

**A**  
**Project Report On**  
**“Online Examination Application”**

Submitted to **Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur** in the partial  
fulfilment of the requirements of the Degree of

**Bachelor of Engineering**  
in  
**Information Technology**  
by

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**VII Semester B.E. (IT)**

Under the guidance of  
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**Session: 2020-21**

# **Priyadarshini Bhagwati College of Engineering, Nagpur.**

**Department of Information Technology**

**Session: 2020-21**



## **Certificate**

This is to certify that the seminar report entitled “**ONLINE EXAMINATION APPLICATION**” is a bonafide work done under our guidance to **Abhishek Padhey, Akhilesh Thakare, Bhushan Waghdhare, Gaurav Thakare, Mayank Rewatkar** and is submitted to **Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur** in the partial fulfilment of the requirements for the Degree of **Bachelor of Engineering** in **Information Technology**.

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**Abhishek Padhey**

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## ABSTRACT

The main purpose of this **project** is to the development of an **online exam system** for the ease of students so that they can attempt the **exam** by sitting at home and they do not need to travel to distant places for giving various **exams**. This application will also contribute towards e-learning. The system is an online application that can be used to take tests online and get instant results.

Online Examination System project which is developed or implemented in java domain or platform. Online Examination System can reduce the hectic job of assessing the answers given by candidates manually.

It will reduce paper work to be an integrated Online Examination System. The result can be shown immediately to the students reducing the anxiety. Can create various reports and graphs for evaluation purpose almost instantly when and where required.

After examination is over the report card is generated through i-Report and certificates if it is required.

## INDEX

Chapter No.	Contents	Page No.
	Abstract	I
1.	Introduction	1
2.	Problem Statement	3
3.	Aim and Objectives	4
4.	Literature Survey	5
5.	Flow Diagram	6
6.	Proposed Methodology	8
7.	Requirements	11
8.	Applications	12
9.	Experimental Output	13
10.	Advantages	18
11.	Conclusion	19
	References	20

## **CHAPTER – 1: INTRODUCTION**

Online Examination System project which is developed or implemented in java domain or platform. This project is helpful for students to practice different mock examinations. In current generation lots of the examinations like GRE, CAT, and MAT etc is conducted through online system. This project will help students to get practiced to online examination method by taking mock tests from this Desktop App. Online Examination System portal is implemented in various modules student examination module and examination admin module. Admin module will add multiple courses under different branches so students can easily know about test details. Student examination module students ought to register with application and choose interested courses and participate in the online test. The online objective exam system is an online test system that allows users to take online tests and automatically generates results based on answers marked by users. The system is to be used for various online tests conducted by schools colleges and other institutions. The system is an online application that can be used to take tests online and get instant results. designed. It also consists of an admin module. The admin module leads to admin dashboard which is accessible through admin login. The admin dashboard allows admin to add new questions into system along with 4 options and 1 right answer. The admin may also set the time in minutes for every subject and number of questions. So now whenever user registers he may then login using registered username password. The user is now allowed to give a test as

desired. Online Examination System is developed or designed for educational institutes like school, colleges, and private institutes to conduct logic test of their students on regular basis.

On choosing a subject the test starts and user may now tick desired answers within the time limit. After the time ends the system goes to the result page and shows users score to him. It was a Desktop application. Project based on Hibernate Framework In Java which is composed of different modules like Config, View, Model, Services and Lib. We have also used MySQL Database for maintaining student's record and exam related details. Various validation were implemented throughout the signup process and after the successful sign-up, the password was sent to the student's registered mail id from where the student were redirected to examination frame in order to proceed for the exam The authority to approve student for exam was only to the admin. After examination is over the report card is generated through i-Report and certificates if required.

## **CHAPTER – 2: PROBLEM STATEMENT**

**Problem Definition** Online Examination is very helpful to users. Online Examination System allows jumping to specific questions based on the previous answer. The online examination system limits the number of times a student can write a question. Login module helps the user to login to the application.

The traditional have many drawbacks such as time consuming, Difficulty of analysing the test manually, More observers are required to take exam of many students, Results are not accurate since calculations is done manually, The chance of losing exam's result is higher in current systems, Checking of result is time consuming since it done manually, Limitation of no of student can give examination at a time. with the development of information technology and use it in an orderly and properly helps to overcome the existing error in the manual system . Online examination system saves the exams information in a database, and this make it an easier way to give exam teachers can add theirs exams rules, and student can give exam in a totally automated system.



