MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE
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NAAC Accredited with A++ Grade

Project Report

on

DEVELOPMENT OF LEARNING MANAGEMENT SYSTEM

Submitted By:
Ram Kumar Rajawat
(0901CA221050)

Industry Mentor:
Vishal Jain (Project Manager, Numeric Info System Private Limited)

Faculty Mentor:
Dr. Anshu Chaturvedi (Professor)

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE
Gwalior – 474005(MP) estd.1957
JAN – JUNE 2024

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A project report submitted in partial fulfilment of the requirement for the degree of

MASTER IN COMPUTER APPLICATION

In

COMPUTER SCIENCE AND ENGINEERING

Submitted By:
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(0901CA221050)

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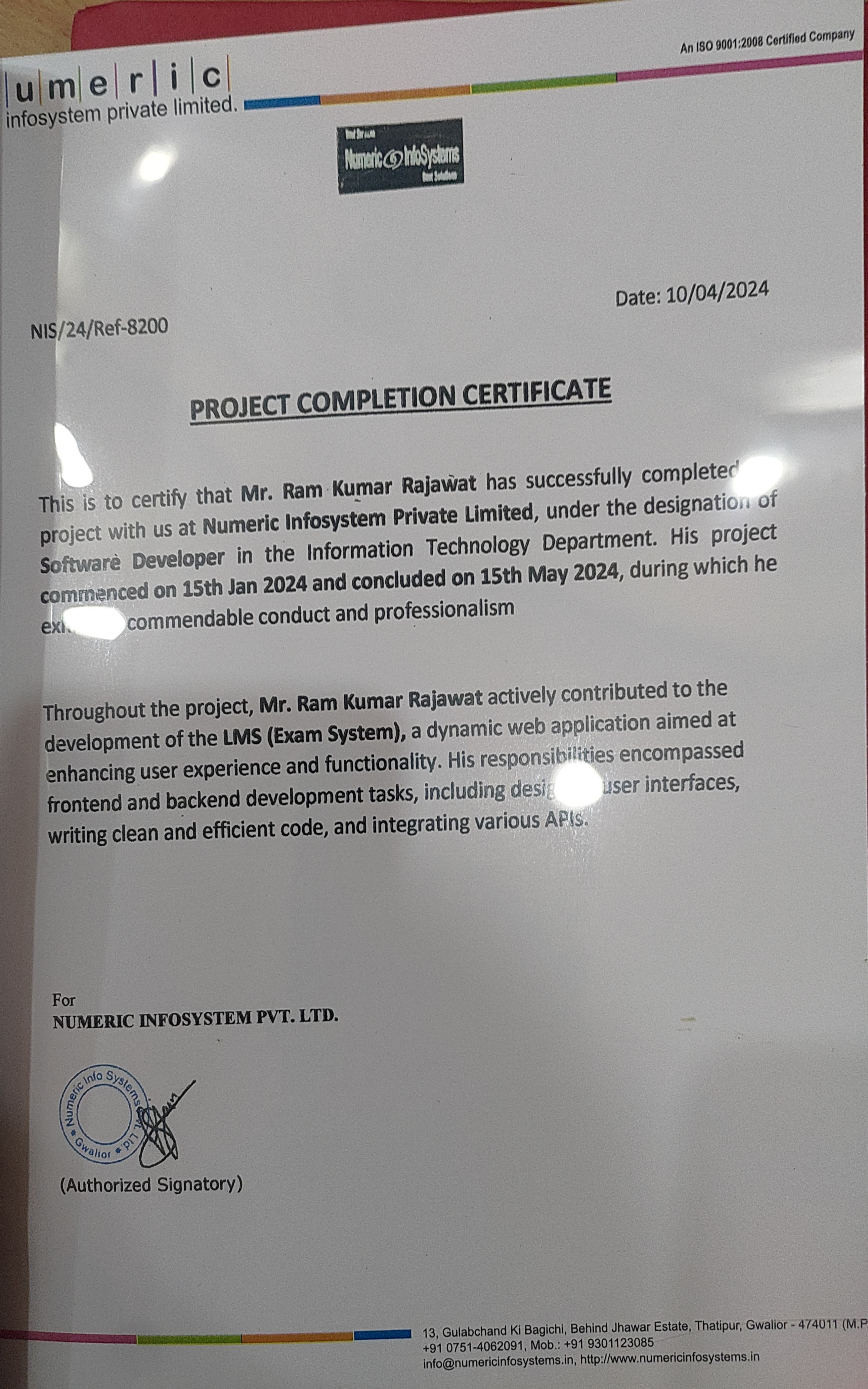

