	-	2GB
Hard Disk	-	40 GB

2.2 Software Requirements

Operating System	-	Windows
Technology	-	Java and J2EE
IDE	-	Net Beans
Database	-	My SQL
Java Version	-	J2SDK1.5

CHAPTER 4:

4.1 TABLE DESCRIPTION:

COLLEGE

Field	Type	Null	Key	Default	Extra
C-Name	varchar(50)	YES		NULL	
C-ID	varchar(10)	NO	PRI	0	
Address	varchar(50)	YES		NULL	
Ph-No	char(10)	YES		NULL	
C-email	varchar(50)	YES		NULL	
External-examiner-ID	varchar(10)	YES	MUL	NULL	

Table 4.1.1 College

EXAMINER

Field	Type	Null	Key	Default	Extra
Fname	varchar(20)	YES		NULL	
Lname	varchar(20)	YES		NULL	
E-ID	varchar(10)	NO	PRI	0	
Role	varchar(40)	YES		NULL	
Ph-Num	char(10)	YES		NULL	
E-email	varchar(50)	YES		NULL	
User-Name	varchar(10)	YES		NULL	
Pwd	varchar(10)	YES		NULL	
Coll-ID	varchar(10)	YES	MUL	NULL	

Table 4.1.2 Examiner

QUESTION PAPER

Field	Type	Null	Key	Default	Extra
Sub-Name	varchar(50)	YES		NULL	
Sub-Code	char(8)	NO	PRI	0	
Scheme	int(11)	YES		NULL	
Sem	int(11)	YES		NULL	
Branch	varchar(50)	YES		NULL	

Table 4.1.3 Question Paper

SYSTEM

Field	Type	Null	Key	Default	Extra
IP-Address	char(15)	YES		NULL	
MAC-Address	char(17)	NO	PRI	0	
Admin-ID	varchar(10)	YES	MUL	NULL	
Log-in-ID	varchar(10)	YES		NULL	
S-Pwd	varchar(10)	YES		NULL	

Table 4.1.4 System

RECEIVE QP

Field	Type	Null	Key	Default	Extra
Colg-ID	varchar(10)	NO	PRI	0	
Sub-Code	char(8)	NO	PRI	0	
No-of-Copies	int(11)	YES		NULL	