## **CHAPTER – 3: AIM AND OBJECTIVES**

### **AIM:-**

The online objective exam system is an online test system that allows users to take online tests and automatically generates results based on answers marked by users.

The system is an online application that can be used to take tests online and get instant results

### **OBJECTIVES:-**

- Online Examination System can reduce the hectic job of assessing the answers given by candidates manually.
- Responses or the answers by the candidates can be checked automatically and instantly.
- It will reduce paper work to be an integrated Online Examination System.
- The result can be shown immediately to the students reducing the anxiety.
- Can create various reports and graphs for evaluation purpose almost instantly when and where required.

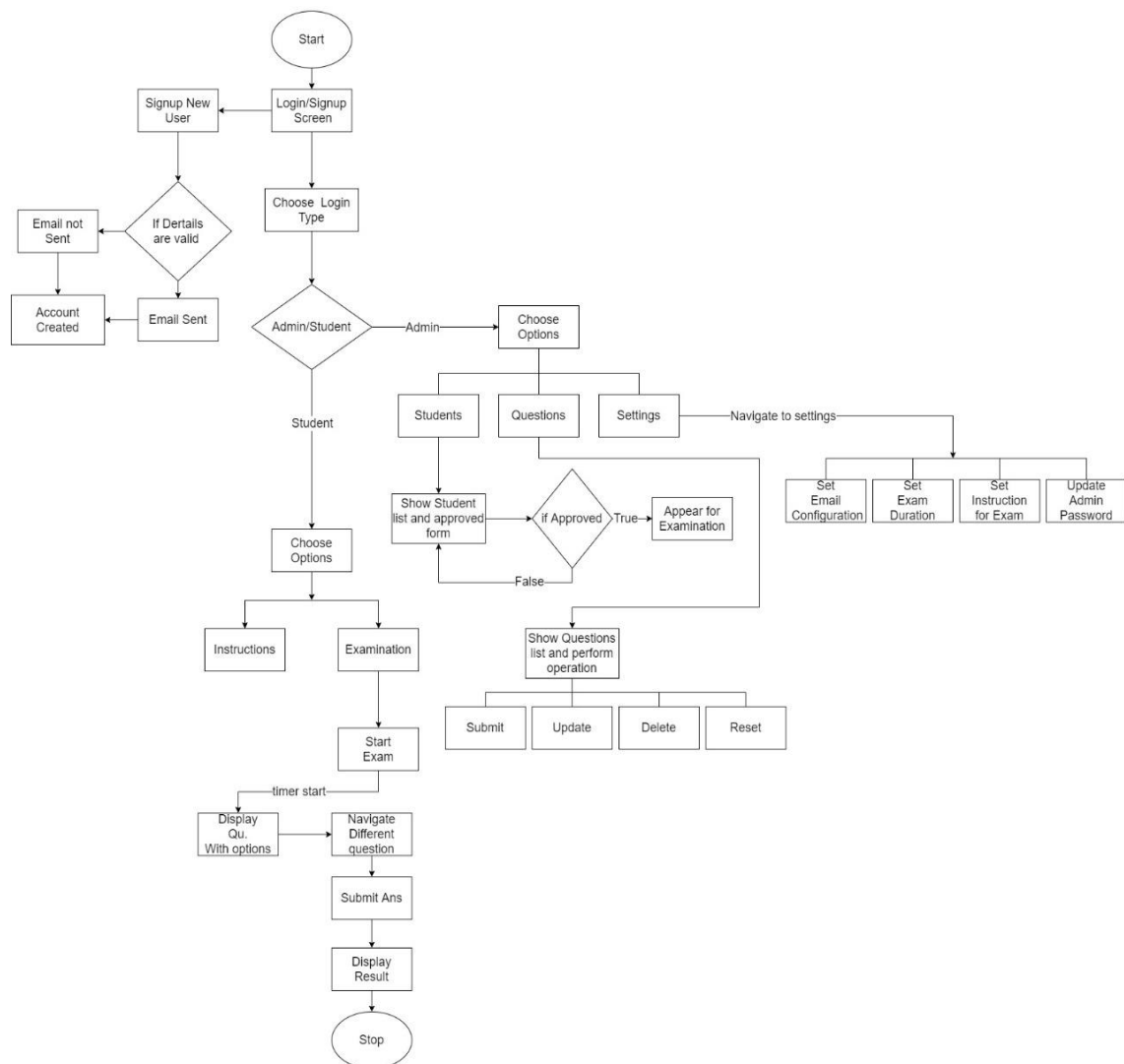
## **CHAPTER – 4: LITERATURE SURVEY**

Many different researches have focused on the subject of an online examination system these work can be represented as following: SIETTE: Guzman and Conejo (2005) proposed an online examination system called System of Intelligent Evaluation using Tests for Tele-education (SIETTE). SIETTE is a web-based environment to generate and construct adaptive tests. It can be used for instructional objectives, via combining adaptive student self-assessment test questions with hints and feedback. SIETTE supports secure login and portability features. On the other hand, the other features: resumption capability, multi-instructor, random question selection, random questions distribution and random choices distribution are missing

EMS :Rashad Et. Al. (2010) proposed a web-based online examination system called Exam Management System (EMS). EMS manages the examination and auto-grading for students exams and supports conducting exams, collects the answers, auto mark the submissions, and produce the reports for the test. EMS supports secure login, multi-instructor, and portability features. However, the other features: resumption capability, random question selection, random questions distribution, and random choices distribution are missing.

ArvindSingh,NirajShirke,KiranShette 2011.The project evaluates the examiners by using the online examination system concept. The exams will be totally customizable. This system will check results automatically basing on students answers.

## CHAPTER – 5: FLOWDIAGRAM



**Fig1. Flow Diagram of Online Examination System**

Online Examination System is used to give Examination from anywhere by students. Given is the the data flow diagram of online Examination System. They are divided into various modules. One module is on Entry i.e. Login Module. There are two types of login

1) Admin Login

2) Student Login

If the student is not Register into the database it will get signup first and it will allotted random password which is sent on their email address. After account created of student get login by its email and password. There are various option in the panel for student is instruction, start Exam etc.

Admin having another panel having multiple options which is used to moderate the students. Admin having the work to arrange the Exam, perform CRUD operation on students. It having rights to allow which student can attempt the Exam. The admin can approve or not approve the student. Allotment of time, questions etc things are done by admin.