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Numeric InfoSystems

NIS/24/Ref-8200

Date: 10/04/2024

PROJECT COMPLETION CERTIFICATE

This is to certify that **Mr. Ram Kumar Rajawat** has successfully completed project with us at **Numeric Infosystem Private Limited**, under the designation of **Software Developer** in the Information Technology Department. His project **commenced on 15th Jan 2024 and concluded on 15th May 2024**, during which he ex[illegible] commendable conduct and professionalism

Throughout the project, **Mr. Ram Kumar Rajawat** actively contributed to the development of the **LMS (Exam System)**, a dynamic web application aimed at enhancing user experience and functionality. His responsibilities encompassed frontend and backend development tasks, including desig[illegible] user interfaces, writing clean and efficient code, and integrating various APIs.

For
NUMERIC INFOSYSTEM PVT. LTD.

(Authorized Signatory)

13, Gulabchand Ki Bagichi, Behind Jhawar Estate, Thatipur, Gwalior - 474011 (M.P
+91 0751-4062091, Mob.: +91 9301123085
info@numericinfosystems.in, http://www.numericinfosystems.in

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CERTIFICATE

This is to certified that Ram Kumar Rajawat (0901CA221050) has submitted the project report titled **Learning Management System** under the mentorship of Mr. Vishal Jain in partial fulfilment of the requirement for the award of degree of **Master in Computer Application** of Computer Science and Engineering **from Madhav Institute of Technology and Science, Gwalior**.

Dr. Anshu Chaturvedi
(Professor)
Computer Science and Engineering

24/4/24
Dr. Manish Dixit
(Professor and Head)
Computer Science and Engineering

Dr. Manish Dixit
Professor & HOD
Department of CSE
M.I.T.S. Gwalior

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DECLARATION

I hereby declare that the work being presented in this project report, for the partial fulfilment of requirement for the award of the degree of Master in Computer Application in Computer Science and Engineering at **Madhav Institute of Technology & Science, Gwalior** is an authenticated and original record of my work under the mentorship of **Mr. Vishal Jain**(Numeric Info System Pvt Ltd).

I declare that I have not submitted the matter embodied in this report for the award of any degree or diploma anywhere else.

Rajawat

Ram Kumar Rajawat
0901CA221050
2022-24,
Master in Computer Application,
Computer Science and Engineering

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The Full semester project has proved to be pivotal to my career. I am thankful to my institute, **Madhav Institute of Technology and Science** to allow me to continue my disciplinary project. I extend my Gratitude to the director of the institute, **Dr. R.K. Pandit** and Dean Academics, **Dr. Manjaree Pandit** for this.

I would sincerely like to thank my department, **Department of Computer Science and Engineering** for allowing me to explore this project. I humbly thank **Dr. Manish Dixit**, Professor and head, Department of computer Science and Engineering, for his continued support during the course of this engagement, which eased the process and formalities involved.

I would like to extend my heartfelt appreciation to **Mr. Vishal Jain** Project Manager for their exceptional mentorship, guidance and assistance throughout the project. Their valuable inputs and feedback have helped me enhance my knowledge and skills. Their constant encouragement and support have been instrumental in the successful completion of this project.

