<u>Project Report</u>

<u>On</u>

<u>ONLINE EXAMINATION SYSTEM</u>

Submitted by

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Under the guidance of

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CERTIFICATE

This is to certify that the project work titled "ONLINE EXAMINATION SYSTEM"is a bonafied project work submitted by C.V.Shobha [R170889] in the department of COMPUTER SCIENCE AND ENGINEERING in partial fulfillment of requirements for The award of degree of Bachelor of Technology in Computer science and engineering for the Year 2020-2021 carried out the work under the supervision

GUIDE   HEAD OF THE DEPARTMENT

K.VINOD KUMAR   P.HARINADHA

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HEAD OF THE DEPARTMENT

P.HARINADHA

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<u>ABSTRACT</u>

OnlineExams is being launched because a need for a destination that is beneficial for both institutes and students.With this site, institutes can register and host online exams. Students can give exams and view their results.This site is an attempt to remove the existing flaws in the manual system of conducting exam.Online Exam System fulfills the requirements of the institutes to conduct the exams online.They do not have to go to any software developer to make a separate site for being able to conduct exams online. They just have toregister on the site and enter the exam details and the lists of the st udents which can appear in the exam.Students can give exam without the need of going to any physical destination. They can view the result at the same time.Thus the purpose of the site is to provide a system that saves the efforts and time of both the institutes and the students.

Introduction

Online Exam System is a web application that establishes a network between the institutes and the students. Institutes enter on the site the questions they want in the exam.The questions are displayed as a test to the eligible students The answers enter by the students are then evaluated and their score is calculated. This score then can be accessed by the institutes to determine the passes of students or to evaluate their performance.It is created by using html, css and javascript.It consist 5 modules:

> **Home module**
>
> **Login module**
>
> **Subjects module**
>
> **Instruction module**
>
> **Exam module**
>
> **Return module**

Home Module:

In home page module there is name of exam and having a option of Login. Login Module will be open by clicking on the Login option.

Login Module:

In Login module there is Login Form consist with Username and Password By giving valid credentials Login option will move to courses module otherwise it shows "invalid username and password"

Subjects Modules:

Courses module consist with subjects.By selecting the subject name,student can attempt the exam.student have to click on subject and proceed further.

Instruction Module:

Instruction module consists some instructions for student before writing exam It is useful to the students while writing the exam.By click on "start test" exam will be started.

<u>Exam Module</u>:

In exam module question and options will display ,after selecting one Option next question will display.without selceting a option clicking on the next will display a message "Please select an option".After completing all questions it will move to return page.

<u>Return Module</u>:

In return page it displays marks and percentage of the exam and consist two options,one is another subject, by clicking on it shows courses page and student can take another exam.second option is return home,by clicking on it We can return to home page

PURPOSE

The purpose of the online examination system is to test the subject knowledge of the students. Such a system eliminates logistical hassles and drawbacks in the traditional mode of the pen and paper examination. Students don't have to assemble in the classroom to give the exam. They can do it within a given time frame from their own device.

SCOPE

The scope of the online examination system is to efficiently evaluate the student thoroughly through a fully automated system that not only saves a lot of time but also gives fast results and saves paper.The faculty prepares the questions for each exam the student can login through the client computers and can take the exam.The questions are shuffled in a random order so that possibilities for getting questions in the same order for the student who are beside is very less.

Requirement Specification

Hardware Configuration:

Client Side:

Ram	512 MB
Hard disk	10 GB
Processor	1.0 GHz

Software Requirement:

Front end	HTML,CSS
Server side Language	Javascript
Web Browser	Firefox , Google Chrome or any Compatible browser
Operating System	Ubuntu,Windows or any equivalent OS

HTML

- ➜ HTML stands for HyperText Markup language
- ➜ HTML is the standard markup language for creating Web pages
- ➜ HTML describes the structure of a Web page
- ➜ HTML consists of a series of elements
- ➜ HTML elements tell the browser how to display the content

CSS

- ◆ CSS stands for Cascading Style Sheets
- ◆ CSS is the language we use to style an HTML document.
- ◆ CSS describes how HTML elements are to be displayed on screen, paper, or in other media
- ◆ CSS saves a lot of work. It can control the layout of multiple web pages all at once
- ◆ External stylesheets are stored in CSS files

Javascript

- ▪ JavaScript is the programming language of the Web.
- ▪ JavaScript is a lightweight, interpreted programming language.
- ▪ It is designed for creating network-centric applications.
- ▪ It is complimentary to and integrated with Java.
- ▪ JavaScript is very easy to implement because it is integrated with HTML.It is open and cross-platform.
- ▪ Javascript provides Ajax library which helps in loading back-end data while you are doing some other process This really gives an amazing experience to your website visitors.

Analysis and Design

Analysis:

Existing system:

Existing system is a manual one in which users are maintaining books to store the information like Student details ,instructor details,Schedule Details and feedbacks about students who have attempted exam as per schedule.. It is very difficult to maintain historical data.

DISADVANTAGES:
The following drawbacks of existing system emphasize the need computerization:
1. A lot of copies of question papers have to be made
2. A lot of correction work hence delay in giving the results
3. A lot of tabulation work for each subject results

Proposed System

This application is used to conduct online examination.The Students can sit at individual terminals and login to write the exam in the given duration.The questions have to be given to the students.This application will perform correction, display the result immediately.This application provides the administrator with a facility to add new exams.This application provides the Instructor add questions to exam and can modify questions in the the exam in a particular exam. This application takes care of Authentication of the administrator, Instructor as well as the Student.

Design Introduction:

Design is the first step in the development phase for any techniques and principles for the purpose of defining a device, a process or system in sufficient detail to permit its physical realization. Once the software requirements have been analyzed and specified the software design involves three technical activities - design, coding, implementation and testing that arerequired to build and verify the software.

The design activities are of main importance in this phase, because in this activity, decisions ultimately affecting the success of the software implementation and its ease of maintenance are made. These decisions have the final bearing upon reliability and maintainability of the system. Design is the only way to accurately translate the customer's requirements into finished software or a system.