After that the score card of students who give exam. After finishing exam the result will get display to the student. This things will be done by using the i-Report this project will make exam fast and forward and reduces paper work.

## **CHAPTER- 6: METHODOLOGY**

Main methodology activities held during the research is acquiring information and knowledge about online examination system through reading books, and researches that were previously done in related area. All the research materials were obtained over the internet, Wikipedia and other websites.

Next step taken is reading, comprehending and analyzing literature review and matching information obtained. This research emphasize online examination system, which include usability, user-friendly interface, reliability, costing and meeting needs of target users.

The methodology chosen to develop this system is waterfall model approach. I opted for this method because I found that it is the best for my project where the stages involved can assist my level of progress. Many developers prefer waterfall model and widely use it as a development strategy. 11 Waterfall model approach is chosen because the approach allows the development of the system to be revised after the stages is finished. Once the stages are not satisfied, then going back to the previous stages can be considered necessary to add or modify any features. The different stages for this model:

- Project Planning
- Requirements Design
- Design
- Development

- Integration and Testing
- Installation and Acceptance

### **1. Planning**

The purpose of this phase is to determine the best solution and steps taken to develop the system. Planning involves the details planning for the timing of the working progress and types of technique will be taken next. Planning also involves that the methodology that will going to use for this project.

### **2. Requirement Analysis**

The purpose of this phase is to build logical model of this system. In addition, this phase also needed to understand the applications, fact finding technique like document reviews, surveys, observations, and sampling must be made to identify application requirement, software requirement and hardware requirement. In this phase, what kind of data requirement and the functional requirement will been decide.

### **3. Design**

This phase will produce draft of the system architecture and the prototype of the application that will satisfy all requirement analysis. At this phase the user interface and all necessary input and process will be identify. This phase also determine the application architecture, which is going to shows how to transform the logical design into basic system coding to generate the first prototype of the system. The result for this phase application interface and

system design specification. For this project, the design will be created using the Java Net beans.

#### **4. Implementation**

During this implementation phase, the system will be constructed. All codes are generated inside this phase. At the end of this phase, system should running and most of the function for the system should be able to use. Based from the previous phase, from the prototype, the system will become the first version inside this phase.