I am sincerely thankful to my faculty coordinator. I am grateful to the guidance of **Dr. Anshu Chaturvedi**, Professor, Computer Science and Engineering, for her continued support and guidance throughout this project. I also very thankful to the faculty and staff of the department.

Rajawat

Ram Kumar Rajawat
0901CA221050
2022-24,
Master in Computer Application,
Computer Science and Engineering

Abstract

LMS (Learning Management System) is an innovative online educational platform tailored specifically for technical students. This dynamic project aims to create an interactive space for internship opportunities and exam preparation, consolidating various educational resources into one comprehensive portal. The primary goal is to offer online courses, company tests, internships, and improved job prospects within a single platform. The essence of the LMS educational web portal lies in digitizing the education system, known as E-Learning, catering to instructors, students, and particularly those aspiring for internships and job placements.

The LMS educational web portal serves as an online hub providing multiple courses, internship opportunities, multinational company quizzes, and various course quizzes, empowering students to enhance their technical prowess. The project consists of the admin module and the user module as its two main modules. In the admin module, sub- modules such as courses, quizzes, and internships are incorporated, allowing instructors to add products showcased on the portal. Each product features a range of exams, categorized into company tests, further divided into service-based and product-based company tests. Exams are structured with multiple units, each accompanied by separate assignments, meticulously managed by instructors.

Technologically, the project leverages cutting-edge tools. React JS, a widely acclaimed frontend framework, is utilized for its robust development capabilities. For backend operations, Node JS, renowned for its suitability in backend development, is employed. MySQL serves as the database management system, ensuring efficient data organization and retrieval.

The project's viability is complex, involving behavioural, technical, and financial factors. The selected technologies are modern and well-known, making them easier for users to understand and utilize. The project's operational simplicity guarantees that users from diverse backgrounds can easily explore and comprehend the features of the platform.

In contrast to existing online platforms offering similar services separately, LMS distinguishes itself by integrating diverse educational resources into a single platform. This holistic approach enables students to access multiple facilities conveniently, including programming courses, quizzes, internships, job opportunities, multinational company quizzes, and certificates upon course and quiz completion, thereby bolstering their CVs significantly.

All things considered, LMS is a trailblazing project that has the potential to completely transform the educational system by offering a thorough and easily navigable platform for technical learning, skill development, and career growth.

सार

एलएमएस (लर्निंग मैनेजमेंट सिस्टम) विशेष रूप से तकनीकी छात्रों के लिए तैयार किया गया एक अभिनव ऑनलाइन शैक्षिक मंच है। इस गतिशील परियोजना का उद्देश्य विभिन्न शैक्षिक संसाधनों को एक व्यापक पोर्टल में समेकित करते हुए, इंटर्नशिप के अवसरों और परीक्षा की तैयारी के लिए एक इंटरैक्टिव स्थान बनाना है। प्राथमिक लक्ष्य एक ही मंच पर ऑनलाइन पाठ्यक्रम, कंपनी परीक्षण, इंटर्नशिप और बेहतर नौकरी की संभावनाओं की पेशकश करना है। एलएमएस शैक्षिक वेब पोर्टल का सार शिक्षा प्रणाली को डिजिटल बनाने में निहित है, जिसे ई-लर्निंग के रूप में जाना जाता है, जो प्रशिक्षकों, छात्रों और विशेष रूप से इंटर्नशिप और नौकरी प्लेसमेंट के इच्छुक लोगों को पूरा करता है।

