# PROJECT REPORT ON QUIZMIND

SUBMITTED BY SNEHA LALJI YADAV

**SEAT NO: 737** 

PROJECT GUIDE MRS. NAFISA ANSARI

BSC. (COMPUTER SCIENCE) SEM -VI 2024 – 2025



# **CONDUCTED AT**

CHIKITSAK SAMUHA'S
S. S. & L.S. PATKAR COLLEGE OF ARTS & SCIENCE
AND

V. P. VARDE COLLEGE OF COMMERCE & ECONOMICS GOREGAON (W) MUMBAI -400062

#### Chikitsak Samuha's



Sir Sitaram and Lady Shantabai Patkar College of Arts and Science and

V. P. Varde College of Commerce and Economics

S.V.Road, Goregaon (West), Mumbai-400062, Maharashtra (India)

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# PROJECT CERTIFICATE

This is to certify that **Ms. Sneha** .L. Yadav of T.Y.B.SC. Computer Science with University Seat no 737 has completed her project titled "QUIZMIND" under the guidanceof Project Guide **Mrs. Nafisa Ansari** as laid by University of Mumbai in the college during the year 2024-2025.

Mrs. Nafisa Ansari	Mrs. Karishma Jain
Project Guide	B.Sc. Computer science
	Co-ordinator

#### **External Examiner**

Date:	

# **ACKNOWLEDGEMENT**

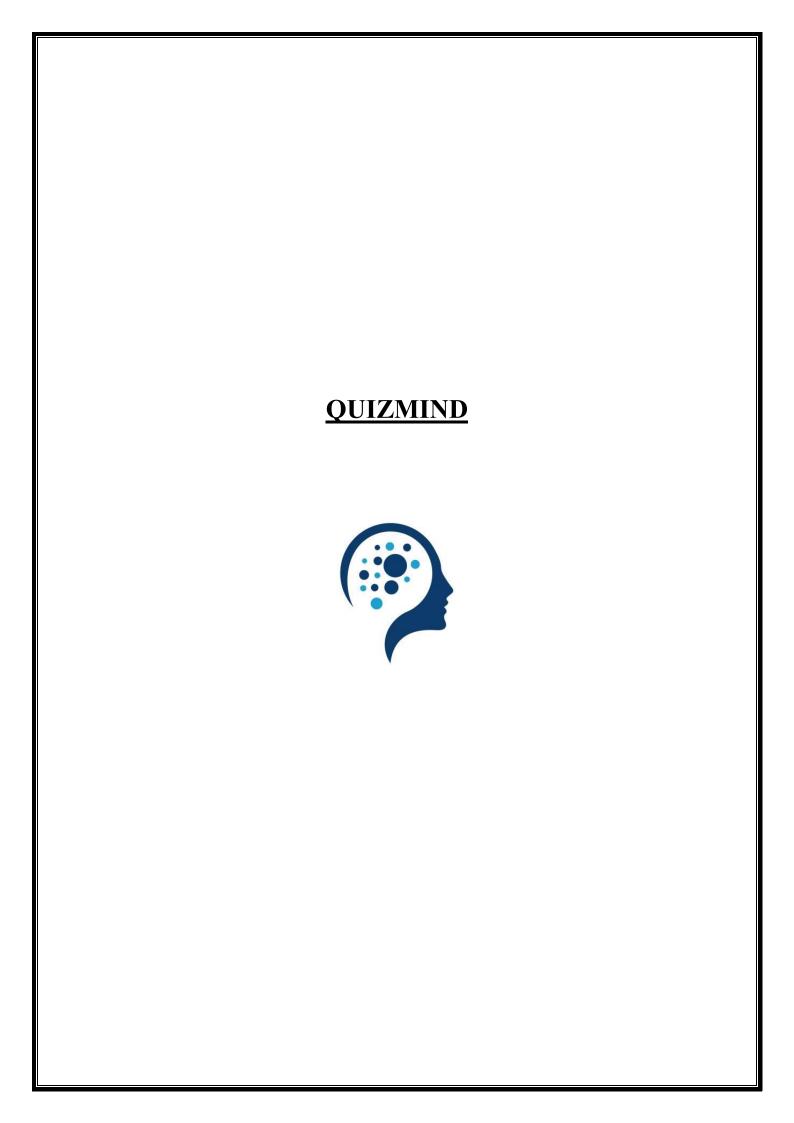
Every project big or small is successful, largely due to the effort of a number of wonderful people who have always given their valuable advice or have always lent a helping hand.

I take this opportunity of submitting this report to express my profound gratitude to the management of "S.S. & L.S. Patkar College of Science and Commerce" for giving me the opportunity to accomplish this project work. I am also thankful to all the teachers for their kind support and help.

I express my deepest gratitude towards my project guide Mrs. Nafisa Ansari for her valuable and timely advice during the various phases in my project. I express my sincere thanks to our respected Head of Department Mrs. Karishma Jain for us to use the facilities available.

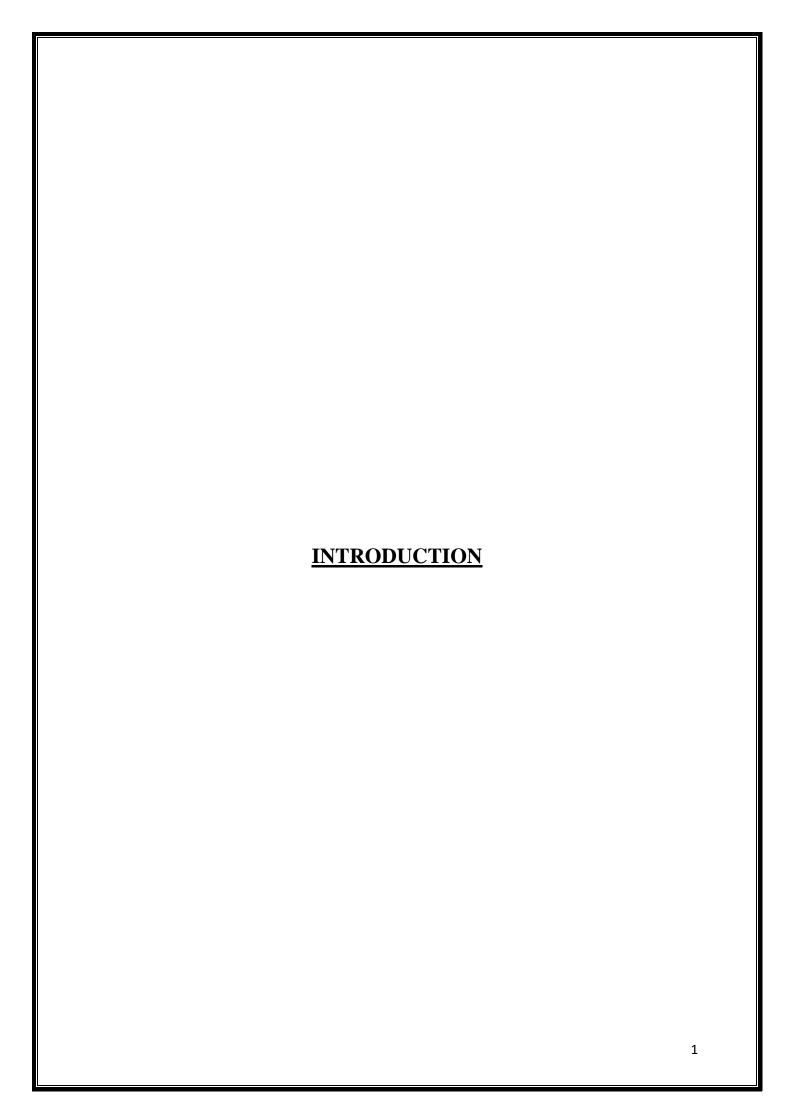
I would also like to thank all those unnamed but important people and Computer Lab Assistants and supportive staff who directly or indirectly helped me in the completion of this project and to my family and friends without whose support, motivation and encouragement this would not have been possible.