Design is the place where quality is fostered in development. Software design is a process through which requirements are translated into a representation of software. Software design is conducted in two steps. Preliminary design is concerned with the transformation of requirements into data

UML Diagrams:

Actor:

A coherent set of roles that users of use cases play when interacting with with the use cases.an observable result of value of an actor.
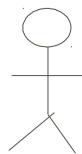
Use case: A description of sequence of actions, including variants, that a System performs yields an observable result of value of an actor. actor diagram is drawned in a eclipse shape

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UML stands for Unified Modeling Language. UML is a language for specifying, visualizing anddocumenting the system. This is the step while developing any product after analysis. The goal from this is to produce a model of the entities involved in the project which later need to be built designed.

USECASE DIAGRAMS:
Use case diagrams model behavior within system and helps the developers Understand, what the user require. The stick man represents what's called an actor.

Use case diagram can be useful for getting an overall view of the system and clarifying that can do and more importantly what they can't do.

Use case diagram consists of use cases and actor and shows the interaction between the use case and actors.

The purpose is to show the interactions between the use case and actor.To represent the system requirements from user's perspective.An actor could be the end-user of the system or an external system.

USECASE DIAGRAM: A Use case is a description of set of sequence of actions. Graphically it is rendered as an ellipse with solid line including only its name. Use case diagram is a behavioral diagram that shows a set of use cases and actors and their relationship. It is an association between the use cases and actors. An actor represents a real-world object.Primary Actor – Sender, Secondary Actor Receiver.