एलएमएस शैक्षिक वेब पोर्टल एक ऑनलाइन हब के रूप में कार्य करता है जो कई पाठ्यक्रम, इंटर्नशिप के अवसर, बहुराष्ट्रीय कंपनी क्विज़ और विभिन्न पाठ्यक्रम क्विज़ प्रदान करता है, जो छात्रों को अपनी तकनीकी कौशल बढ़ाने के लिए सशक्त बनाता है। परियोजना में दो प्राथमिक मॉड्यूल शामिल हैं: व्यवस्थापक मॉड्यूल और उपयोगकर्ता मॉड्यूल। एडमिन मॉड्यूल के भीतर, पाठ्यक्रम, क्विज़ और इंटर्नशिप जैसे उप-मॉड्यूल शामिल किए गए हैं, जिससे प्रशिक्षकों को पोर्टल पर प्रदर्शित उत्पादों को जोड़ने की अनुमति मिलती है। प्रत्येक उत्पाद में परीक्षाओं की एक श्रृंखला होती है, जिन्हें कंपनी परीक्षणों में वर्गीकृत किया जाता है, जिन्हें आगे सेवा-आधारित और उत्पाद-आधारित कंपनी परीक्षणों में विभाजित किया जाता है। परीक्षाओं को कई इकाइयों के साथ संरचित किया जाता है, प्रत्येक के साथ अलग-अलग असाइनमेंट होते हैं, जिन्हें प्रशिक्षकों द्वारा सावधानीपूर्वक प्रबंधित किया जाता है।

तकनीकी रूप से, परियोजना अत्याधुनिक उपकरणों का लाभ उठाती है। रिएक्ट जेएस, एक व्यापक रूप से प्रशंसित फ्रंटएंड फ्रेमवर्क, का उपयोग इसकी मजबूत विकास क्षमताओं के लिए किया जाता है। बैकएंड संचालन के लिए, नोड जेएस, जो बैकएंड विकास में अपनी उपयुक्तता के लिए प्रसिद्ध है, कार्यरत है। MySQL डेटाबेस प्रबंधन प्रणाली के रूप में कार्य करता है, जो कुशल डेटा संगठन और पुनर्प्राप्ति सुनिश्चित करता है।

परियोजना की व्यवहार्यता बहुआयामी है, जिसमें तकनीकी, व्यवहारिक और आर्थिक पहलू शामिल हैं। चुनी गई प्रौद्योगिकियां समसामयिक और व्यापक रूप से मान्यता प्राप्त हैं, जो उपयोगकर्ताओं के लिए समझने में आसानी और पहुंच की सुविधा प्रदान करती हैं। परियोजना की परिचालन सादगी यह सुनिश्चित करती है कि सभी पृष्ठभूमि के व्यक्ति आसानी से मंच पर नेविगेट कर सकें और इसकी कार्यक्षमता को समझ सकें।

अलग-अलग समान सेवाएं प्रदान करने वाले मौजूदा ऑनलाइन प्लेटफ़ॉर्म के विपरीत, एलएमएस विविध शैक्षिक संसाधनों को एक ही प्लेटफ़ॉर्म में एकीकृत करके खुद को अलग करता है। यह समग्र दृष्टिकोण छात्रों को प्रोग्रामिंग पाठ्यक्रम, क्विज़, इंटर्नशिप, नौकरी के अवसर, बहुराष्ट्रीय कंपनी क्विज़ और पाठ्यक्रम और क्विज़ पूरा होने पर प्रमाण पत्र सहित कई सुविधाओं तक आसानी से पहुंचने में सक्षम बनाता है, जिससे उनके सीवी में काफी वृद्धि होती है।

.कुल मिलाकर, एलएमएस एक अग्रणी पहल का प्रतिनिधित्व करता है जो तकनीकी शिक्षा, कौशल विकास और कैरियर उन्नति के लिए एक व्यापक और सुलभ मंच प्रदान करके शैक्षिक परिदृश्य में क्रांति लाने के लिए तैयार है।

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CHAPTER 1
INTRODUCTION

CHAPTER 1: INTRODUCTION

ONLINE EXAM SYSTEM

The Online Exam System is designed to streamline the process of conducting exams efficiently and securely. Its primary purpose is to eliminate the need for manual paper checking, offering a fully automated solution for evaluating candidates. With this system, users can conveniently take exams at their own pace and location, without the constraints of traditional exam setups.