Table 4.1.5 Receive QP

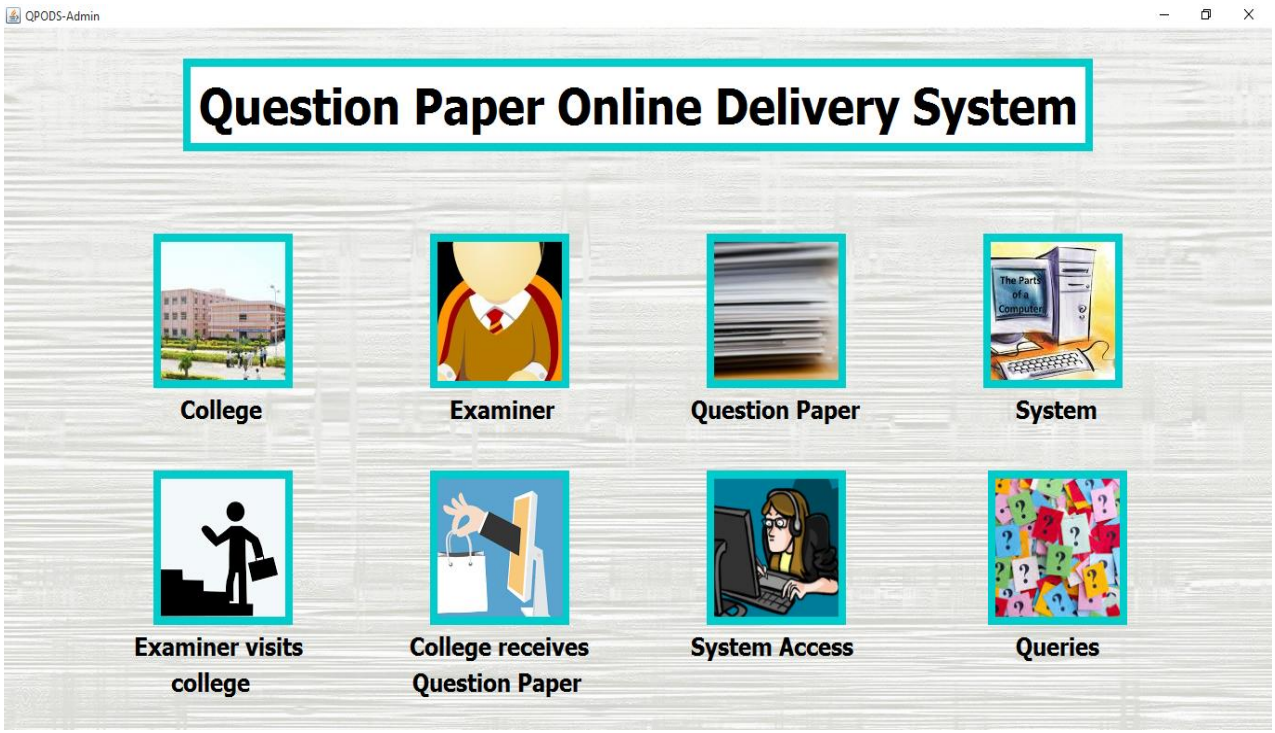
SYSTEM ACCESS

Field	Type	Null	Key	Default	Extra
Clg-ID	varchar(10)	NO	PRI	0	
MAC	char(17)	NO	PRI	0	
Log-in-Time	time	YES		NULL	
Log-out-Time	time	YES		NULL	
Date	date	YES		NULL	

Table 4.1.6 System Access

4.2 IMPLEMENTATION:

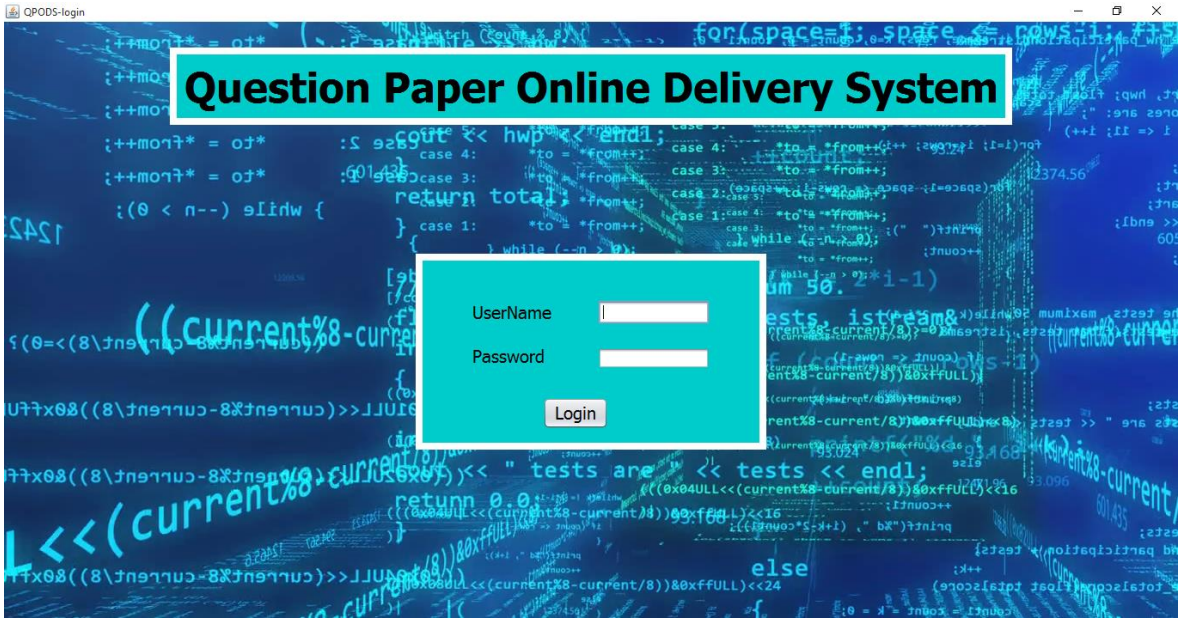
4.2.1 HOME PAGE:



4.2.1 Figure showing the homepage for QPODS

The above figure shows the home page. This page includes portal for College, Examiner, Question paper, System, Examiner visits, Receiving question paper, System access and queries student.