Thanking you, Sneha Lalji Yadav



# **INDEX**

Sr.	Contents	Page No.	
No.			
1	Introduction	1	
	1.1 Theoretical Background/ history	2	
	1.2 Objective	2	
	1.3 Scope, Purpose, Applicability	3	
2	Requirement Specification	4	
	2.1 Functional Requirement	5	
	2.2 Non-Functional Requirement	5	
	2.3 Hardware Requirement	6	
	2.4 Software Requirement	6	
3	System planning	7	
	Gantt Chart	8	
4	System Design details	9	
	4.1 Methodology Adopted	10	
	4.2 Architecture	11	
	4.3 UML Diagrams	12	
	4.3.1 Use-Case Diagram	12	
	4.3.2 Class Diagram	13	
	4.3.3 Activity Diagram	14	
	4.3.4 Sequence Diagram	15	
5	System Implementation: Code implementation	16 - 24	
6	Results	25	
	6.1 Test Cases	26	
	6.2 Screenshots	26 - 34	
7	Conclusion and Future Scope	35-36	
8	References	37	



#### 1.1. BACKGROUND:

- ➤ QuizMind have evolved with advancements in technology, internet access, and digital learning platforms. Traditionally, exams were conducted using paper-based methods, but with the rise of e-learning and remote education, online exams have become a reliable alternative.
- Modern QuizMind platforms offer features such as real-time monitoring, remote proctoring, question randomization, and instant result generation.
- > These systems are widely used in schools, universities, corporate training programs, and competitive exams.
- > Despite challenges related to security, cheating prevention, and accessibility, online exams continue to evolve with advanced AI-based surveillance, blockchain-based verification, and improved user experience.

#### 1.2. OBJECTIVE:

- Convenience & Accessibility: Enable candidates to take exams from any location using an internet-enabled device.
- ➤ **Automation & Efficiency:** Reduce manual effort in question paper creation, exam scheduling, and result processing.
- > Scalability: Support thousands of candidates simultaneously without compromising performance.
- **Cost-Effectiveness:** Minimize expenses related to printing, logistics, and manual grading.
- ➤ Customization & Flexibility: Allow different exam formats such as MCQs, descriptive answers, programming tests, and adaptive learning assessments.

## 1.3. SCOPE, PURPOSE, APPLICABILITY:

#### 1.3.1. SCOPE:

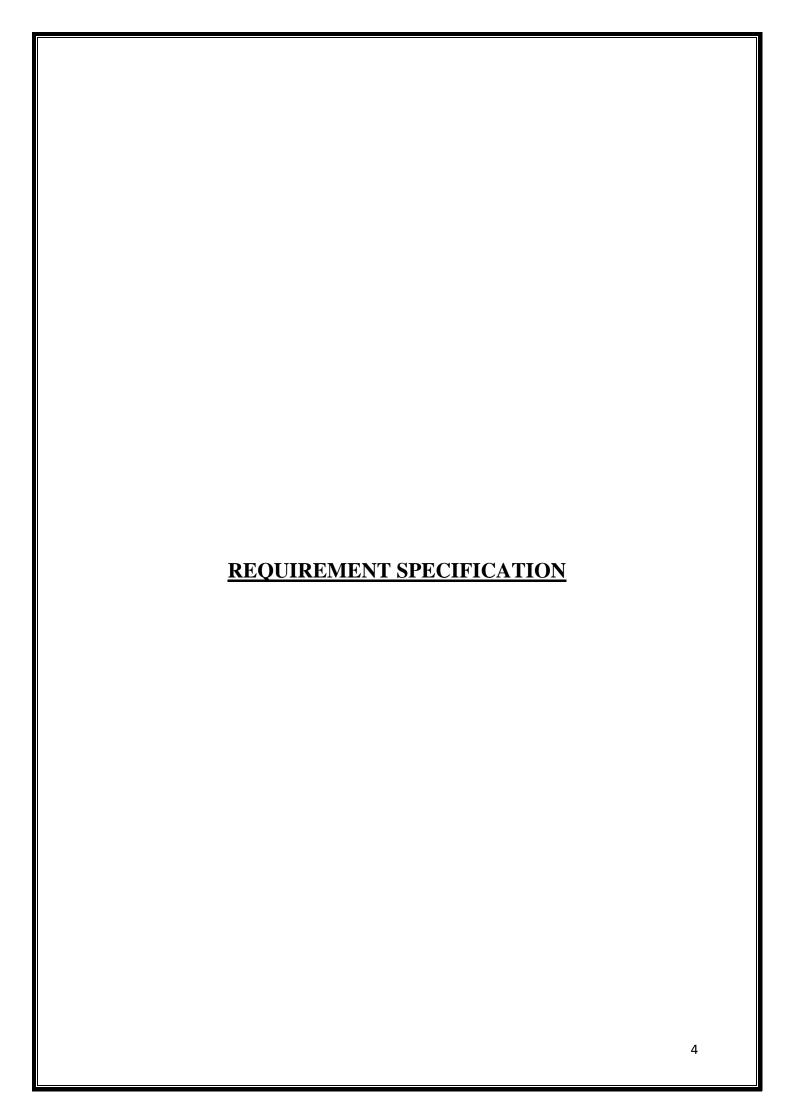
The QuizMind is a digital platform designed to facilitate the creation, management, and evaluation of examinations. It eliminates the need for physical test centers, enabling institutions, organizations, and educators to conduct exams remotely with enhanced security and efficiency.

#### **1.3.2.PURPOSE:**

- **Efficiency & Automation:** Streamlines the examination process by automating question paper creation, answer evaluation, and result generation.
- > **Symptom Assessment:** Help users evaluate their symptoms and guide them to the appropriate level of care.
- Accessibility & Convenience: Enables candidates to take exams from any location, eliminating geographical barriers.
- ➤ **Cost Reduction:** Minimizes costs associated with printing, distribution, and logistics of physical exams.

#### 1.3.3. APPLICABILITY:

- **Educational Institutions:** Schools, colleges, and universities use online exams for assessments, quizzes, and competitive entrance tests.
- **Corporate Sector:** Companies conduct online tests for employee training, certifications, and recruitment processes.
- ➤ Remote and Distance Learning: Online exams are essential for e-learning platforms, allowing students to take tests from anywhere.
- Automated Grading: Saves time for educators by instantly evaluating objective questions.



## **2.1. FUNCTIONAL REQUIREMENTS:**

The functional requirements of an QuizMind define the essential features and operations needed for the system to work efficiently. These requirements ensure that users (students, teachers, administrators) can perform their tasks smoothly within the system.

- ➤ **User Management:** Secure login, role-based access (students, teachers, admins), profile management.
- **Exam Management:** Create, edit, and schedule exams; question bank; randomization; time limits
- **Examination Process:** Secure login, live exam interface, auto-submission, answer validation.
- **Role-Based Access Control:** The system should have different user roles (e.g., admin, teacher, student).
- > Grading & Results: Automated/manual grading, result generation, ranking, feedback.

# **2.2. NON-FUNCTIONAL REQUIREMENTS:**

Non-functional requirements (NFRs) define the quality attributes, system constraints, and operational capabilities of an QuizMind.

- **Performance:** The system should process user requests within 2 seconds for optimal performance.
- > Scalability: The system should support an increase in users, data, and features without major architectural changes.
- **Availability:** 24/7 uptime with minimal downtime for maintenance.
- ➤ **Maintainability:** Easy updates and bug fixes without system disruption.
- **Data Integrity:** Prevent data loss and ensure accurate storage of exam results.
- > Compatibility: Works on Windows, Linux, macOS, Android (8+), and iOS (12+).
- **Usability:** Simple, intuitive UI for students, teachers, and admins.