Use case Diagram
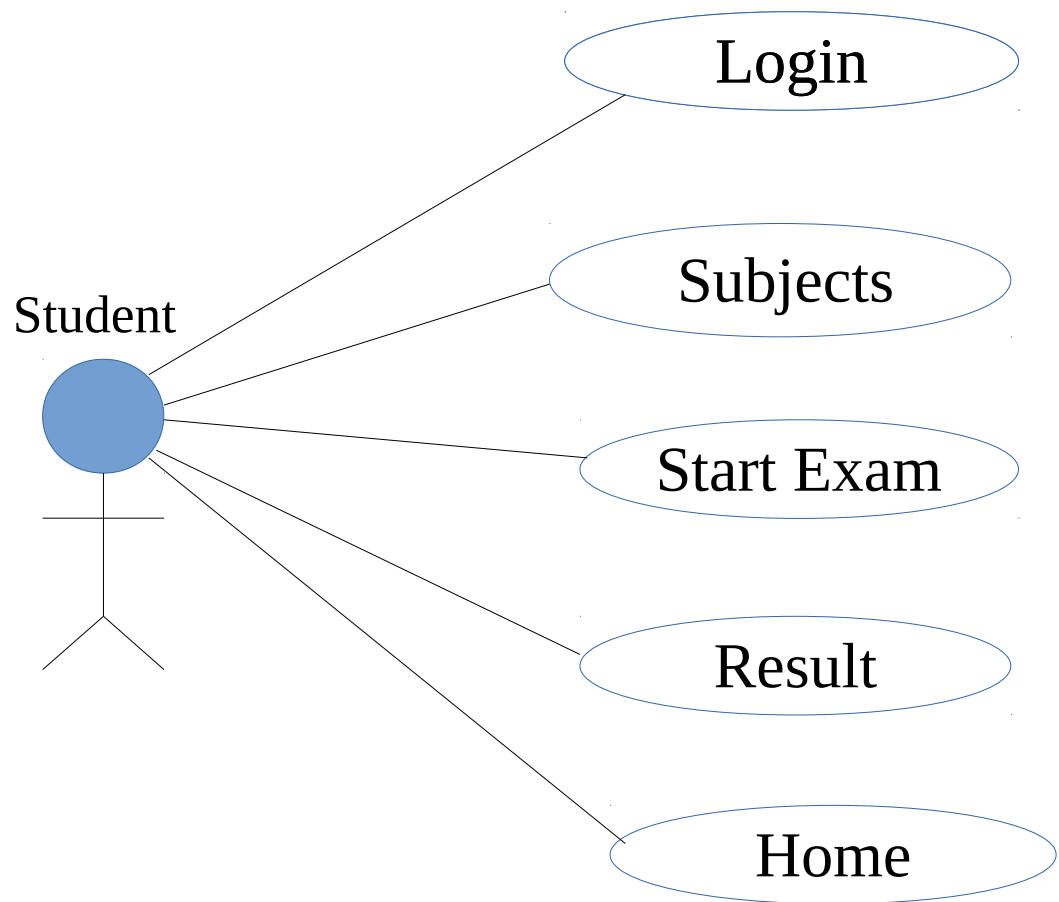
ER Diagram:
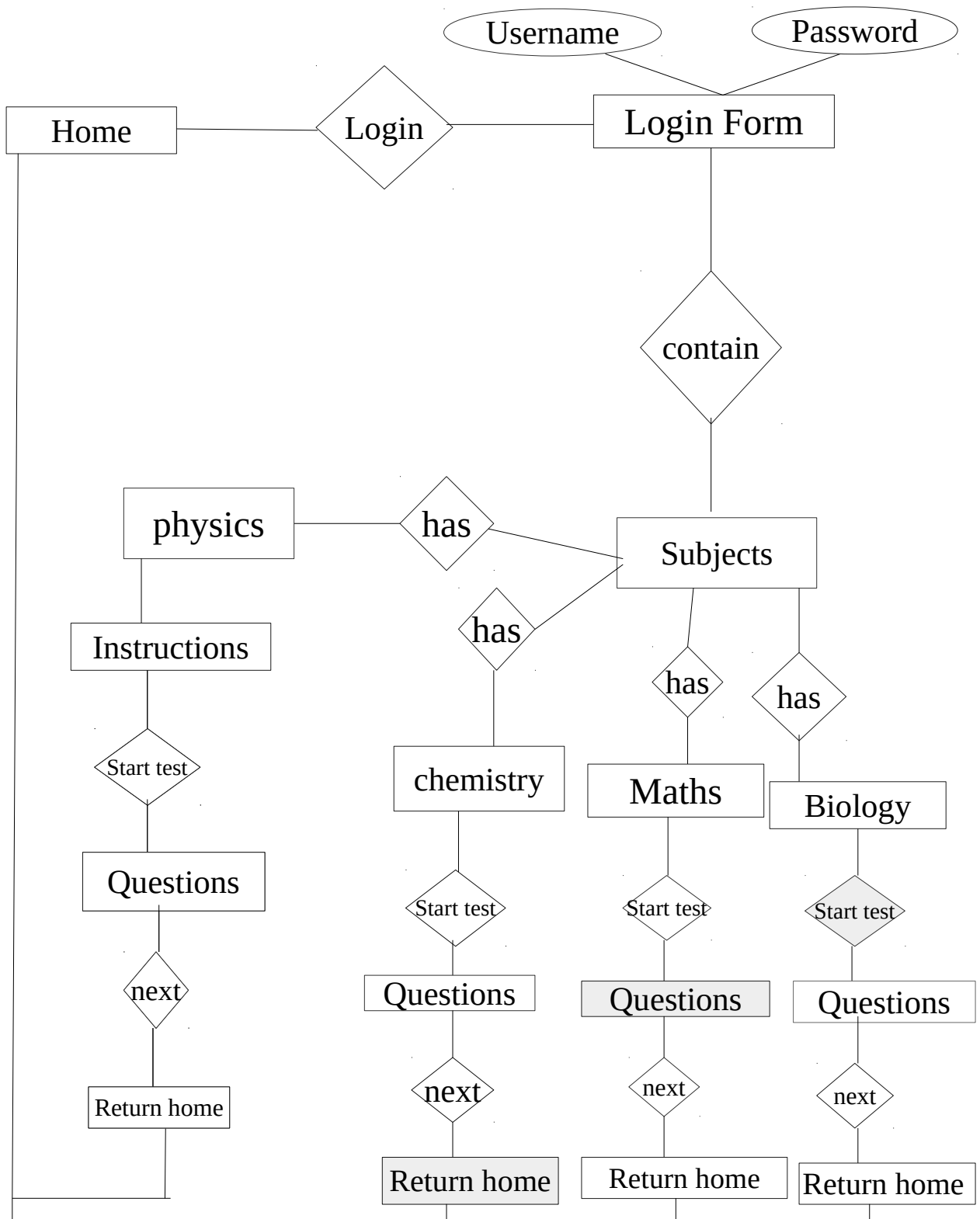
```
1 <!DOCTYPE html>
2 <html>
3 <head>
4       <link rel="stylesheet" href="courses.css"/>
5    <link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css" integrity="sha384-
   JcKb8q3iqJ61gNV9KGb8thSsNjpSL0n8PARn9HuZOnIxN0hoP+VmmDGMN5t9UJ0Z" crossorigin="anonymous" />
6    <script src="https://code.jquery.com/jquery-3.5.1.slim.min.js" integrity="sha384-DfXdz2htPH0lsSSs5nCTpuj/-
   zy4C+OGpamoFVy38MVBnE+IbbVYUew+OrCXaRkfj" crossorigin="anonymous"></script>
7    <script src="https://cdn.jsdelivr.net/npm/popper.js@1.16.1/dist/umd/popper.min.js" integrity="sha384-9/-
   reFTGAW83EW2RDu2S0VKaIzap3H66lZH81PoYlFhbGU+6BZp6G7niu735Sk7lN" crossorigin="anonymous"></script>
8    <script src="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/js/bootstrap.min.js" integrity="sha384-
   B4gt1jrGC7Jh4AgTPSdUt0Bvf08shuf57BaghqFfPlYxofvL8/KUEfYiJOMMV+rV" crossorigin="anonymous"></script>
9 </head>
10 <body>
11      <div class="homepage-bg-container1">
12          <h1 class="homepage-main-heading">Subjects for APIIIT CET </h1>
13          <p class="homepage-sub-heading">Click on subject and proceed further.</p>
14          <div class="d-flex flex-row justify-content-center">
15              <div class="card1-bg-container">
16                  <h5>Physics</h5>
17                  <a href="instructionsphy.html"> <img src="physics.jpeg" class="card1-image" /></a>
18              </div>
19              <div class="card1-bg-container">
20              <h5>Chemistry</h5>
21              <a href="instructionschem.html"><img src="chemistry.jpg" class="card1-image" /></a>
22              </div>
23          </div>
24          <div class="d-flex flex-row justify-content-center">
25              <div class="card1-bg-container">
26              <h5>Biology</h5>
27                  <a href="instructionsbio.html"><img src="Biology.jpeg" class="card1-image" /></a>
28              </div>
29              <div class="card1-bg-container">
30                  <h5>Mathematics</h5>
31                  <a href="instructionsmat.html"><img src="maths.jpeg" class="card1-image" /></a>
32              </div>
33          </div>
```