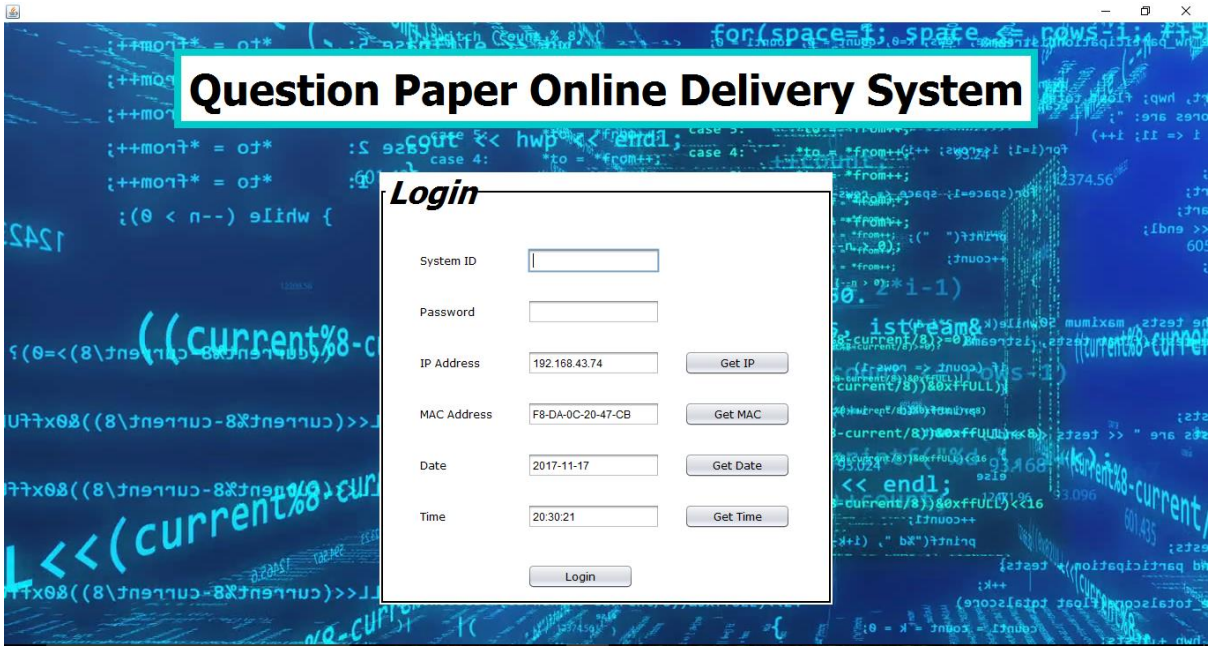
4.2.2 LOGIN:



4.2.2 Figure showing login page along with user id

The above figure shows the login details, he can login to this page by using user id, password. Password should be correct otherwise he can't login to next page.