Key Features:

- Security: Ensures a secure environment for exam-taking.
- User-friendly: The interface is simple to use for both candidates and administrators.
- Reliability: Provides accurate and dependable results.
- Flexibility: No need for examiners to be present during tests.

The Online Exam System offers a convenient and efficient solution for exam administration, benefiting both administrators and candidates alike.

In Summary, The Online Exam System offers a fully automated solution for conducting exams efficiently and securely. It eliminates the need for manual paper checking, allowing users to take exams conveniently at their own pace and location. Key features include robust security measures, user-friendly interfaces, reliable result generation, and flexibility in exam administration. The system comprises user and admin modules, providing secure login, test setup, user management, and result monitoring functionalities. Overall, the Online Exam System streamlines the exam process, benefiting both administrators and candidates with its convenience and efficiency.

1.1 Problem Identification:

The existing online education landscape in India is fragmented, lacking integrated platforms that offer comprehensive learning solutions. Users face challenges navigating multiple specialized platforms for courses, internships, or placement prep. This fragmentation hinders effective crisis response, limits user experience, raises security concerns, and creates administrative inefficiencies. Students and educators struggle to access comprehensive resources, while communication between users and administrators may be inadequate. Addressing these challenges is vital for developing a user-centric online education platform that provides seamless access to learning resources while ensuring security and administrative efficiency.

1.2 Parent Organization :

Numeric Infosystem Private Limited: We're Building Modern and High Software

Numeric is a worldwide provider of information technology solutions. By integrating our business domain experience, we offer progressive end-to-end software development, android development, web application development, e-commerce development, technical support, testing data, and analytic consulting solutions. An outsource with approximately 1400 people serving clients in more than 80 countries worldwide.

Using our technological expertise, experience, and understanding of current trends, we concentrate on offering comprehensive solutions. Numerous industries, including advertising, banking, healthcare, and many more, are served by our services.

We prioritize our clients and strive to earn their trust by following established practices and staying updated with new technologies. Our goal is to continuously improve and deliver high- quality solutions efficiently and effectively. We have a streamlined process for developing products, ensuring they meet our clients' needs in terms of quality, cost, and time. We specialize in creating custom web and mobile applications, as well as software, to help businesses become more efficient and profitable.

Innovation is ingrained in our DNA, and we continually strive to stay ahead of the curve by embracing emerging technologies and industry best practices. This commitment to innovation allows us to offer cutting-edge solutions that empower our clients to thrive in todays' dynamic.

Our product development methodology is highly efficient, enabling us to deliver high quality solutions at competitive costs and within tight timelines. Whether it's developing custom web- applications, mobile apps, or software solutions, we're dedicated to enhancing our clients' business processes and delivering a substantial return on investment.

Our capacity to convert concepts into workable IT solutions is one of our main advantages. Our team of knowledgeable experts is adept at bringing ideas to life by utilizing the newest trends and technology to produce creative solutions that promote corporate success. Numeric is dedicated to exceeding our clients' expectations and establishing new standards for excellence in the field. Our enduring client relationships are evidence of our dedication to providing thorough, affordable, and superior solutions that provide measurable business results.

In summary, Numeric is not just a technology partner but a trusted advisor committed to helping businesses succeed in today's digital age. With our expertise, dedication and customer- centric approach, we are poised to be the preferred choice for organizations seeking transformative IT solutions.