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```html
1 <!Doctype html>
2 <html>
3 <head>
4        <link rel="stylesheet" href="quiz.css"/>
5 </head>
6 <body>
7 <div class="quiz-container">
8     <div class="question-number">
9         <h3>Question <span class="question-num-value"></span> of
10            <span class="total-questions"></span>
11        </h3>
12    </div>
13    <div class="question">
14
15    </div>
16    <div class="options">
17        <div id="0" class="option1" onclick="check(this)"></div>
18        <div id="1" class="option2" onclick="check(this)"></div>
19        <div id="2" class="option3" onclick="check(this)"></div>
20        <div id="3" class="option4" onclick="check(this)"></div>
21    </div>
22    <div class="button btn">
23        <button type="button" onclick="next()" class="btn">Next</button>
24    </div>
25    <div class="answers-tracker">
26
27    </div>
28 </div>
29 <div class="quiz-over">
30    <div class="box">
31        <h1>
32            You got <span class="correct-answers"></span> out of
33            <span class="total-questions2"></span> answers correct.
34            That is <span class="percentage"></span>
35          <br><br> Your exam is completed !!!
36        </h1>
37        <a href="courses.html"><button type="button" class="btn" style="margin-right:40px">Another subject</button></a>
37        <a href="courses.html"><button type="button" class="btn" style="margin-right:40px">Another subject</button></a>
38        <a href="home.html"><button type="button" class="btn">Return Home</button></a>
39    </div>
40 </div>
41 </body>
42 <script src="mathematics.js"></script>
43 </html>
```

HTML ▼   Tab Width: 8 ▼   Ln 1, Col 1   ▼   INS

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```javascript
 1 const answersTrackerContainer = document.querySelector(".answers-tracker")
 2 const options = document.querySelector(".options").children
 3 const questionNumberSpan = document.querySelector(".question-num-value")
 4 const question=document.querySelector(".question")
 5 const totalQuestionsSpan =document.querySelector(".total-questions")
 6 const correctAnswersSpan =document.querySelector(".correct-answers")
 7 const totalQuestionsSpan2 =document.querySelector(".total-questions2")
 8 const percentageSpan =document.querySelector(".percentage")
 9 let currentIndex;
10 let index = 0;
11 let answeredQuestions =[]; // array of anwered question indexes
12 let score = 0;
13
14 const opt1 = document.querySelector(".option1")
15 const opt2 = document.querySelector(".option2")
16 const opt3 = document.querySelector(".option3")
17 const opt4 = document.querySelector(".option4")
18
19 const questions = [
20     {
21         q:'If x = -y and y > 0 , which of the following is wrong?',
22         options:['A) x 2 > 0', 'B) x + y = 0', 'C) xy < 0', 'D) 1/x-1/y = 0'],
23         answer:3
24     },
25 {
26         q:'Which of the following statement is true?',
27         options:['A) x^2+5x-3 is a linear polynomial', 'B)x^2+4x-1 is a binomial', 'C) x+1 is a monomial', 'D) 5x^3 is a monomial'],
28         answer:1
29     },
30     {
31         q:'The pairs of equations x+2y-5=0 and -4x-8y+20=0 have:',
32         options:['A) Unique solution','B) Exactly two solutions','C) Infinitely many solutions','D) No solution'],
33         answer:2
34     },
35 {
36         q:'If the lines 3x+2ky-2=0 and 2x+5y+1=0 are parallel, then what is the value of k?',
37         options:['A) 4/15','B) 15/4','C) 4/5','D) 5/4'],
39         answer:1
40 {
41         q:'A fraction becomes 1/3 when 1 is subtracted from the numerator and it becomes 1/4 when 8 is added to its denominator. The fraction
   obtained is:',
42         options:['A) 3/12', 'B) 4/12', 'C) 5/12', 'D) 7/12'],
43         answer:2
44     },
45     {
46         q:' Ritu can row downstream 20 km in 2 hours, and upstream 4 km in 2 hours. Her speed of rowing in still water and the speed of the
   current is:',
47         options:['A) 6km/hr and 3km/hr',
48                  'B) 7km/hr and 4km/hr',
49                  'C) 6km/hr and 4km/hr',
50                  'D) 10km/hr and 6km/hr'],
51         answer:2
52     },
53     {
54         q:'he first term and common difference for the A.P. 3,1,-1,-3 is:',
55         options:['A) 3 and -2 ','B) -1 and 3','C) 1 and 3','D) 2 and 3'],
56         answer:0
57     },
58 {
59         q:'Which term of the A.P. 3, 8, 13, 18, … is 78?',
60         options:['A)12th', 'B) 13th', 'C) 15th', 'D) 16th'],
61         answer:3
62     },
63     {
64         q:'(Sin 30°+cos 60°)-(sin 60° + cos 30°) is equal to:',
65         options:['A) 0','B) 1+2√3','C) 1-√3','D) 1+√3'],
66         answer:2
67     },
68     {
69         q:'If cosX=2/3 then tan X is equal to:',
70         options:[ 'A) 5/2','B) √(5/2)','C) √5/2','D) 2/√5'],
71         answer:2
72     },
```