4.2.3 User login:



4.2.3 Figure showing system login page

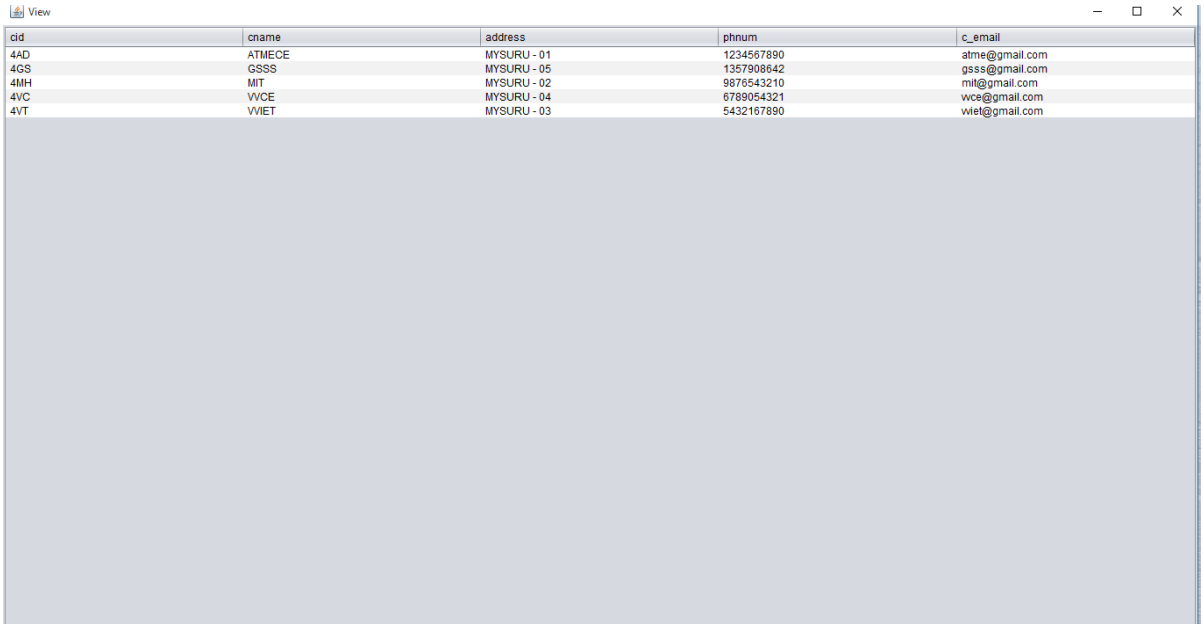
The above figure shows the login details, he can login to this page by using user_id, password, IP Address, MAC Address, Date and Current time is generated by pc.

The question paper will be generated during some specific given time if user login in the different time he cannot download question paper.