## **2.3. HARDWARE REQUIREMENTS:**

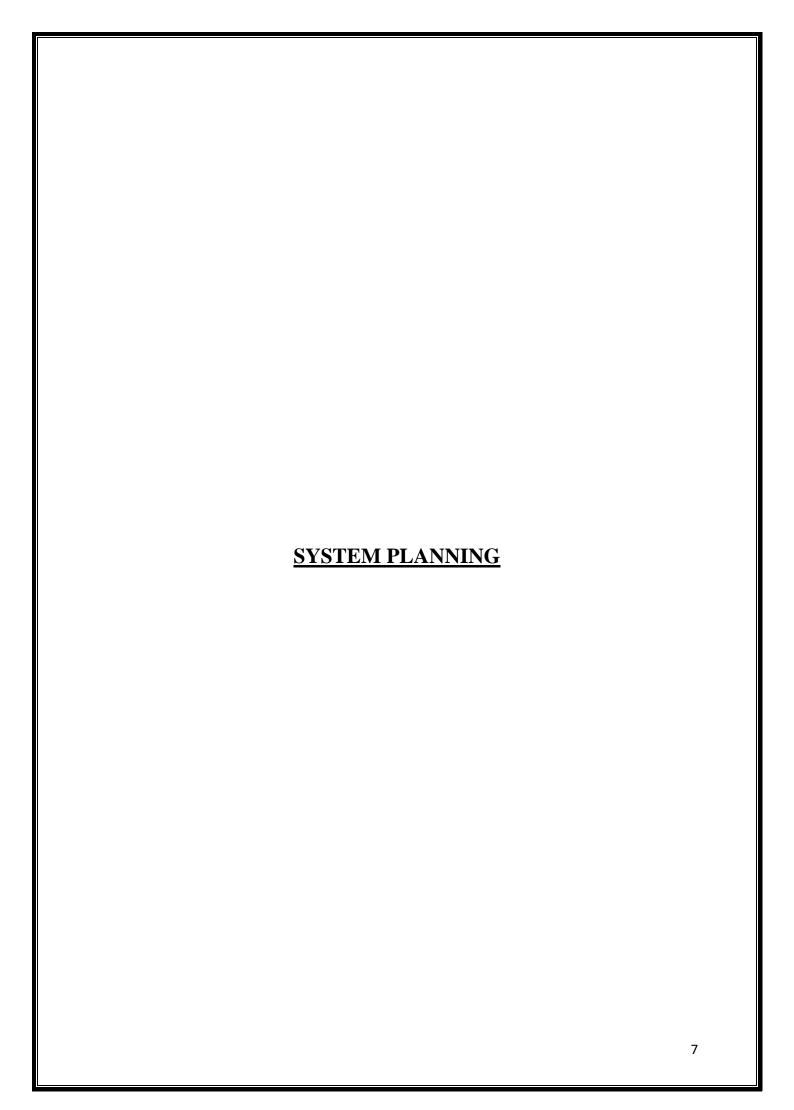
Hardware Requirements are the physical requirements needed to run the project.

- ➤ Operating System: Windows(compatible with Python IDLE, Visual Studio)
- **Processor :** Intel Core i3 or higher.
- > RAM (Memory): 4 GB or more.

# **2.4. SOFTWARE REQUIREMENTS:**

Software Requirements are those which don't take physical space but are virtually used for project functionality.

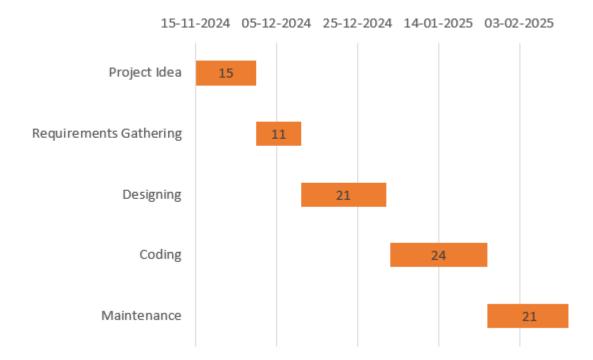
- ➤ Operating System: Windows, macOS, and Linux
- > **Software:** Visual Studio, Python
- > Back End: Django

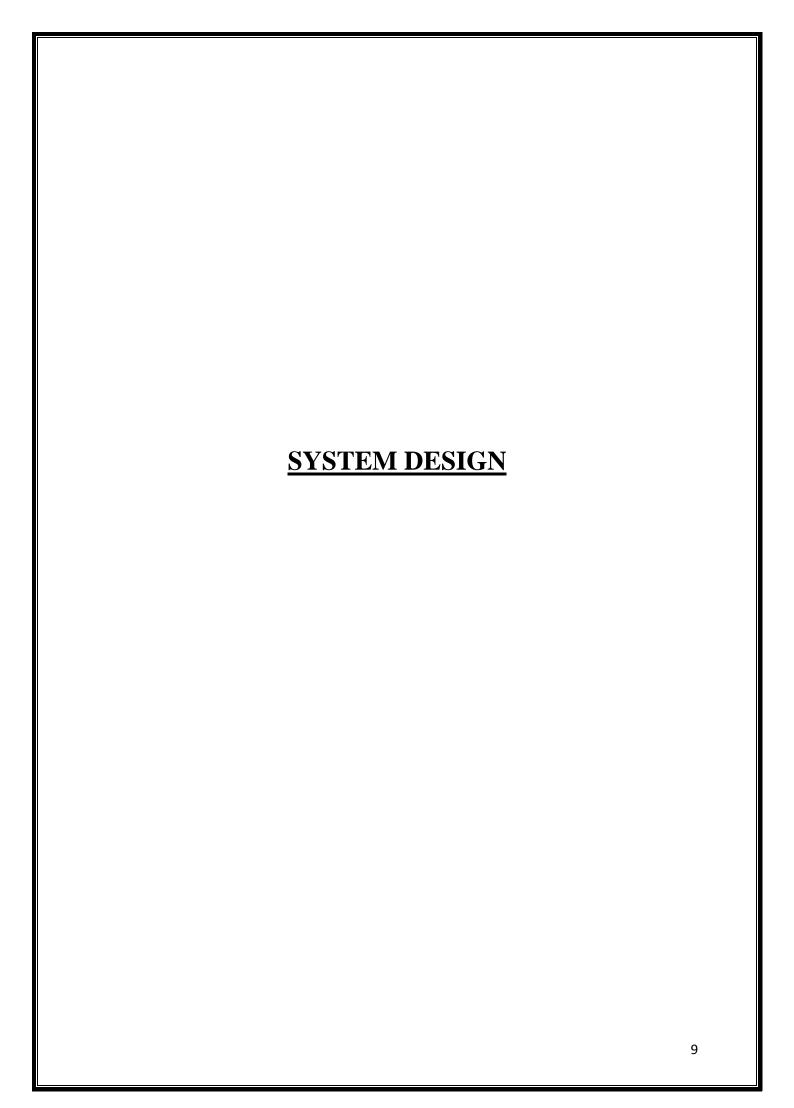


#### 3.1. Gantt Chart:

A Gantt chart is a comprehensive project management tool that provides a visual representation of a project's schedule over time that has become a fundamental instrument in planning, tracking, and managing projects across various industries.

Typically presented as a horizontal bar chart, a Gantt chart illustrates the project's tasks or activities along the timeline, with each task represented as a separate bar. These bars are positioned in such away that they reflect the start and end dates of each task, allowing project managers and team members to easily visualize task dependencies, durations, and the overall project timeline.





## 4.1. Methodology Adopted:

**Django :** Django is an excellent framework for developing a QuizMind, primarily due to its robustness and flexibility. It can serve as the backend for the data, providing a structured way to handle user queries through RESTful APIs. When a user interacts with the examination, the system can send requests to the Django backend, which processes the queries and returns appropriate responses based on user needs.

#### **Key Features:**

- **Rapid Development:** Built-in features for faster web development.
- **Security:** Protects against SQL Injection, XSS, CSRF, and more.
- > Scalability: Handles high traffic with caching and database optimization.
- > **Django ORM:** Simplifies database operations without writing raw SQL.
- ➤ MVT Architecture: Separates data, logic, and UI (Model-View-Template).
- Admin Panel: Auto-generated, customizable admin interface.