#### **5. Testing**

This phase will evaluate or verify the system that was developed. This phase will have a simulation data which will simulate the true database for the system. This is to test the functionality of the system in comparing a capture data with a database. Beside, all the functionality that may cause errors or problems to the system must be specified inside this phase because, the final result of the system is a very high priority and important. However, the testing phase will only cover to overcome the problem statement and the system objectives.

## **CHAPTER – 7: REQUIREMENTS**

### **Software Requirements**

- O/S : Windows XP.
- Language : Java.
- IDE : Net Beans 8.2
- Data Base : MySQL

### **Hardware Requirements**

- System : Pentium IV 2.4 GHz
- Hard Disk : 160 GB
- Monitor : 15 VGA color
- Mouse : Logitech.
- Keyboard : 110 keys enhanced
- Ram : 2GB



## **CHAPTER – 8: APPLICATION**

1. It saves time as it allows multiple students to give their exam at the same time and displays the result immediately as the test gets over.
2. It will reduce paper wastage.
3. System will check responses given by the students automatically and immediately.
4. Question papers are automatically generated by the server.
5. Administrator has administrative power to create, modify and delete the exam.

## CHAPTER – 9: EXPERIMENTAL RESULT

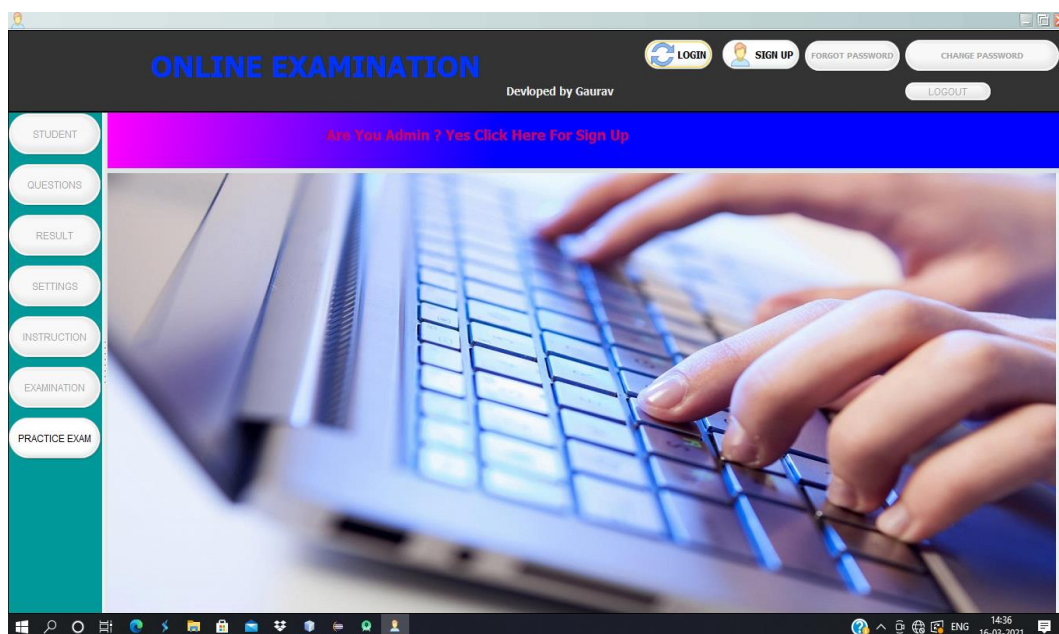
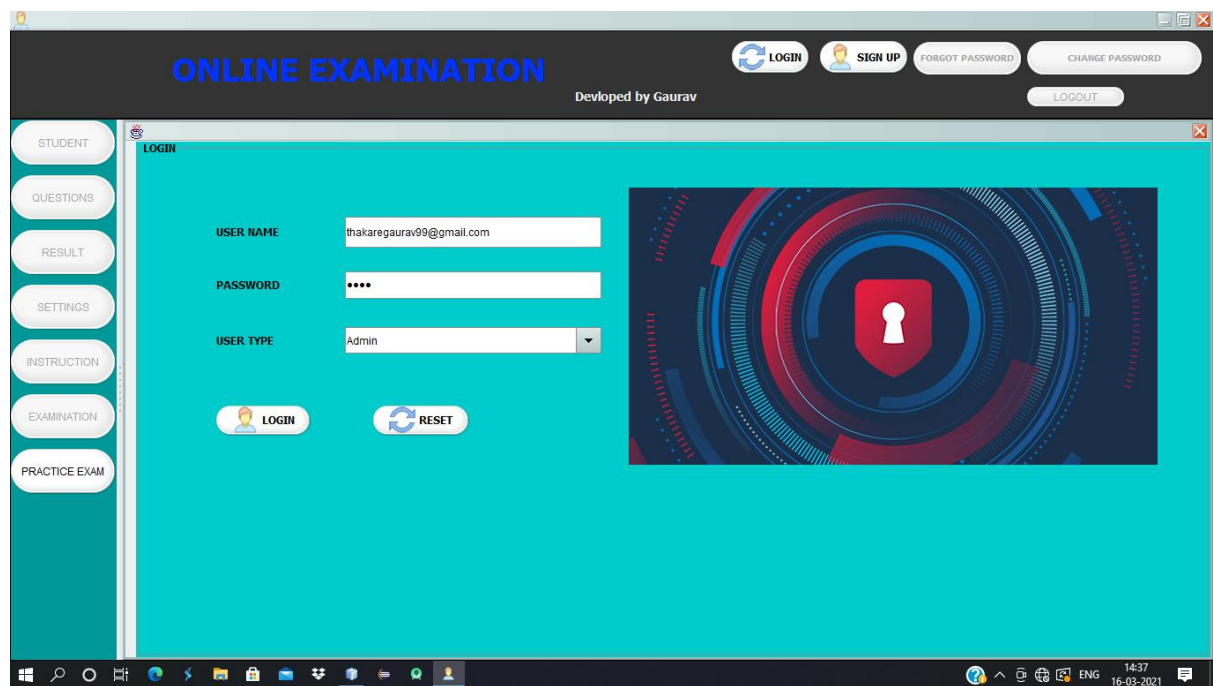