4.2.4 College:

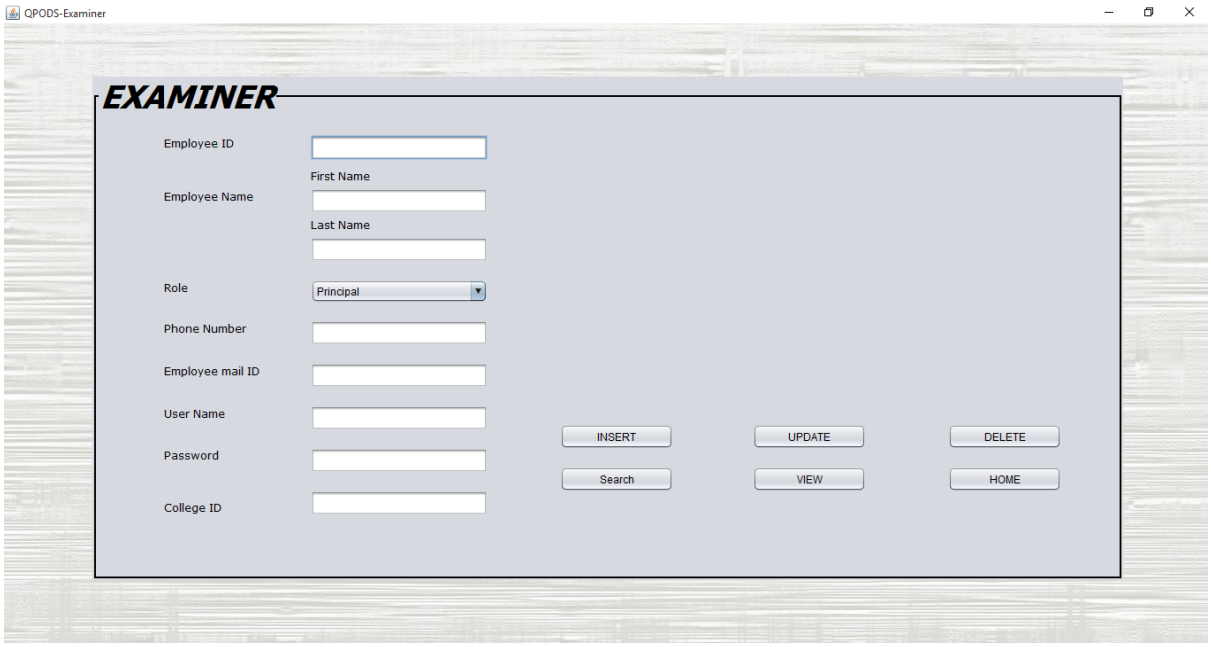
4.2.4 Figure showing College page

4.2.5 Table View of College:



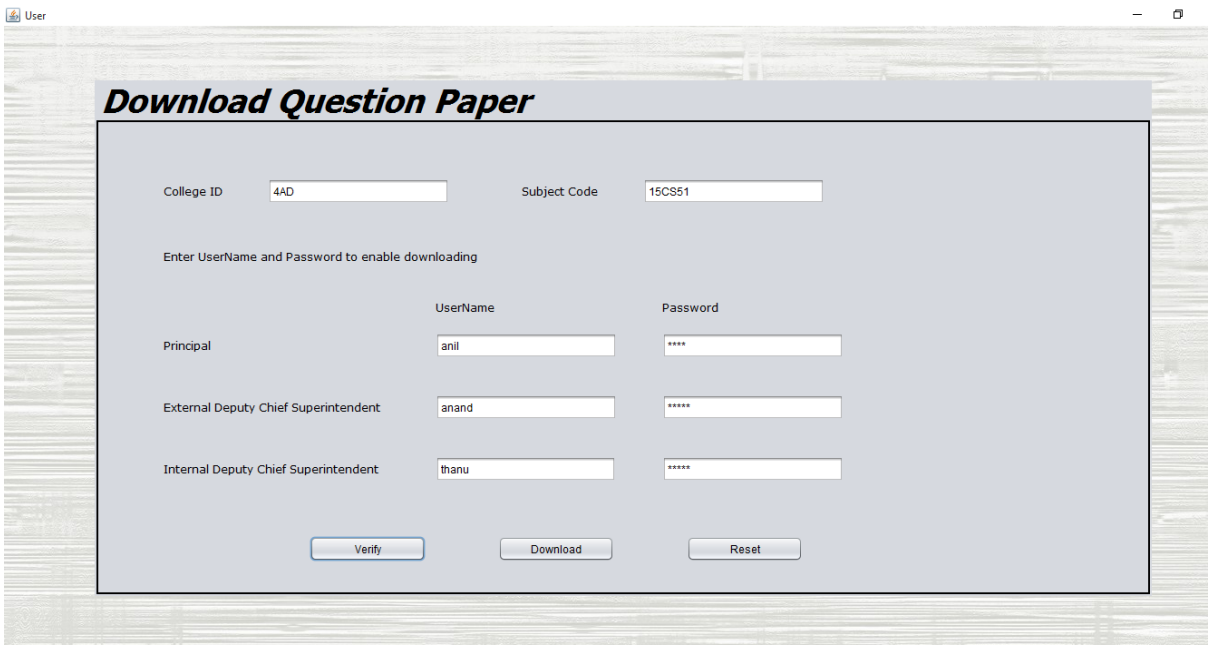
4.2.5 Figure showing Table view of College page