1.3 About Software And Hardware Requirements

To ensure the optimal performance and reliability of the Exam Management Module, careful consideration of both hardware and software specifications is imperative. Below are the recommended specifications for deploying and operating the LMS effectively:

a .Hardware Specifications:

i. **CPU**: Quad-core processor or higher to handle concurrent requests efficiently.

ii. **RAM**: Minimum 8 GB RAM.

iii. **Storage**: SSD storage for improved data access speed and responsiveness.

iv. **Internet**: Reliable internet connection to facilitate remote access and software updates

v. **Network**: Network infrastructure capable of handling data transfer and communication between servers and client devices.

b. Software Specifications:

i. **OS**: Windows Server or Linux (Ubuntu) depending on organizational choices and compatibility.

ii. **Web Server**: Nginx or Apache HTTP Server for web application hosting.

iii. **Database:** MySQL is the relational database management system (RDBMS) used to hold application information and audit data.

iv. **Programming Language and Frameworks:** Choose a suitable programming language (JavaScript) and web application framework (React.JS, Sequelize.JS, Node.JS) for developing the LMS.

v. **Authentication and Authorization**: Implementation of secure authentication mechanisms using JSON Web Tokens (JWT) to ensure authorized access to the LMS.

vi. **Dependency Management:** Use package managers like npm (Node.js) to manage software dependencies and libraries efficiently.

These hardware and software specifications lay the foundation for a robust and reliable Audit Management Module, capable of meeting organizational audit requirements effectively and efficiently. By adhering to these recommendations, organizations can ensure the seamless operation and performance of their Learn Management System.

CHAPTER 2
SYTEM ANALYSIS

CHAPTER 2: SYSTEM ANALYSIS

2.1. Problem Analysis

In the domain of online education systems, existing platforms often grapple with inefficiencies and limitations. To address these challenges, our proposed Online Learning Management System (OLMS) emerges as a transformative solution, offering streamlined functionality to alleviate key pain points. By centralizing data, enhancing user experience, bolstering security, and fostering collaboration, the OLMS module redefines online education practices, empowering institutions to navigate complexities with agility and efficacy.

a. Inefficiencies in Existing Systems: Many online education platforms rely on fragmented or outdated systems, leading to inefficiencies and complexities in managing educational content and user data. The OLMS module mitigates these challenges by providing a user-friendly interface and streamlined processes to simplify content management and user interactions.

b. Lack of Integration: Traditional online education systems often lack centralized repositories for educational materials and user information, resulting in fragmentation and difficulties in tracking user progress and engagement. The OLMS module addresses this issue by centralizing educational content and user data, providing administrators with a comprehensive view of user activities and performance metrics.

c. Limited Engagement and Interaction: Existing platforms may lack robust features for user engagement and interaction, hindering effective communication and collaboration among students and educators. The OLMS module enhances engagement by offering interactive learning tools, discussion forums, and collaborative features to facilitate meaningful interactions and knowledge sharing.

d. Data Privacy Concerns: Manual data management processes and decentralized systems may pose risks to user privacy and data security, such as unauthorized access or data breaches. The OLMS module implements stringent security measures to protect user data and guarantee adherence to data protection laws, such as encryption, access controls, and frequent security assessments.

e. Compliance Challenges: In online education, ensuring adherence to legal laws and academic standards is crucial. In order to help institutions comply with industry rules and accrediting standards, the OLMS module incorporates capabilities like role-based access control, audit trail logging, and automated reporting. These features address compliance difficulties.

In summary, the LMS module tackles various critical challenges inherent in traditional online education systems, including inefficiencies, fragmentation, limited engagement, data privacy concerns, and compliance risks. By providing a modern and comprehensive solution, the LMS module empowers educational institutions to streamline operations, enhance user engagement, ensure data security, and maintain compliance with industry standard

2.2 FEASIBILITY STUDY: -

To evaluate the project's viability and chances for success, the Learning Management System (LMS) feasibility assessment is essential. To ascertain whether the project is technically, financially, and operationally feasible, it entails assessing a number of factors. This is a synopsis of the feasibility study.

a. Economic Feasibility: Economic feasibility examines whether the benefits of implementing the LMS module outweigh the costs associated with its development, implementation, and maintenance. It involves estimating the project costs, including software development, training, infrastructure, and ongoing support, and comparing them with the expected benefits, such as cost savings, efficiency gains, and improved compliance.