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```javascript
73      {
74          q:'If ΔABC is right angled at C, then the value of cos(A+B) is:',
75          options:[ 'A) 0','B) 1','C)  1/2','D)  √3/2'],
76          answer:0
77      },
78      {
79          q:'The angle of elevation of the top of a building from a point on the ground, which is 30 m away from the foot of the building, is 30°.
The height of the building is:',
80          options:['A) 10 m','B) 30/√3 m','C) √3/10 m','D) 30 m'],
81          answer:1
82      },
83      {
84          q:'If the height of the building and distance from the building foot's to a point is increased by 20%, then the angle of elevation on the
top of the building:',
85          options:['A) Increases','B) Decreases','C) Do not change','D) None of the above'],
86          answer:2
87      },
88      {
89          q:'The angle formed by the line of sight with the horizontal when the point being viewed is above the horizontal level is called:',
90          options:['A) Angle of elevation','B) Angle of depression','C) No such angle is formed','D) None of the above'],
91          answer:0
92      },
93      {
94          q:'A ladder makes an angle of 60° with the ground, when placed along a wall. If the foot of ladder is 8 m away from the wall, the length
of ladder is',
95          options:['A) 4m ','B) 8m','C) 10m','D) 16m'],
96          answer:3
97      },
98      {
99          q:'The abscissa of the point of intersection of the less than type and of the more than type cumulative frequency curves of a grouped data
gives its',
100         options:['A) mean','B) median','C) mode','D) All of the above'],
101         answer:1
102     },
103     {
104         q:' If P(E) = 0.07, then what is the probability of not E?',
105         options:['A) 0.93','B) 0.95','C) 0.89','D) 0.90'],
106         answer:0
107     },
108     {
109         q:'A bag has 3 red balls and 5 green balls. If we take a ball from the bag, then what is the probability of getting red balls only?',
110         options:['A) 3','B) 8','C) 3/8','D) 8/3'],
111         answer:2
112     },
113     {
114         q:'A card is selected at random from a well shuffled deck of 52 playing cards. The probability of its being a face card is',
115         options:['A) 3/13','B) 4/13','C) 6/13','D) 9/13'],
116         answer:0
117     },
118     {
119         q:'If AM of a,a+3,a+6,a+9 and a+12 is 10, then a is equal to:',
120         options:['A) 1','B) 2','C) 3','D) 4'],
121         answer:3
122     },
123 ]
124 ]
125
126 totalQuestionsSpan.innerHTML = questions.length
127
128 function load(){
129     questionNumberSpan.innerHTML = index + 1
130     question.innerHTML = questions[currentIndex].q;
131     opt1.innerHTML = questions[currentIndex].options[0]
132     opt2.innerHTML = questions[currentIndex].options[1]
133     opt3.innerHTML = questions[currentIndex].options[2]
134     opt4.innerHTML = questions[currentIndex].options[3]
135     index++
136 }
137
138 //Check if selected answer is correct or wrong
139 function check(element){
140     if(element.id == questions[currentIndex].answer){
141         element.className="correct"
142         updateAnswersTracker("correct")
143         score++
144     }
145     else {
146         element.className="wrong"
147         updateAnswersTracker("wrong")
148     }
149     disableClick();
150 }
151
152 //Make sure the user selected an item before clicking on the Next button
153 function validate(){
154     if(!options[0].classList.contains("disabled")){
155         alert("Please select an option")
156     }
157     else{
158         randomQuestion();
159         enableClick();
160     }
161 }
162
163 //Listener function for click event on Next button
164 function next(){
165     validate();
166 }
167
168 //Function to disable click for the options
169 function disableClick(){
170     for(let i=0; i<options.length; i++){
171         options[i].classList.add("disabled")
172
173         if(options[i].id == questions[currentIndex].answer){
174             options[i].classList.add('correct');
175         }
176     }
177 }
178

179 //Function to reanable click in the options
180 function enableClick(){
181     for(let i=0; i<options.length; i++){
182         options[i].classList.remove("disabled", "correct", "wrong")
183
184     }
185 }
186
187 //Function to select a random question
188 function randomQuestion(){
189     let randomNumber = Math.floor(Math.random()*questions.length);
190     if(index == questions.length){
191         quizOver();
192     }
193     else{
194         if(answeredQuestions.length > 0){
195             if(answeredQuestions.includes(randomNumber)){
196                 randomQuestion();
197             }
198             else {
199                 currentIndex = randomNumber;
200                 load();
201             }
202         }
203         if(answeredQuestions.length == 0){
204             currentIndex = randomNumber
205             load()
206         }
207         //add the question to list of anwered questions
208         answeredQuestions.push(randomNumber)
209     }
210 }
211
212 //Restart the quiz
213 window.onload=function(){
214     this.randomQuestion();
215     this.answersTracker();
```