4.2.6 Examiner:



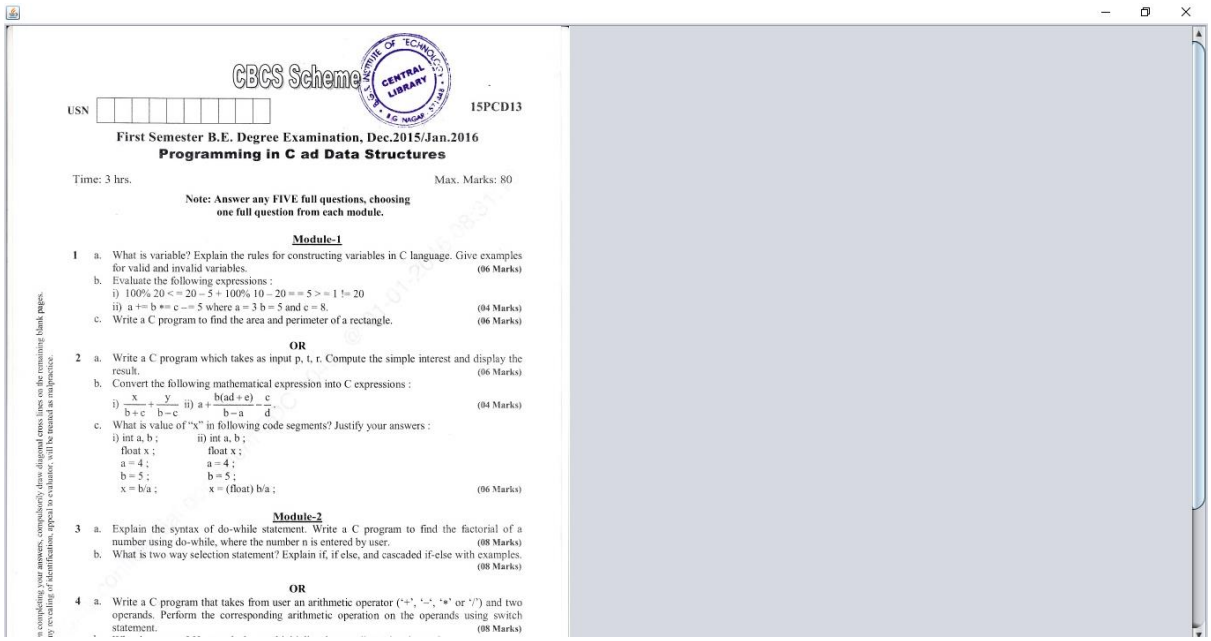
4.2.6 Figure showing Examiner

4.2.7 Download question paper:



4.2.7 Figure showing Examiner

4.2.8 Downloaded Question Paper:



CBCS Scheme

USN | | | | | | | | | | |

15PCD13

First Semester B.E. Degree Examination, Dec.2015/Jan.2016
Programming in C ad Data Structures

Time: 3 hrs. Max. Marks: 80

Note: Answer any FIVE full questions, choosing one full question from each module.

Module-1

1 a. What is variable? Explain the rules for constructing variables in C language. Give examples for valid and invalid variables. **(06 Marks)**

b. Evaluate the following expressions :
i) 100% 20 <= 20 – 5 + 100% 10 – 20 == 5 >= 1 != 20
ii) a += b *= c –= 5 where a = 3 b = 5 and c = 8. **(04 Marks)**

c. Write a C program to find the area and perimeter of a rectangle. **(06 Marks)**

OR

2 a. Write a C program which takes as input p, t, r. Compute the simple interest and display the result. **(06 Marks)**

b. Convert the following mathematical expression into C expressions :
i) $\frac{x}{b+c} + \frac{y}{b-c}$ ii) $a + \frac{b(ad+e)}{b-a} - \frac{c}{d}$ **(04 Marks)**

c. What is value of "x" in following code segments? Justify your answers :

i) int a, b ;
float x ;
a = 4 ;
b = 5 ;
x = b/a ;

ii) int a, b ;
float x ;
a = 4 ;
b = 5 ;
x = (float) b/a ; **(06 Marks)**

Module-2

3 a. Explain the syntax of do-while statement. Write a C program to find the factorial of a number using do-while, where the number n is entered by user. **(08 Marks)**