**datetime**: The datetime module in Python is essential for developing a QuizMind that involves time-sensitive interactions, such as timestamping user queries.

#### **Key Features:**

- > Store exam start & end time in a database.
- Allow administrators to schedule exams with a specific date and duration.
- Ensure time zone support for global candidates.

**os :** A QuizMind logging user interactions can be essential for tracking conversations. By using the os module .

#### **Key Features:**

- ➤ Manages multiple concurrent exam sessions.
- Ensures smooth execution of web servers and databases.

#### 4.2. Model Architecture:

**Recommended Software Architecture:** An Online Examination System requires a scalable and secure architecture to handle multiple users, real-time assessments, and result processing. Below is an ideal software architecture for an Online Examination System.

#### **Key Features:**

**Scalable Systems:** Separates services for authentication, exam management, user management, result processing, etc. Ensures better scalability and fault tolerance.

**Exam Management Module:** Stores different types of questions (MCQs, essays, coding challenges). Countdown timers and auto-submit.

Real-time Monitoring & Anti-Cheating: Monitors candidates during exams.

Result Processing & Reporting: MCQs auto-evaluated, subjective answers reviewed manually.

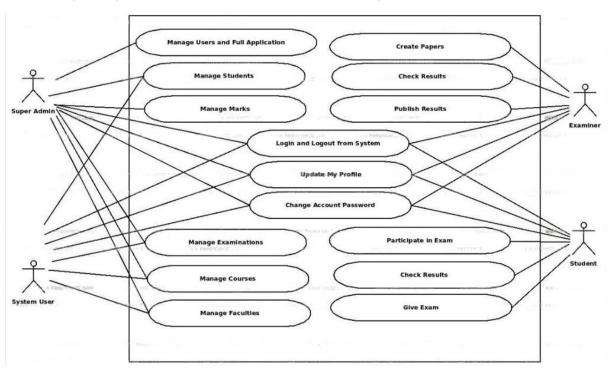


# 4.3. UML Diagrams:

A Unified Modeling Language (UML) diagram is a standardized graphical representation used in software engineering and system design to visually depict various aspects of a system. UML diagrams serve as a common language for communication among software developers, designers, and stakeholders

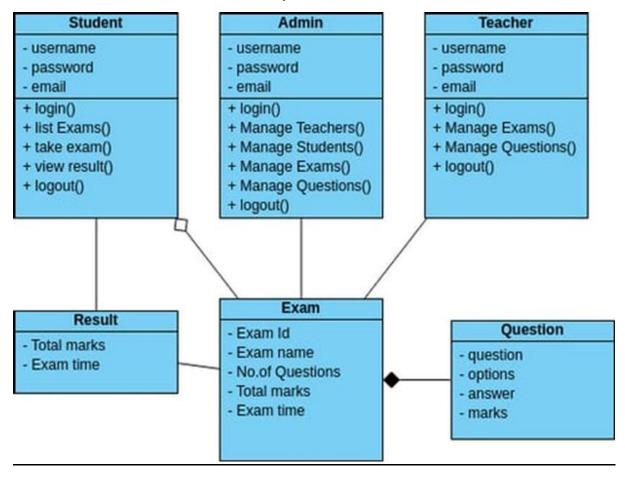
## 4.3.1. Use Case Diagram:

A use case diagram is used to represent the dynamic behaviour of a system. It encapsulates the system's functionality by incorporating use cases, actors, and their relationships. It models the tasks, services, and functions required by a system/subsystem of an application. It depicts the high-level functionality of a system and also tells how the user handles a system.



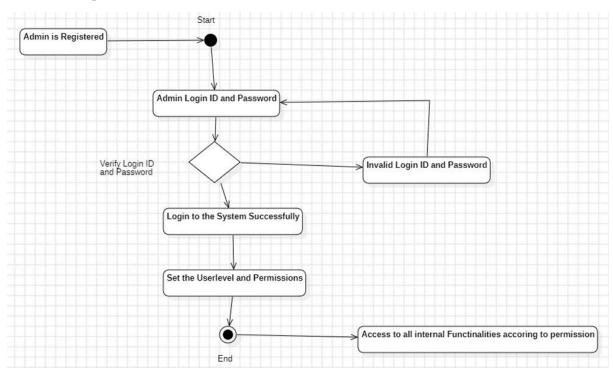
# 4.3.2. Class Diagram:

Class diagram is a graphical representation of the structure and relationships of classes within a software system. It provides a high-level view of the system's object-oriented design, showing the classes, their attributes, methods, and how they are related to each other.



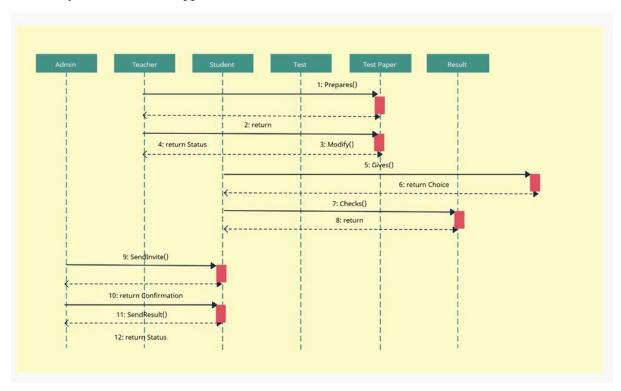
# 4.3.3. Activity Diagram:

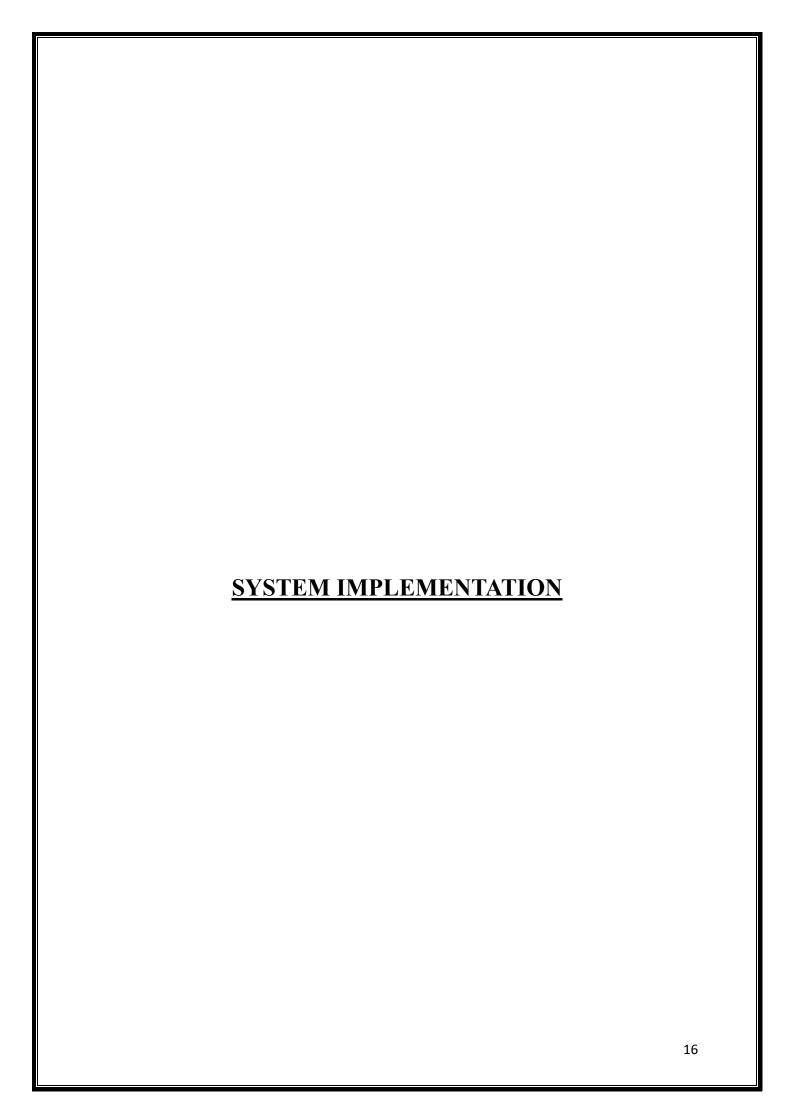
An activity diagram is a visual representation of a system's workflow, showing the sequential step sand decision points. It helps in understanding how different activities interact and depend on each other within a process.