```javascript
217
218 //Set up answers tracker elements
219 function answersTracker(){
220     for(let i=0; i< questions.length; i++){
221         const div =document.createElement("div")
222         answersTrackerContainer.appendChild(div);
223     }
224 }
225
226 //Update the answers tracker elements
227 function updateAnswersTracker(newClass){
228     answersTrackerContainer.children[index -1].classList.add(newClass)
229 }
230
231 //Displays the quiz-over page if quiz is over
232 function quizOver(){
233     document.querySelector(".quiz-over").classList.add("show")
234     correctAnswersSpan.innerHTML = score;
235     totalQuestionsSpan2.innerHTML = questions.length
236     percentageSpan.innerHTML=Math.round((score/questions.length)*100) + "%"
237 }
238
239 function tryAgain(){
240     window.location.reload();
241 }
```

JavaSc

18

Implementation and System Testing

After all phase have been perfectly done, the system will be implemented to the server and the system can be used.

System Testing

The goal of the system testing process was to determine all faults in our project .The program was subjected to a set of test inputs and many explanations were made and based on these Explanations it will be decided whether the program behaves as expected or not. Our Project went through two levels of testing

1. Unit testing

2 .Integration testing

Unit Testing

Unit testing is commenced when a unit has been created and effectively reviewed .In order to test a single module we need to provide a complete environment that is besides the section we would require The procedures belonging to other units that the unit under test calls Non local Data structures that module accesses .A procedure to call the functions of the unit under test with appropriate parameters

1. Test for the Login module

Testing login form-This form is used for login of examination system. In this form.we enter the username and password if both are correct courses page will open,otherwise if any of data is wrong it will get message "Enter Valid Username and Valid Password.

Integration Testing

In the Integration testing we test various combination of the project module by providing the input.
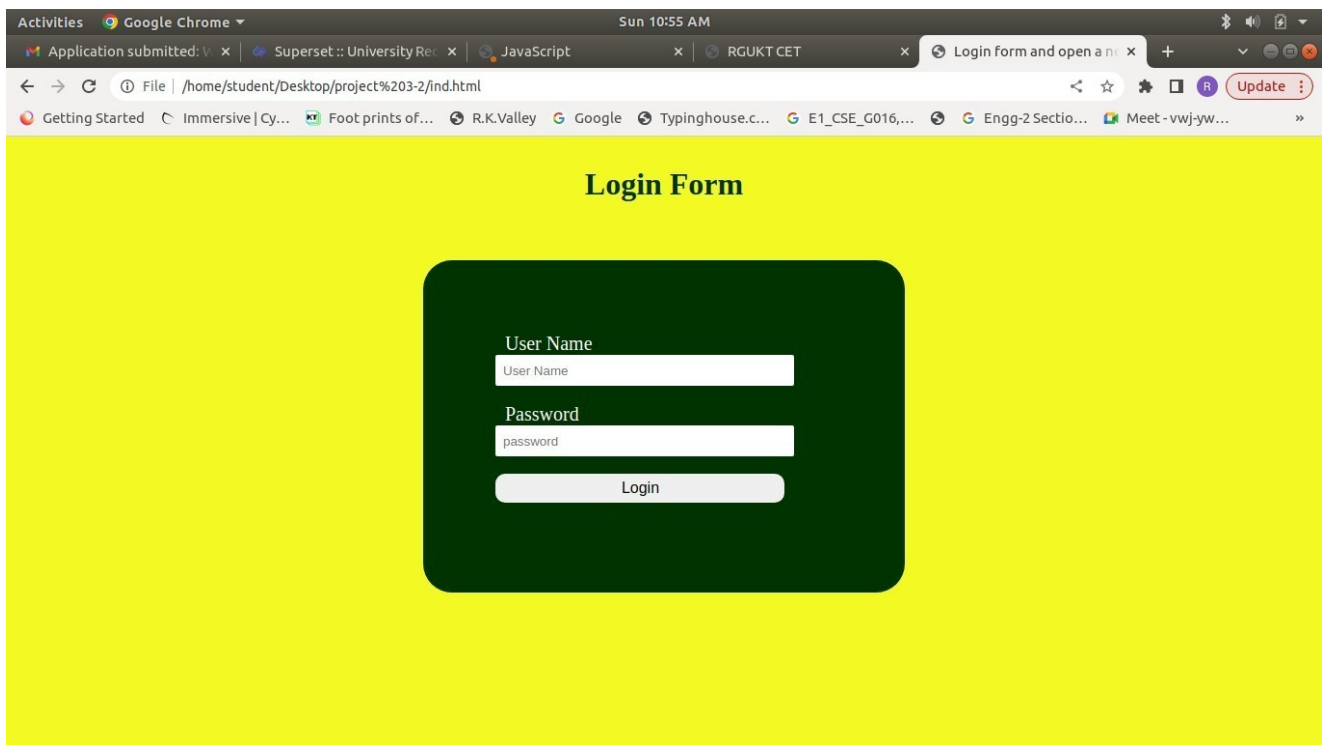
The primary objective is to test the module interfaces in order to confirm that no errors are occurring when one module invokes the other module.

Evaluation
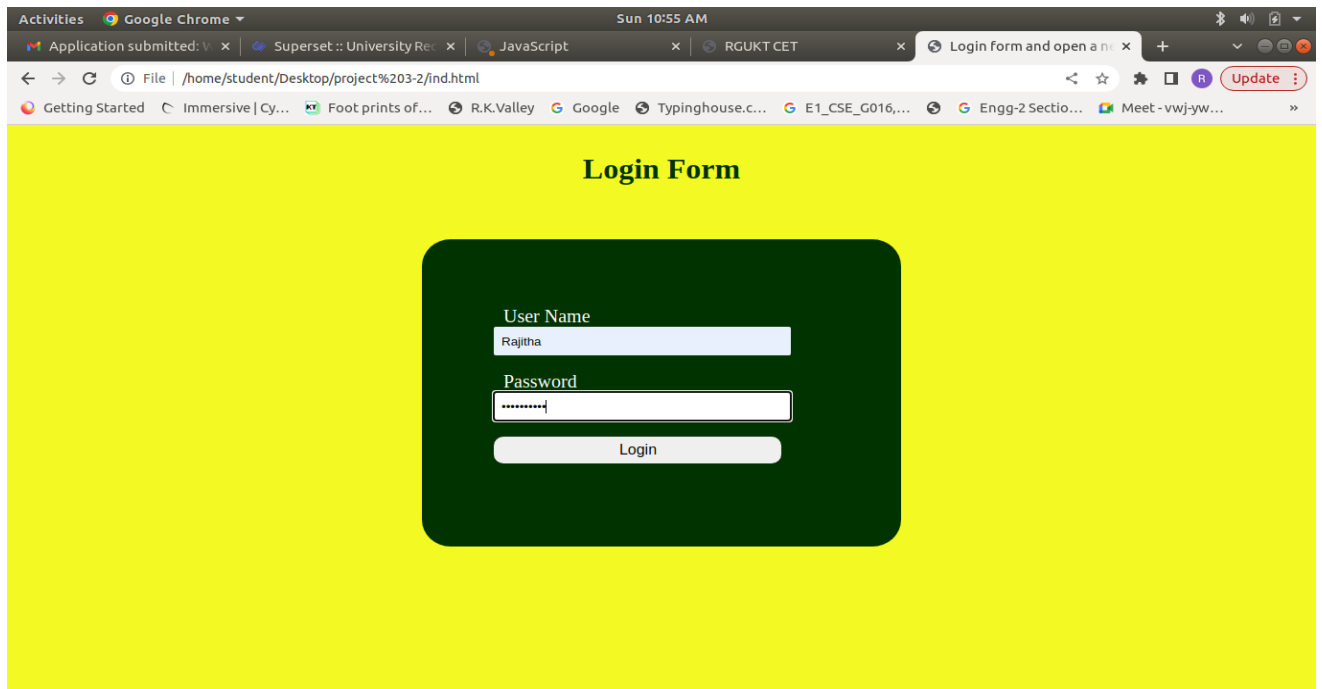
Home Page
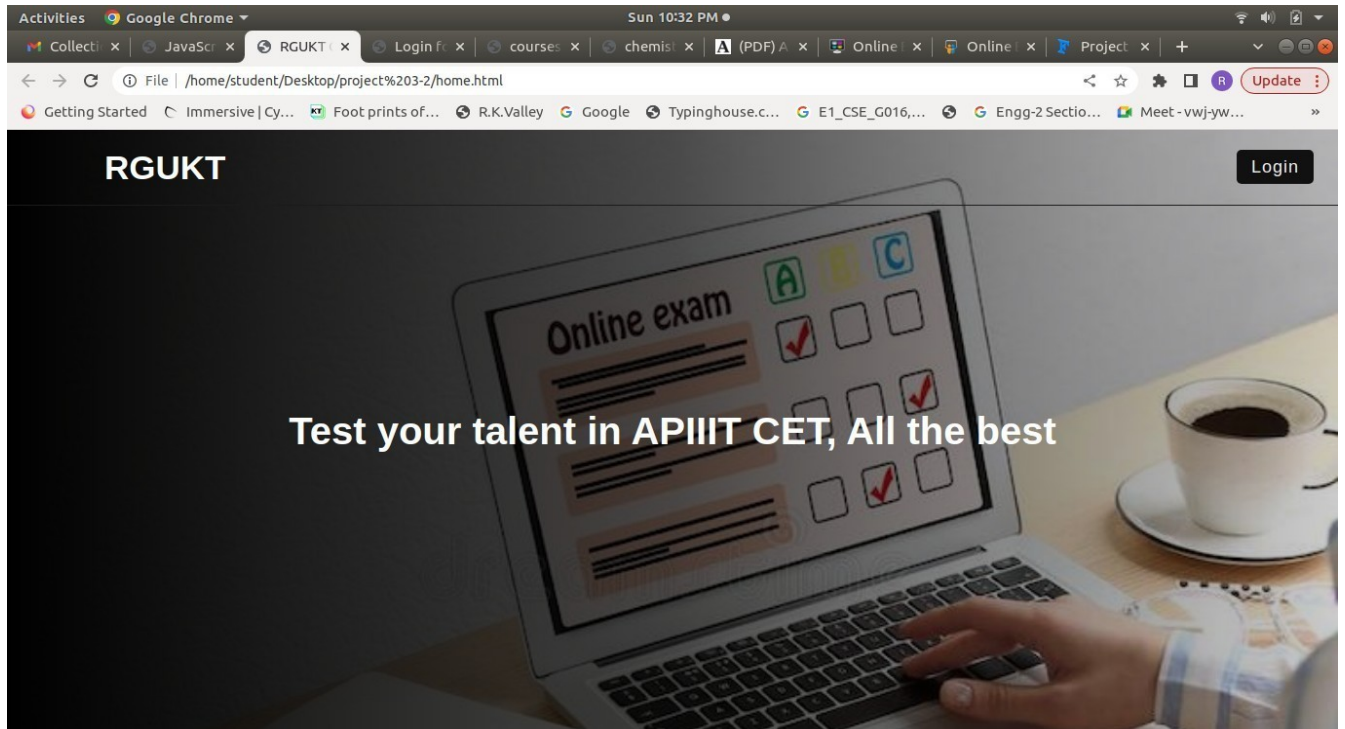
Login form

Login Form

Subjects

Instructions

Exam(Questions)

New Tab   ×   (PDF) A Project Report ○ ×   use case diagram for onl ×   RGUKT CET   ×   physics.html   ×   +

File | /home/student/Desktop/project%203-2/physics.html

Getting Started   Immersive | Cy...   Foot prints of...   R.K.Valley   Google   Typinghouse.c...   E1_CSE_G016,...   Engg-2 Sectio...   Meet - vwj-yw...
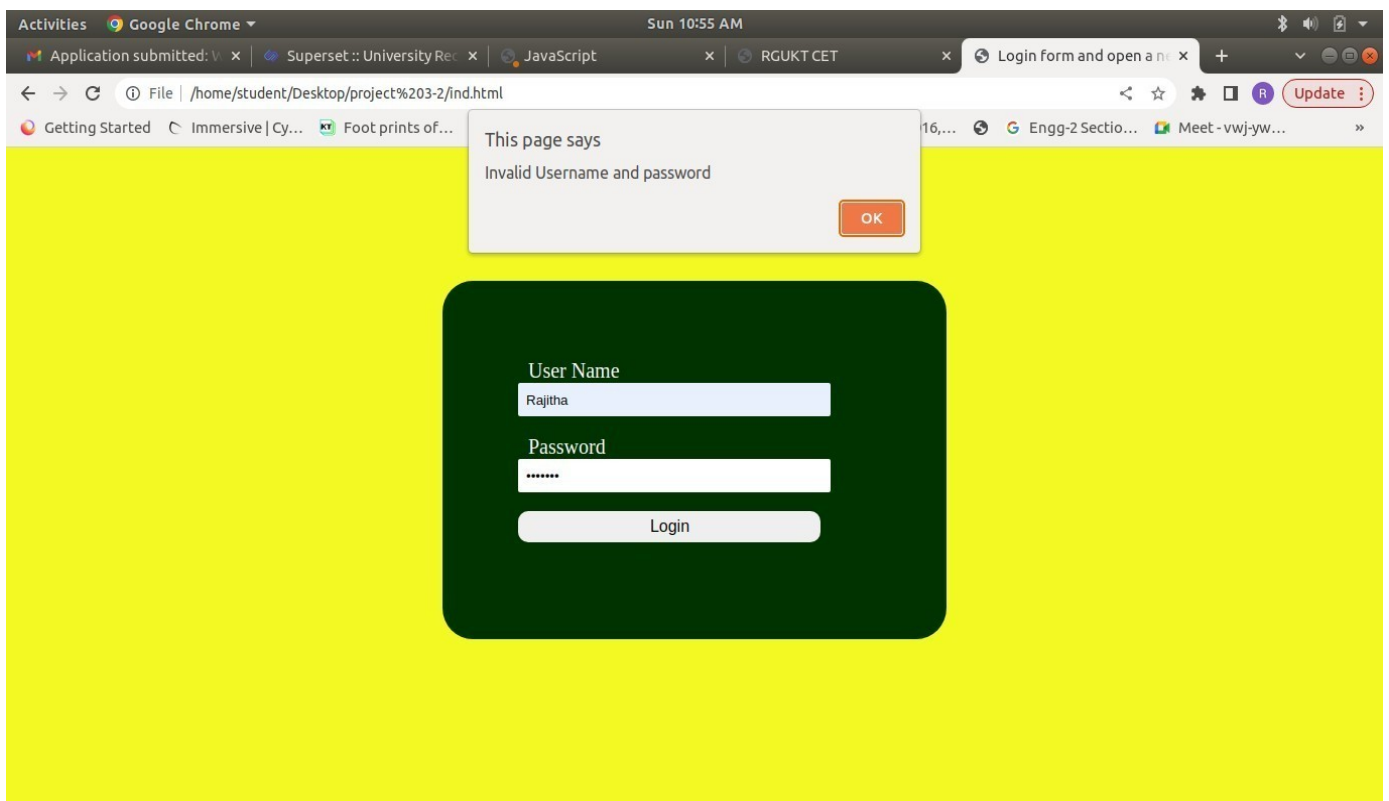
Question 20 of 20

SI unit of magnetic field strength is