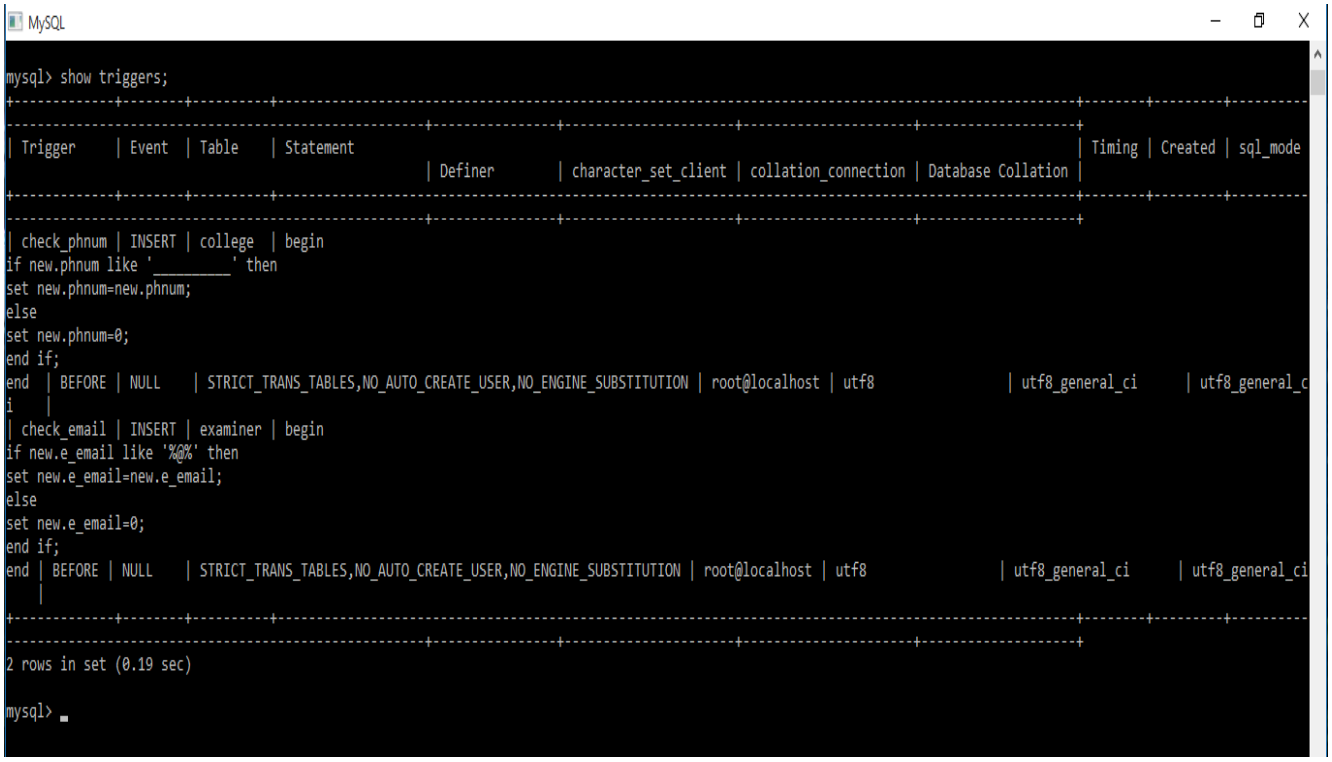
b. What is two way selection statement? Explain if, if else, and cascaded if-else with examples. **(08 Marks)**

OR

4 a. Write a C program that takes from user an arithmetic operator ('+', '–', '*' or '/') and two operands. Perform the corresponding arithmetic operation on the operands using switch statement. **(08 Marks)**

4.2.8 Figure showing Downloaded Question Paper

4.2.9 Triggers:



4.2.9 Figure showing triggers

A database trigger is a stored program associated with a specific table or view. Oracle executes (fires) the trigger automatically whenever a given DML operation affects the table or view.

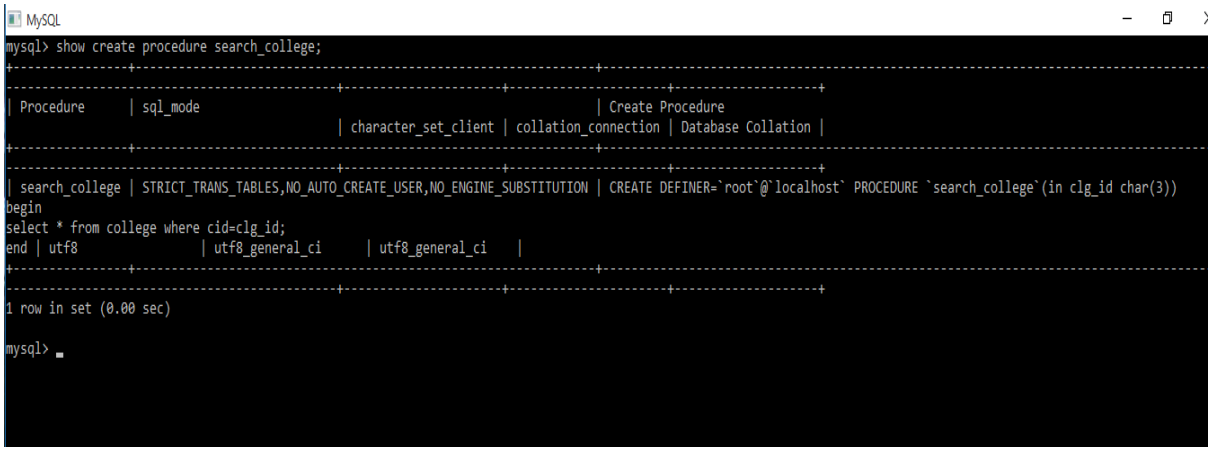
A trigger has three parts: a triggering event (DML operation), an optional trigger constraint, and a trigger action. When the event occurs, the trigger fires and either a PL/SQL block or a CALL statement performs the action. A statement trigger fires once, before or after the triggering event. A row trigger fires once for each row affected by the triggering event.