# 4.3.4. Sequence Diagram:

A sequence diagram is a type of interaction diagram in UML (Unified Modeling Language) that illustrates the dynamic behaviour of a system or a part of a system over time. Sequence diagrams are primarily used to represent the interactions and collaborations among various objects or components within a system or software application .





## Manage.py:

```
#!/usr/bin/env python
"""Django's command-line utility for administrative tasks."""
import os
import sys
def main():
  os.environ.setdefault('DJANGO_SETTINGS_MODULE', 'onlinexam.settings')
    from django.core.management import execute_from_command_line
  except ImportError as exc:
    raise ImportError(
       "Couldn't import Django. Are you sure it's installed and "
       "available on your PYTHONPATH environment variable? Did you "
       "forget to activate a virtual environment?"
    ) from exc
  execute_from_command_line(sys.argv)
if __name__ == '__main__':
  main()
models.py:
from django.db import models
from django.contrib.auth.models import User
class Teacher(models.Model):
  user=models.OneToOneField(User,on_delete=models.CASCADE)
  profile_pic= models.ImageField(upload_to='profile_pic/Teacher/',null=True,blank=True)
  address = models.CharField(max_length=40)
  mobile = models.CharField(max_length=20,null=False)
  status= models.BooleanField(default=False)
  salary=models.PositiveIntegerField(null=True)
  @property
  def get_name(self):
    return self.user.first_name+" "+self.user.last_name
  @property
  def get_instance(self):
    return self
  def __str__(self):
    return self.user.first_name
```

## views.py:

```
from django.shortcuts import render,redirect,reverse
from . import forms, models
from django.db.models import Sum
from django.contrib.auth.models import Group
from django.http import HttpResponseRedirect
from django.contrib.auth.decorators import login_required,user_passes_test
from django.conf import settings
from datetime import date, timedelta
from exam import models as QMODEL
from student import models as SMODEL
from exam import forms as QFORM
#for showing signup/login button for teacher
def teacherclick_view(request):
  if request.user.is_authenticated:
    return HttpResponseRedirect('afterlogin')
  return render(request, 'teacher/teacherclick.html')
def teacher_signup_view(request):
  userForm=forms.TeacherUserForm()
  teacherForm=forms.TeacherForm()
  mydict={'userForm':userForm,'teacherForm':teacherForm}
  if request.method=='POST':
    userForm=forms.TeacherUserForm(request.POST)
    teacherForm=forms.TeacherForm(request.POST,request.FILES)
    if userForm.is_valid() and teacherForm.is_valid():
       user=userForm.save()
       user.set_password(user.password)
       user.save()
       teacher=teacherForm.save(commit=False)
       teacher.user=user
       teacher.save()
       my_teacher_group = Group.objects.get_or_create(name='TEACHER')
       my_teacher_group[0].user_set.add(user)
    return HttpResponseRedirect('teacherlogin')
  return render(request, 'teacher/teachersignup.html',context=mydict)
def is teacher(user):
  return user.groups.filter(name='TEACHER').exists()
@login_required(login_url='teacherlogin')
@user passes test(is teacher)
def teacher_dashboard_view(request):
  dict={
  'total_course':QMODEL.Course.objects.all().count(),
  'total_question':QMODEL.Question.objects.all().count(),
  'total_student':SMODEL.Student.objects.all().count()
  return render(request, 'teacher/teacher_dashboard.html',context=dict)
```

```
@login_required(login_url='teacherlogin')
@user_passes_test(is_teacher)
def teacher_exam_view(request):
  return render(request, 'teacher/teacher_exam.html')
@login_required(login_url='teacherlogin')
@user_passes_test(is_teacher)
def teacher_add_exam_view(request):
  courseForm=QFORM.CourseForm()
  if request.method=='POST':
    courseForm=QFORM.CourseForm(request.POST)
    if courseForm.is_valid():
       courseForm.save()
    else:
       print("form is invalid")
    return HttpResponseRedirect('/teacher/teacher-view-exam')
  return render(request, 'teacher/teacher_add_exam.html', { 'courseForm':courseForm})
@login required(login url='teacherlogin')
@user_passes_test(is_teacher)
def teacher_view_exam_view(request):
  courses = QMODEL.Course.objects.all()
  return render(request,'teacher/teacher_view_exam.html',{'courses':courses})
@login_required(login_url='teacherlogin')
@user_passes_test(is_teacher)
def teacher_view_exam_videos_view(request):
  results = QMODEL.Result.objects.all()
  return render(request, 'teacher/teacher_view_exam_videos.html', { 'results': results})
@login_required(login_url='teacherlogin')
@user_passes_test(is_teacher)
def delete_exam_view(request,pk):
  course=QMODEL.Course.objects.get(id=pk)
  course.delete()
  return HttpResponseRedirect('/teacher/teacher-view-exam')
@login_required(login_url='adminlogin')
def teacher_question_view(request):
  return render(request, 'teacher/teacher_question.html')
@login required(login url='teacherlogin')
@user_passes_test(is_teacher)
def teacher_add_question_view(request):
  questionForm=QFORM.QuestionForm()
  if request.method=='POST':
    questionForm=QFORM.QuestionForm(request.POST)
    if questionForm.is_valid():
       question=questionForm.save(commit=False)
      course=QMODEL.Course.objects.get(id=request.POST.get('courseID'))
```

```
question.course=course
       question.save()
     else:
       print("form is invalid")
    return HttpResponseRedirect('/teacher/teacher-view-question')
  return render(request, 'teacher/teacher_add_question.html', { 'questionForm':questionForm})
@login_required(login_url='teacherlogin')
@user_passes_test(is_teacher)
def teacher_view_question_view(request):
  courses= QMODEL.Course.objects.all()
  return render(request, 'teacher/teacher_view_question.html', { 'courses':courses })
@login_required(login_url='teacherlogin')
@user_passes_test(is_teacher)
def see_question_view(request,pk):
  questions=QMODEL.Question.objects.all().filter(course_id=pk)
  return render(request, 'teacher/see_question.html', { 'questions':questions })
@login_required(login_url='teacherlogin')
@user_passes_test(is_teacher)
def remove_question_view(request,pk):
  question=QMODEL.Question.objects.get(id=pk)
  question.delete()
  return HttpResponseRedirect('/teacher/teacher-view-question')
```