A) Orested

B) Volt

C) Ampered

D) Ohm

Next

Application submitted: V ×   Superset :: University Re ×   JavaScript   ×   RGUKT CET   ×   maths.html   ×   +

File | /home/student/Desktop/project%203-2/maths.html   Update

Getting Started   Immersive | Cy...   Foot prints of...   16,...   Engg-2 Sectio...   Meet - vwj-yw...

This page says

Please select an option

OK

Question 1

The abscissa of the point of intersection of the less than type and of the more than type cumulative frequency curves of a grouped data gives its
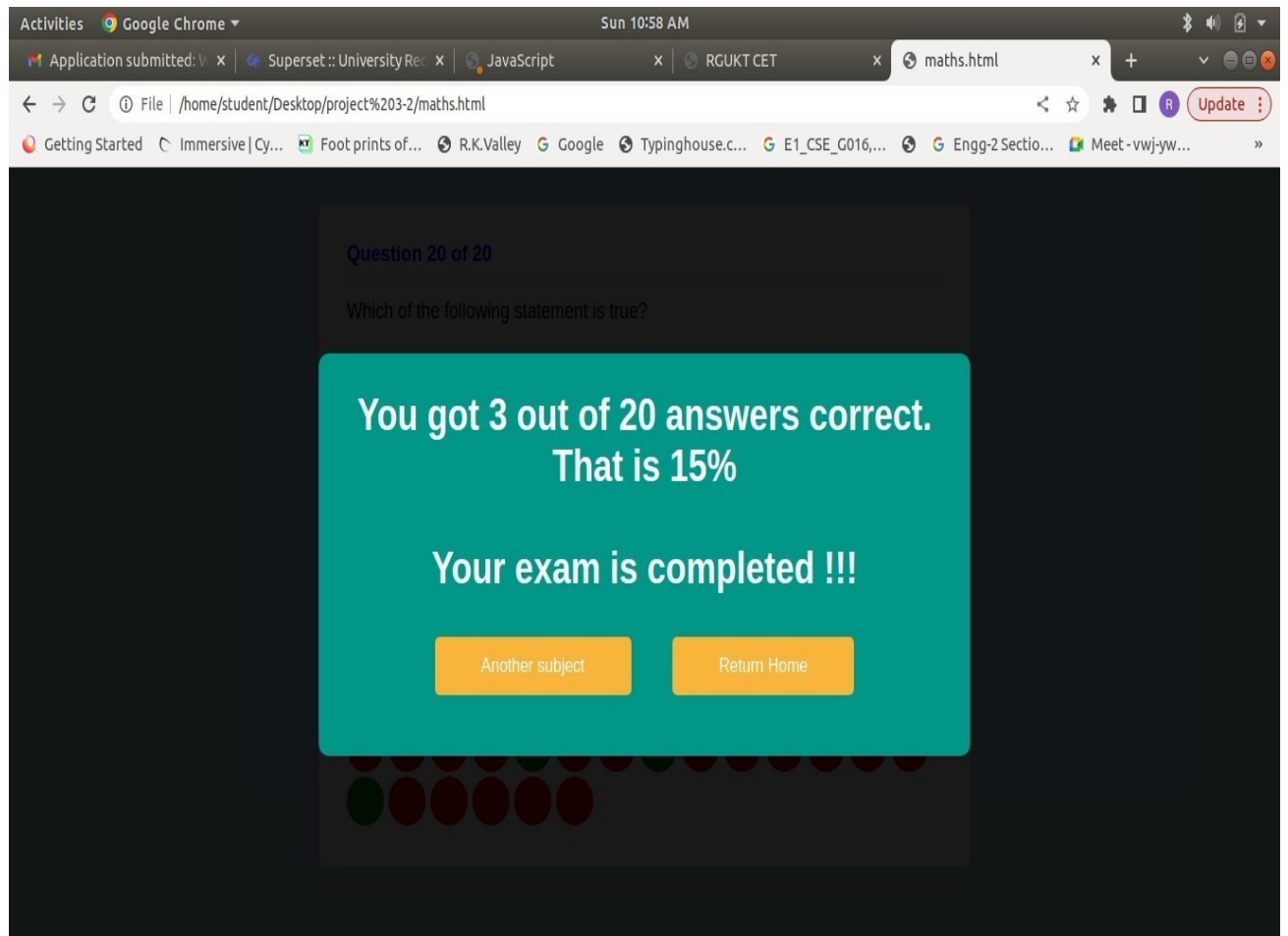
A) mean

B) median

C) mode

D) All of the above

Next

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Result and Return Page

Conclusion

Online Examination System is a user friendly system which is very easy and convinient to use.The system is complete.It is operational and it is tested by entering data getting the results write after the exam is completed and we can redirect to rest of examination and finally return to home.In order to complete the exam the student must attempt all the questions and to go to next question must attempt the current question. The order of questions will vary from student to student.There is always scope for improvement and enhancement in this project.

References

For HTML

https://www.w3schools.com/html

For CSS

https://www.w3schools.com/css

For JavaScript

https://www.w3schools.com/javascrpit

**************************THANKYOU*********************