Within a database trigger, you can reference the new and old values of changing rows using the correlation names new and old. In the trigger-action block or CALL statement, column names must be prefixed with :new or :old.

How to create trigger:

```
Delimiter \\
create trigger check_email before insert on examiner
for each row
begin
if new.e_email like '%@%' then
set new.email=new.email;
else
set new.email=0;
end if;
end; \\
Delimiter ;
```

4.2.10 Stored Procedure:



4.2.10 Figure showing Stored Procedure

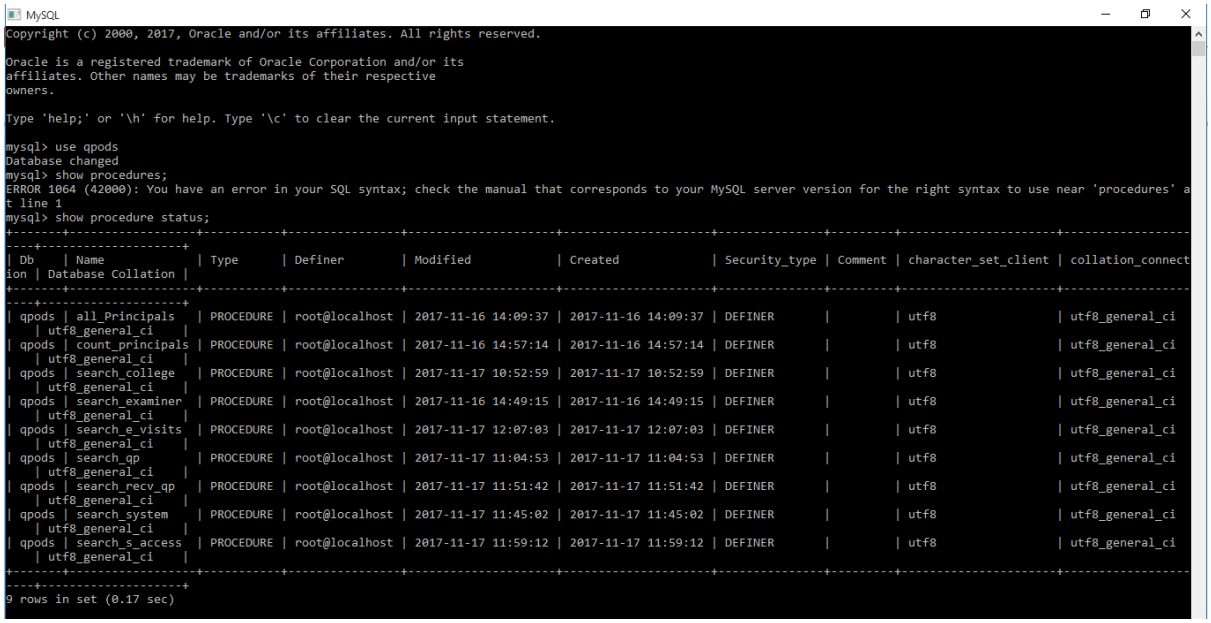
Stored procedures are a batch of SQL statements that can be executed in a couple of ways. Most major DBMs support stored procedures; however, not all do. You will need to verify with your particular DBMS help documentation for specifics. As I am most familiar with SQL Server I will use that as my samples.

The above stored procedure retrieve the college details when we pass the college ID as the parameter

How to create stored procedure:

```
Delimiter \\
Create procedure search_college (in clg_id char (3))
Begin
Select * from college where cid=clg_id;
end
\\
Delimiter
```

4.2.11 List of Stored Procedures:



4.2.11 Figure showing List of Stored Procedures

CONCLUSION

The existing practice of storing question papers in government treasuries and transporting them by road to exam centers was prone to leakage.

These two steps (i.e. Transport of the question papers and their storage in store rooms manned by officials) which have been associated with malpractices can be eliminated using QPODS.

Hence QPODS helps to increase transparency and prevent question paper leakage and enables secure transmission of question paper over online.

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