Fig 9.1 - Mainframe Dashboard

The screenshot shows the signup form of the online examination system. The header is dark blue with the title "ONLINE EXAMINATION" in white. Below the title, it says "Developed by Gaurav". On the right side of the header, there are buttons for "LOGIN", "SIGN UP", "FORGOT PASSWORD", "CHANGE PASSWORD", and "LOGOUT". On the left side, there is a vertical menu with buttons for "STUDENT", "QUESTIONS", "RESULT", "SETTINGS", "INSTRUCTION", "EXAMINATION", and "PRACTICE EXAM". The main content area has a red background. It contains a form with the following fields: "NAME" (text input), "EMAIL" (text input), "MOBILE NO" (text input), "CLASS" (dropdown menu with "Year 1" selected), and "DATE OF BIRTH" (date picker with "16/03/2021" selected). There is a "SUBMIT" button at the bottom of the form. On the right side of the form, there is a logo for "SignUpGenius" with a lightbulb icon.

Fig 9.2 – Signup Form



The screenshot displays a web browser window titled "ONLINE EXAMINATION" with a dark header bar. The header contains the text "Developed by Gaurav" and several navigation buttons: "LOGIN", "SIGN UP", "FORGOT PASSWORD", "CHANGE PASSWORD", and "LOGOUT". On the left side of the browser window, there is a vertical sidebar with buttons for "STUDENT", "QUESTIONS", "RESULT", "SETTINGS", "INSTRUCTION", "EXAMINATION", and "PRACTICE EXAM". The main content area of the browser window is titled "LOGIN" and has a light blue background. It features a login form with the following fields: "USER NAME" (containing "thakaregaurav99@gmail.com"), "PASSWORD" (masked with "\*\*\*\*"), and "USER TYPE" (a dropdown menu currently showing "Admin"). Below these fields are two buttons: "LOGIN" (with a user icon) and "RESET" (with a circular arrow icon). To the right of the form is a decorative graphic consisting of concentric circles and a central red shield with a white keyhole. The Windows taskbar is visible at the bottom of the browser window, showing the system clock as 14:37 on 16-03-2021.

**Fig 9.3 – Login Form**

Login: Gaurav Thakare

## ONLINE EXAMINATION

Developed by Gaurav

LOGIN SIGN UP FORGOT PASSWORD CHANGE PASSWORD LOGOUT

STUDENT

STUDENT

STUDENT NAME

EMAIL

PHONE NO.