i. **Time Savings**: The LMS will streamline Exam processes, reducing the time required for data collection, analysis, and reporting.

ii. **Improved Accuracy**: Automation and standardized processes will reduce the likelihood of errors and discrepancies in exams.

iii. **Compliance Enhancement**: The module will facilitate adherence to regulatory requirements, avoiding penalties and legal issues.

iv. **Better Decision Making**: Access to real-time Exam data and analytics will enable more informed decision-making, leading to improved business outcomes.

v. **Reduction in Exam Time**: Estimated at 20% based on historical data, leading to cost savings in labor and resources.

However, it's important to note that the economic feasibility of the project depends heavily on the accuracy of benefit estimation. If the benefits significantly outweigh the costs over the project's lifecycle, then it can be considered economically viable.
Furthermore, the completion time of 120 working days should also be taken into account. Delays in project completion may lead to additional costs and could affect the overall economic feasibility.

b. **Technical feasibility:** This aspect assesses whether the technology required for the LMS project is available and can be implemented effectively. It involves evaluating the technical requirements, compatibility with existing systems, and availability of skilled resources to develop and maintain the LMS module.

i. **Compatibility with Existing System**: The chosen technologies for the LMS, including React.JS, Node.JS, Express.JS, and Sequelize.JS, are compatible with modern web development practices and can seamlessly integrate with existing systems and infrastructure.

ii. **Availability of Skilled Resources**: The availability of skilled resources proficient in React.JS, Node.JS, Express.JS, and Sequelize.JS is relatively high in the industry due to the widespread adoption of these technologies.

The technical feasibility assessment of Learning Management Module (LMS) indicates that the required technologies, hardware, and software for the LMS project are readily available and compatible with the project Requirement. The chosen programming languages and frameworks, including React.JS, Node.JS,Express.JS, and Sequelize.JS, are well-suited for the development task and building a scalable, efficient, and user-friendly Exam management system. Additionally, the availability of skilled resources and the feasibility of integration with existing systems further reinforce the technical viability of the LMS project.

C. Behavioral Feasibility: The LMS module is designed with a focus on maximizing user acceptance and minimizing resistance to change by implementing the following measures:

1. **User-Friendly Interface**: The LMS module features an intuitive and user-friendly interface that simplifies audit management tasks for users across different roles. With its intuitive design and familiar navigation patterns, users can easily adapt to the system, reducing the learning curve and enhancing usability.
2. **Training and Support Resources**: Support tools and extensive training materials are offered to help users use the LMS module efficiently. These tools, which make sure users have access to the knowledge they need to use the system to its fullest potential, include user manuals, video lessons, and assistance material.
3. **Continuous Improvement**: Feedback mechanisms are integrated into the LMS module to gather user feedback and suggestions for improvement continuously. By actively listening to user feedback and incorporating enhancements based on user needs, the LMS module aims to continuously improve the user experience and enhance user satisfaction.
4. **User-centric Design Approach**: Incorporating audit specialists throughout the whole design and development process. By working together, we can make sure that the module fits the real processes and preferences of our consumers.

By focusing on the user experience and addressing the human aspects of technology adoption, the LMS module aims to promote user acceptance, confidence, and satisfaction in the context of audit management. This behavioral feasibility approach makes certain that users can quickly adjust to the new system and take full use of its advantages for their audit management procedures.

d.Operational Feasibility: Operational feasibility vital to the effective adoption and use of the Exam Management Module (LMS). The following factors contribute to the operational feasibility of the LMS module:

i. **Seamless Integration**: The LMS module seamlessly integrates with existing systems (Category Module and User Management Module) and tools within the organization's IT infrastructure, ensuring compatibility and data consistency across platforms.

ii. **Role-Based Access Control**: LMS offers fine-grained access controls, which let companies to up user roles and rights according to their duties. By guaranteeing that users have the proper access levels to audit-related data and features, role-based access improves security and compliance.