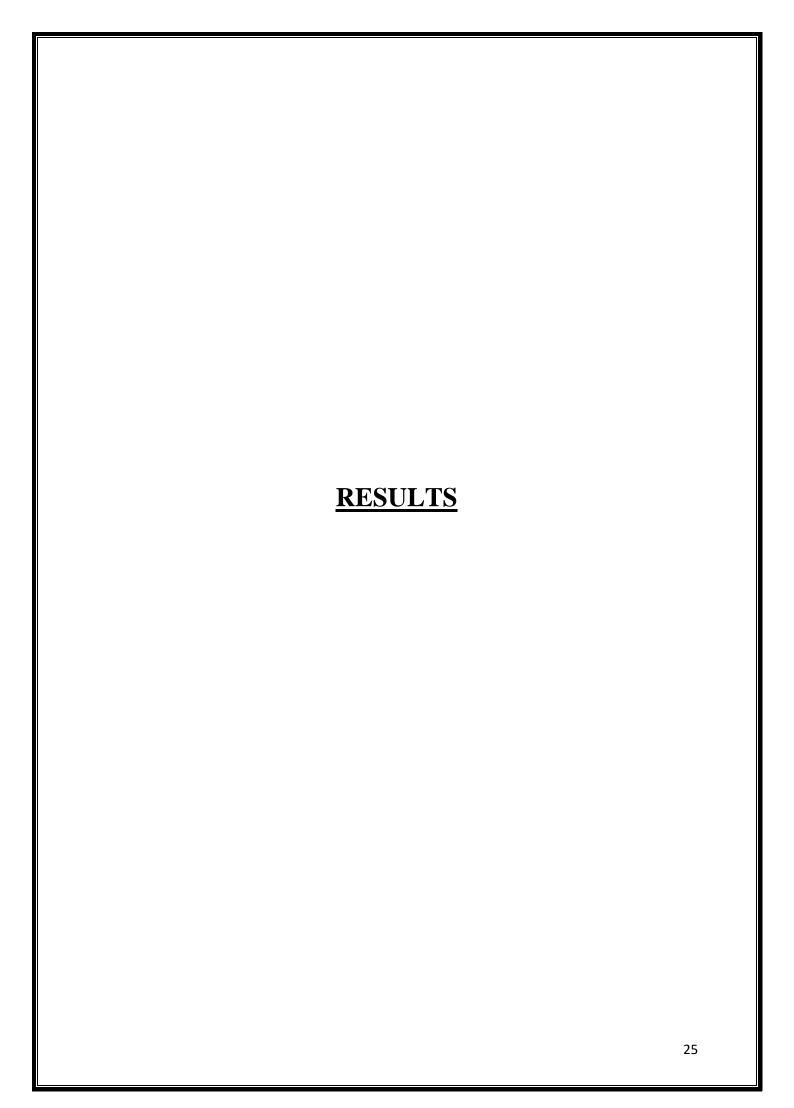
# Student dashboard.html:

```
<script src="https://ajax.googleapis.com/ajax/libs/jquery/1.10.2/jquery.min.js"></script>
  k href="http://netdna.bootstrapcdn.com/bootstrap/4.0.0-beta/css/bootstrap.min.css"
rel="stylesheet">
  <link rel="stylesheet"</pre>
href="https://maxcdn.bootstrapcdn.com/bootstrap/4.4.1/css/bootstrap.min.css">
  k href="https://maxcdn.bootstrapcdn.com/font-awesome/4.3.0/css/font-awesome.min.css"
rel="stylesheet">
  <style type="text/css">
   a:link {
    text-decoration: none;
    }
   .order-card {
    color: rgb(255, 255, 255);
    }
   .bg-c-blue {
    background: #04868f;
    }
   .bg-c-green {
    background:#4C51BF;
   }
   .bg-c-yellow {
    background: #F56565;
    }
   .bg-c-pink {
    background: #663a30;
    }
   .card {
     -webkit-box-shadow: 0 1px 2.94px 0.06px rgba(4, 26, 55, 0.16);
     box-shadow: 0 1px 2.94px 0.06px rgba(4, 26, 55, 0.16);
     margin-bottom: 30px;
     -webkit-transition: all 0.3s ease-in-out;
     transition: all 0.3s ease-in-out;
   .card .card-block {
    padding: 25px;
    }
   .order-card i {
    font-size: 26px;
    }
   .f-left {
```

```
float: left;
   }
   .f-right {
    float: right;
   header {
   left: 0px;
   right: 0px;
  </style>
 </head>
<br>><br>>
 <div class="container">
  <div class="row">
   <div class="col-md-4 col-xl-6">
    <div class="card bg-c-blue order-card">
     <div class="card-block">
      <h6 class="m-b-20">Available Exams</h6>
      <h2 class="text-right"><i class="fas fa-book f-left"></i><span>{{total_course}}</span></h2>
     </div>
    </div>
   </div>
   <div class="col-md-4 col-xl-6">
    <div class="card bg-c-yellow order-card">
     <div class="card-block">
      <h6 class="m-b-20">Total Questions</h6>
      <h2 class="text-right"><i class="fas fa-question-circle f-
left"></i><span>{{total_question}}</span></h2>
     </div>
    </div>
   </div>
  </div>
 </div>
<script src="http://netdna.bootstrapcdn.com/bootstrap/4.0.0-beta/js/bootstrap.min.js"></script>
{% endblock content %}
```

#### Take.html:

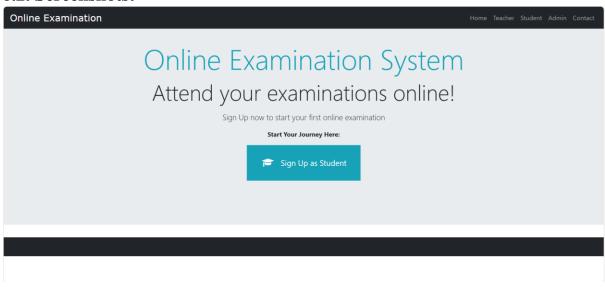
```
{ % extends 'student/studentbase.html' % }
{% block content %}
{ %load static % }
<head>
k href="//netdna.bootstrapcdn.com/bootstrap/3.0.0/css/bootstrap.min.css" rel="stylesheet"
id="bootstrap-css">
<script src="//netdna.bootstrapcdn.com/bootstrap/3.0.0/js/bootstrap.min.js"></script>
<script src="//code.jquery.com/jquery-1.11.1.min.js"></script>
</head>
<br>><br>>
<div class="container my-4">
 <div class="jumbotron">
    <div class="row">
     <div class="card border-info mx-4 my-4">
        <div class="card-body text-default">
          <h4 class="card-title">Exam Details :</h4>
          Course : {{course_name}}
              Total Question : {{total_questions}}
              Total Marks : {{total_marks}}
            <h4 class="card-title">Rules :</h4>
          All questions are MCQ (multiple choice question)
              <span class="text-danger">Only one choice is correct among the
given.</span>
              Every question carry different marks.
              Try to answer ASAP.
              If you PRESS refresh or go back to the previous page, there will be a new
question for you and the question you were on will be counted as number of attempts.
              Questions are presented randomly.
              You will be able to view marks immediately once after you submit the
answer.
            <a href="{% url 'start-exam' course.id %}" class="btn btn-success" style="border-
radius:0px;">Enter Examination</a>
        </div>
```

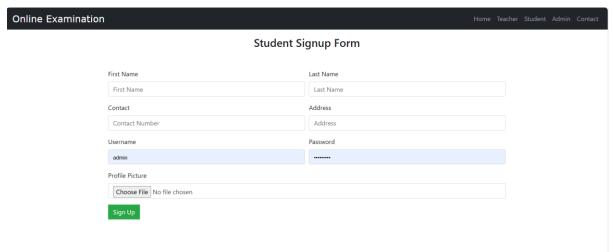


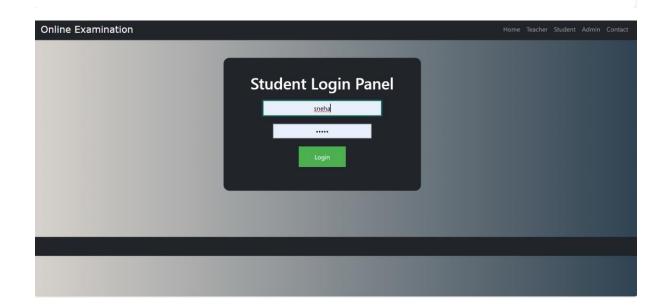
# 6.1. Test Cases:

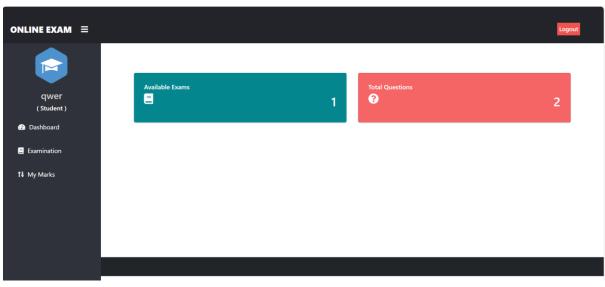
SR.	TEST CASES	EXPECTED	STATUS	OUTPUT	TEST
NO		RESULTS			RESULT
1.	Open QuizMind	After running the code, the QuizMind will be open.	Performed	QuizMind open	SUCCESS
2.	Create An Account	Enter the first name username, email and password for the registration	Performed	Successfully Created	SUCCESS
3.	Login	Enter the username and password	Performed	Successfully Login	SUCCESS
4.	Examination	Select The attend exam	Performed	Exam Will Start	SUCCESS
5.	My Marks	Select The View Marks	Performed	Display The Marks	SUCCESS
6.	Admin Login	Enter User Name and Password	Performed	Admin Panel Open	SUCCESS
7.	Add Course	Enter Course Name, total question And marks	Performed	Successfully added	SUCCESS
8.	Add Question	Enter Question and marks and option	Performed	Successfully added	SUCCESS
9.	Delete Question	Go to the Admin dashboard in click Available question	Performed	Delete Question show	SUCCESS
10.	Check Course	In dashboard click check course	Performed	Click Course will be view	SUCCESS