APPROVED NOT APPROVED

STUDENT DETAILS

NAME	CLASS	EMAIL	CONTACT	DOB	APPROVED
Gaurav Thakare	Year 1	thakaregaurav99@...	7066398779	2000-07-18	NOT APPROVED
Pooja	Year 1	thakaregaurav9922...	7066398779	2020-08-13	APPROVED
a	Year 1	thakaregaurav99@...	a	2020-08-05	NOT APPROVED
Rahul Gandhi	Year 3	2	2345789	2020-08-05	APPROVED
Pritam Dorwe	Year 1	pritam.dorwe@gma...	9527613084	2021-01-20	NOT APPROVED
Pritam Dorwe	Year 1	pritam.dorwe@gma...	9527613084	2021-01-20	NOT APPROVED
Nayan Pache	Year 4	nayanpache91@g...	9689854582	2021-03-11	NOT APPROVED
nikhil kardak	Year 1	a	12	2021-03-07	NOT APPROVED
Bhushan Thakare	Year 1	b	123	2021-03-07	APPROVED
akshay Thakare	Year 1	thakaregaurav99@...	456	2021-03-07	APPROVED
abc	Year 2	c	7	2021-03-07	NOT APPROVED
z	Year 1	z	1	2021-03-07	NOT APPROVED
b	Year 1	b	78	2021-03-07	NOT APPROVED
c	Year 1	c	123	2021-03-07	APPROVED
gf	CLASS1	gf	45	2021-03-07	NOT APPROVED
a	Year 1			2021-03-08	NOT APPROVED
a	Year 1	b484	59	2021-03-08	NOT APPROVED
gaga	Year 1	hg	51	2021-03-08	NOT APPROVED
gaga	Year 1	hg	51	2021-03-08	NOT APPROVED
	Year 2			2021-03-08	NOT APPROVED
Bhushan	Year 2	waghdharebhusha...	1234567891	2021-03-08	NOT APPROVED
	Year 1			2021-03-08	NOT APPROVED

Fig 9.4 - Student Approval Page

Login: Gaurav Thakare

## ONLINE EXAMINATION

Developed by Gaurav

LOGIN SIGN UP FORGOT PASSWORD CHANGE PASSWORD LOGOUT

STUDENT

QUESTIONS

RESULT

SETTINGS

INSTRUCTION

EXAMINATION

PRACTICE EXAM

Question

Which is the longest national highway?

Option A

NH 47

Option B

NH 56

Option C

NH 44

Option D

NH 568

Select Marks & Answer

Option A Option B Option C Option D Test Exam

SUBMIT UPDATE DELETE RESET

Question Details

QUE	OP1	OP2	OP3	OP4	ANS	MARKS
What is java?	OOPS langu...	independent	helo	by	OOPS langu...	4
Who develop...	Dennis Ritchie	Games Gos...	free	lrr	Dennis Ritchie	4
Which is the ...	NH 47	NH 56	NH 44	NH 568	NH 44	4
Jama Masjid...	Delhi	Mumbai	Kolkata	hydrabad	Mumbai	4
In which city I...	Shrinagar	Kolkata	Surat	Varanasi	Shrinagar	4

QUE	OP1	OP2	OP3	OP4	ANS	MARKS
who is prime...	Rahul gandhi	Narendra Modi	Pranab Mukh...	Pratibha Patil	Narendra Modi	4
For what nag...	Orange	Apple	Grapes	Watermelon	Orange	2

Fig 9.5 – Set Questions for Exam

Login: Gaurav Thakare

# ONLINE EXAMINATION

Developed by Gaurav

STUDENT QUESTIONS RESULT SETTINGS INSTRUCTION EXAMINATION PRACTICE EXAM

**Email Configuration Details**

ENTER EMAIL ID FROM WHERE YOU SEND MAIL: gauravthakare186@gmail.com

ENTER EMAIL PASSWORD: [ ]

SAVE

ENTER YOUR CURRENT PASSWO...: [ ]

ENTER YOUR NEW PASSWORD: [ ]

CONFIRM YOUR NEW PASSWORD: [ ]

CHANGE PASSWORD

**EMAIL TIME DETAIL**

ENTER EXAM TIME PERIOD IN MINUTES: 2

ENTER EXAMINATION MARKS: 20

SAVE

**INSTRUCTIONS**

INSTRUCTION1: Read the Question Carefully

INSTRUCTION2: Submit the answer under time

SAVE

Windows taskbar: 14:39 16-03-2021

Fig 9.6 – Setting Page

Login: Rahul Gandhi

# ONLINE EXAMINATION

Developed by Gaurav

STUDENT QUESTIONS RESULT SETTINGS INSTRUCTION EXAMINATION PRACTICE EXAM

**Examination** Login: Rahul Gandhi Remaining Time: 1:53

START END EXAM RESULT EXAM REPORT

Total Que: 5 Solved Que: 0 Remaining Que: 5

Question: What is java?

Options Available: OOFS language, independent

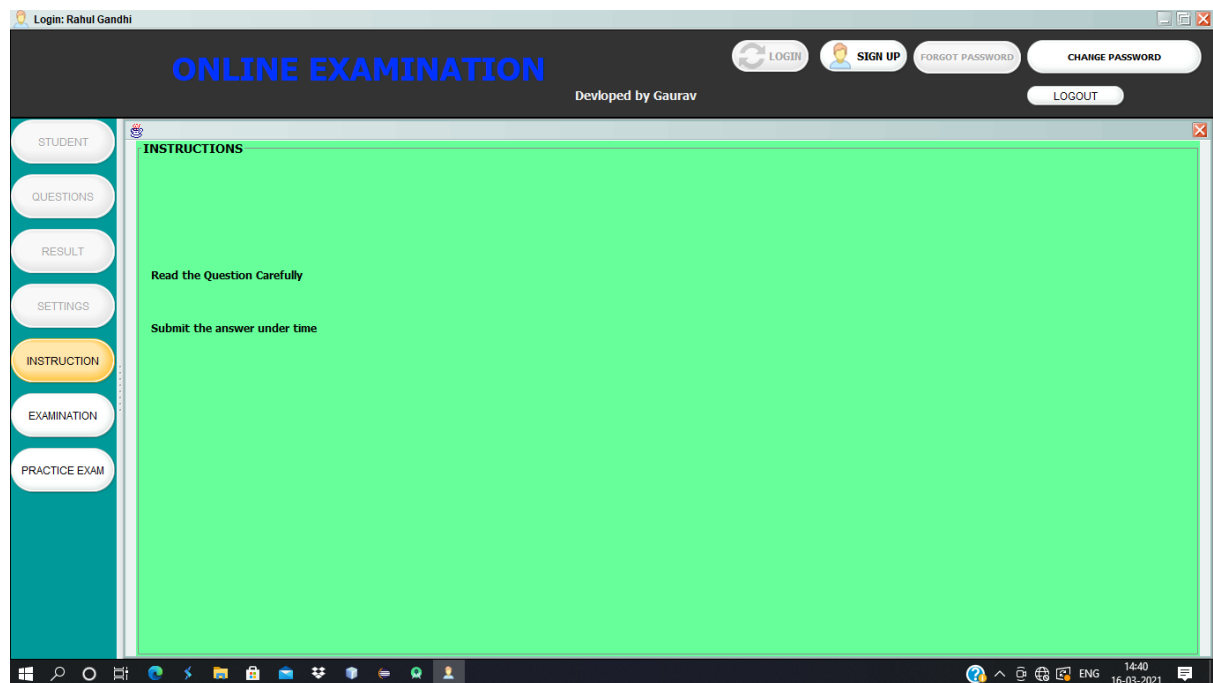
helo by

Choose Your Option: Option1, Option2, Option3, Option4

NEXT PREVIOUS SUBMIT

Windows taskbar: 14:41 16-03-2021

Fig 9.7 – Examination Page



**Fig 9.8– Instruction Frame**

## **CHAPTER – 10: ADVANTAGES**

- Flexibility to Take Exams Anywhere.
- Exam Candidates are used to Digital.
- Assessments that are Accessible to All.
- Reduced Administrative Burden.
- Cost Effectiveness.
- Quicker to Mark and Issue Results.
- Automated Test Assembly Tools.

## CHAPTER – 11: CONCLUSION

**Online examination** system is a user friendly system, which is very easy and convenient to use. The system is complete in the sense that it is operational and it is tested by entering data and getting the reports in proper order. We presented and discussed the details of the system architecture, interactions, and message exchanges among participants.

Moreover, we showed and discussed how we implemented and tested the overall functionalities and operations of the authentication mechanism governed by the admin.



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