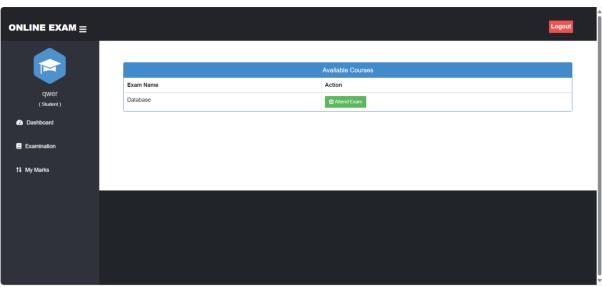
## **6.2. Screenshots:**

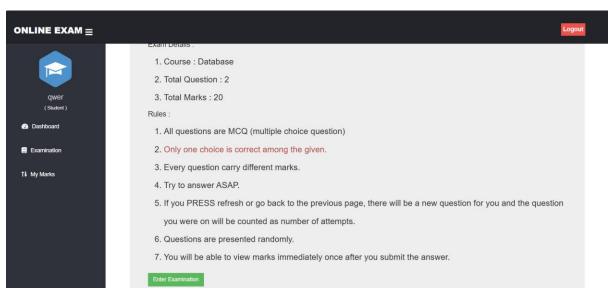


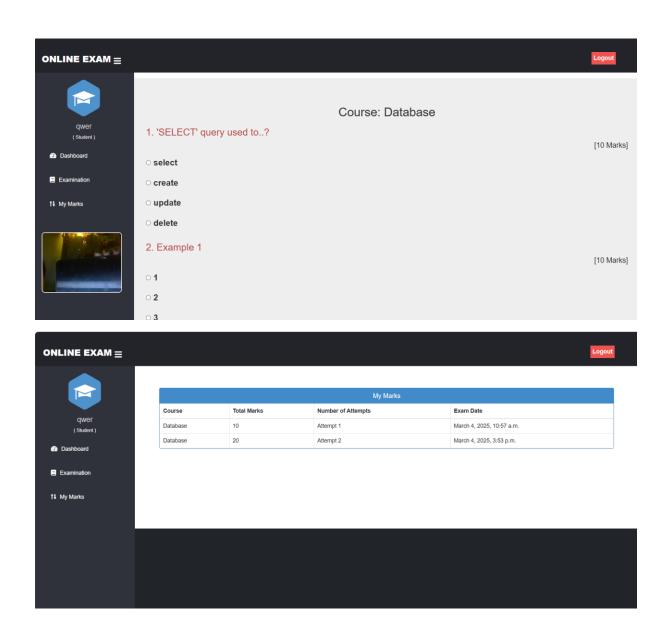


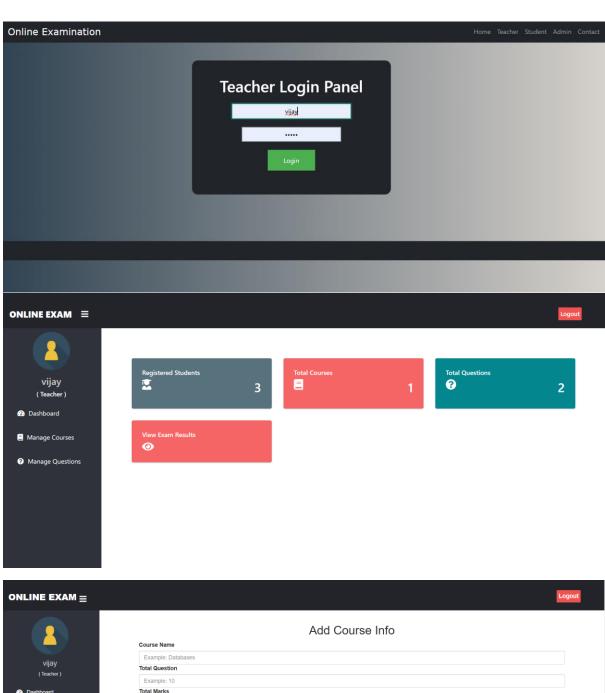


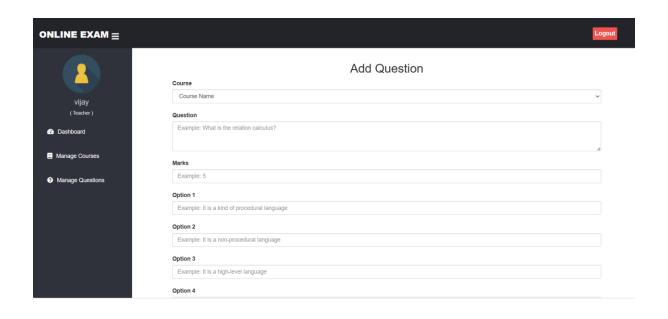


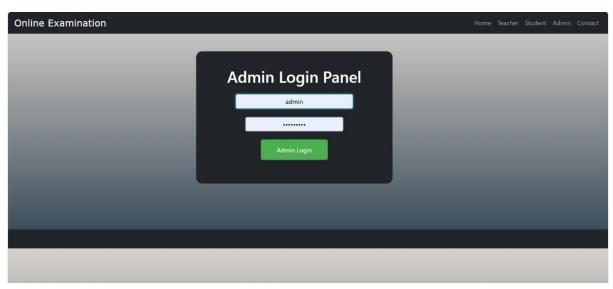


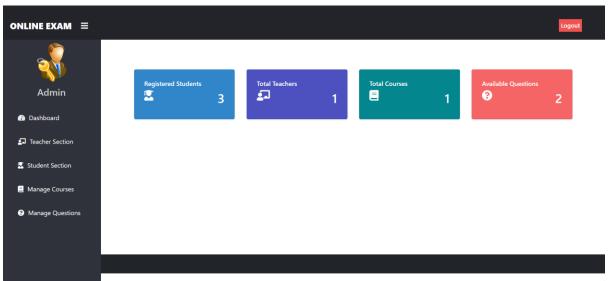


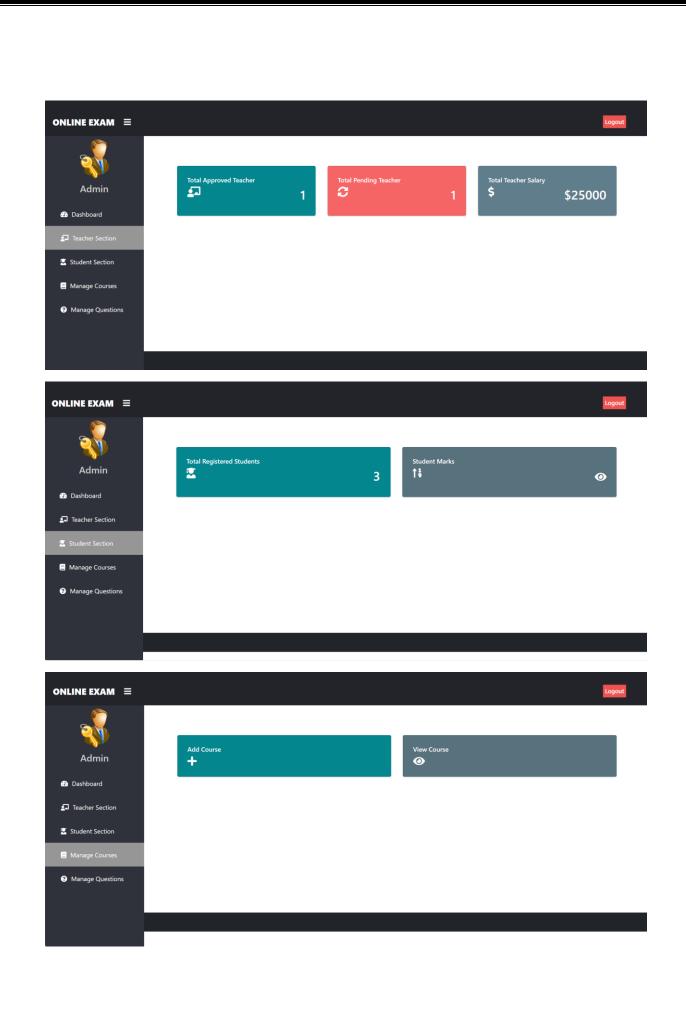


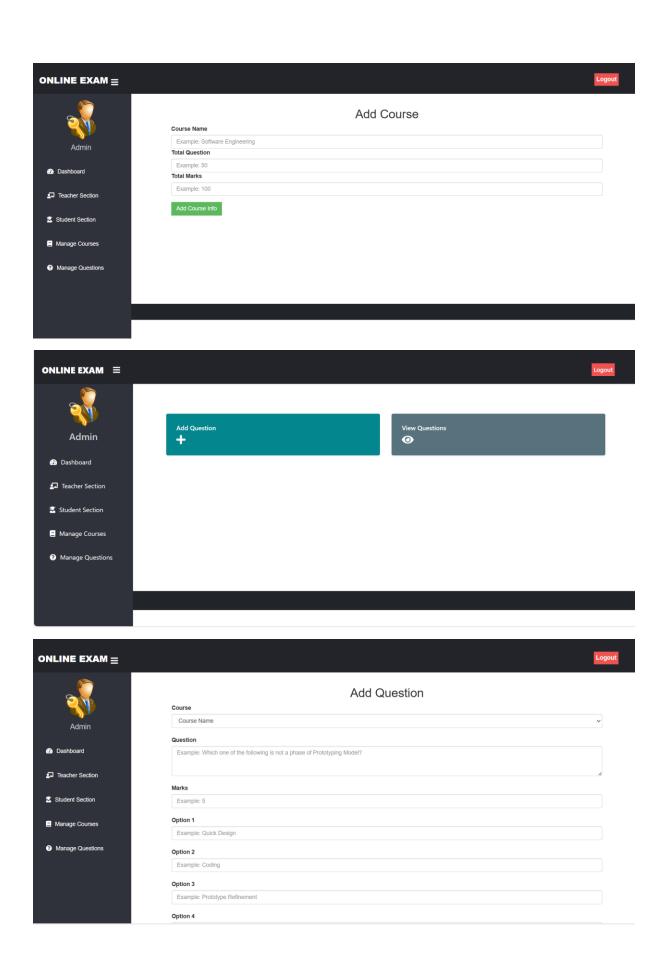






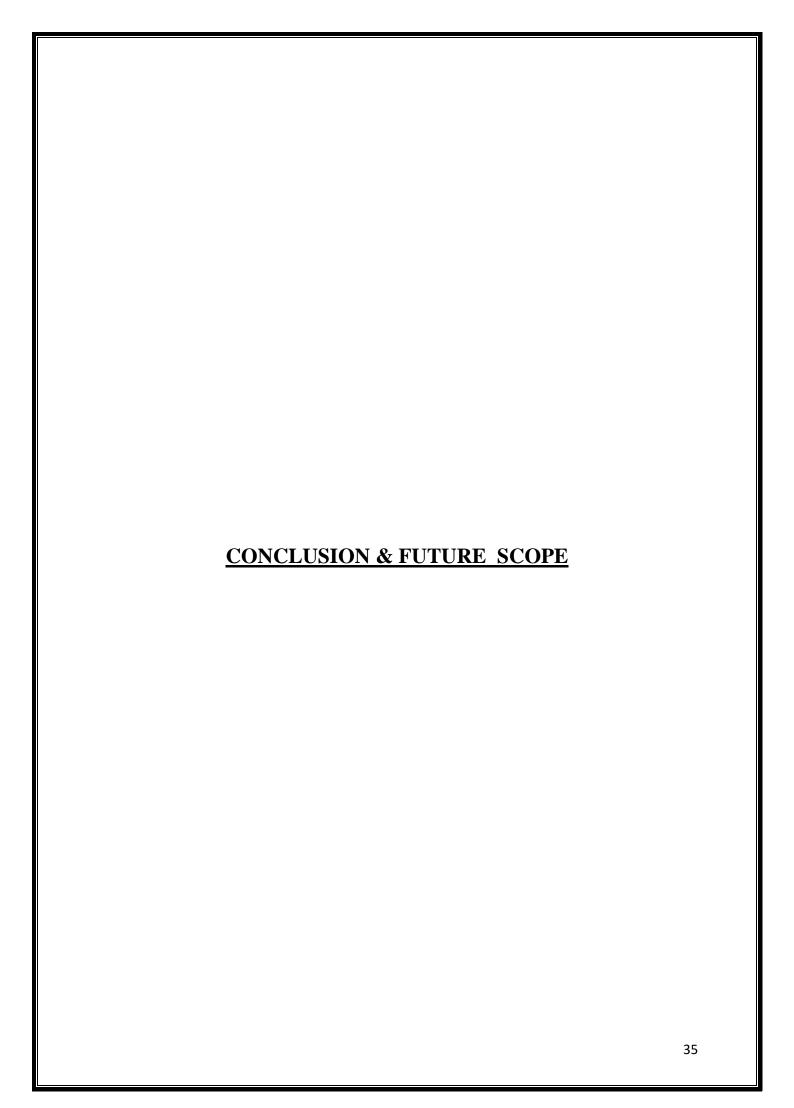






Online Examination Home Teacher Student Admin Contact

Logged Out Successfully. Thank you for using our system!



#### 7.1. Conclusion:

The QuizMind is a modern, technology-driven solution that transforms the traditional examination process by offering efficiency, security, and accessibility. It reduces the dependency on physical infrastructure, minimizes administrative burdens, and ensures a seamless experience for both students and examiners.

The system enables automated question generation, secure authentication, instant result processing, and real-time monitoring, making it a reliable and scalable approach for conducting exams in educational institutions, recruitment processes, and certification programs.

The QuizMind is a game-changer in the education and assessment industry. It not only simplifies exam administration but also enhances the fairness, transparency, and effectiveness of the evaluation process. With continuous advancements in AI, cloud computing, and cybersecurity, the system will continue to evolve, making digital exams more intelligent, secure, and widely accepted across various sectors.

# 7.2. Future Scope:

The QuizMind is continuously evolving with advancements in technology, making it more secure, efficient, and user-friendly.

**AI-Powered Proctoring:** Facial recognition, eye tracking, and behaviour analysis to prevent cheating.

**Blockchain-Based Security:** Tamper-proof result storage and instant certificate verification.

**Adaptive Testing:** AI-driven personalized exams based on real-time performance.

Cloud Scalability: Supports thousands of candidates simultaneously with auto-save features.

**IoT & Biometric Authentication:** Fingerprint and retina scanning for secure login.

LMS & API Integration: Seamless connection with learning platforms for continuous assessment.

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