iii. **Comprehensive Reporting and Analytics**: LMS offers strong analytics and reporting features that let businesses learn important things about audit performance, trends, and compliance status. Decision-makers can make well-informed business decisions by utilizing real-time data through customizable reports and dashboards.

iv. **Scalability and Flexibility**: The LMS module is scalable and flexible, capable of accommodating the evolving needs and growth of the organization. Whether it's scaling to support additional users, expanding to include new audit types, By integrating with other systems, LMS gives you the adaptability to change as your business needs do.

By addressing these operational considerations, the LMS module ensures smooth implementation, seamless integration, and effective utilization within the organization. Operational feasibility is paramount in maximizing the benefits of the LMS module and driving operational excellence in audit management processes.

In conclusion, the feasibility study conducted for the Learning Management Module (LMS) project has offered insightful information about its technical, economic, and operational viability. The study has identified potential challenges and risks while also highlighting opportunities for optimization and enhancement. Moving forward, careful planning, effective resource allocation, and continuous monitoring will be essential to navigate potential hurdles and maximize the project's chances of success.

2.3 Data Flow Diagram

a. Level – 0 DFD (Context Level Diagram)

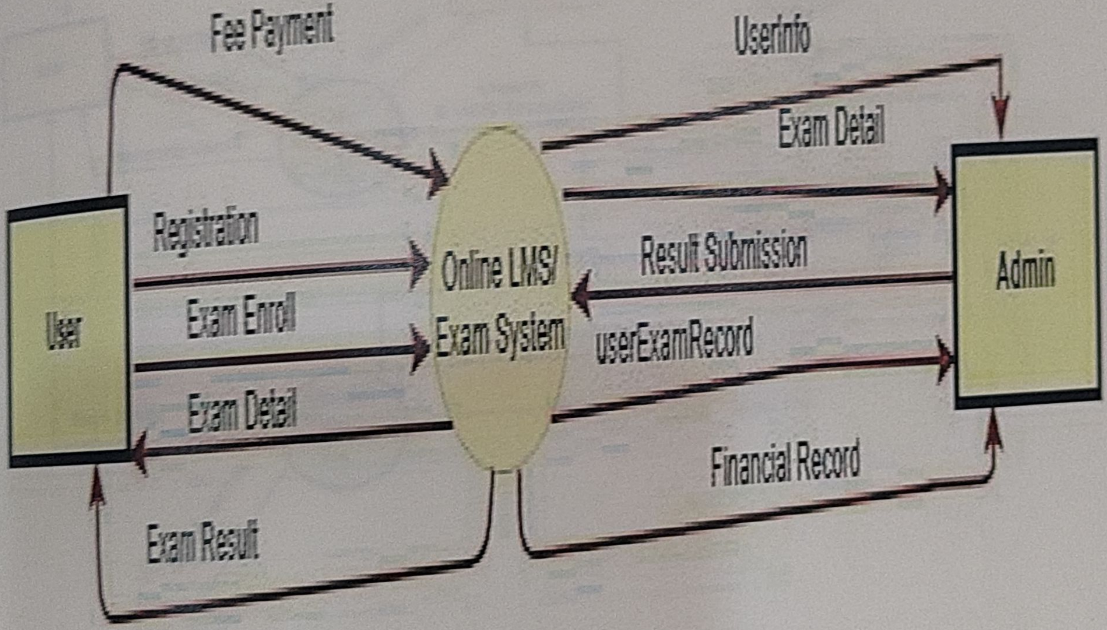

Fee Payment
UserInfo
Exam Detail
Registration
Online LMS/
Exam System
Result Submission
User
Admin
Exam Enroll
userExamRecord
Exam Detail
Financial Record
Exam Result

FIGURE LEVEL – 0 DFD

b. Level - 1 DFD:-

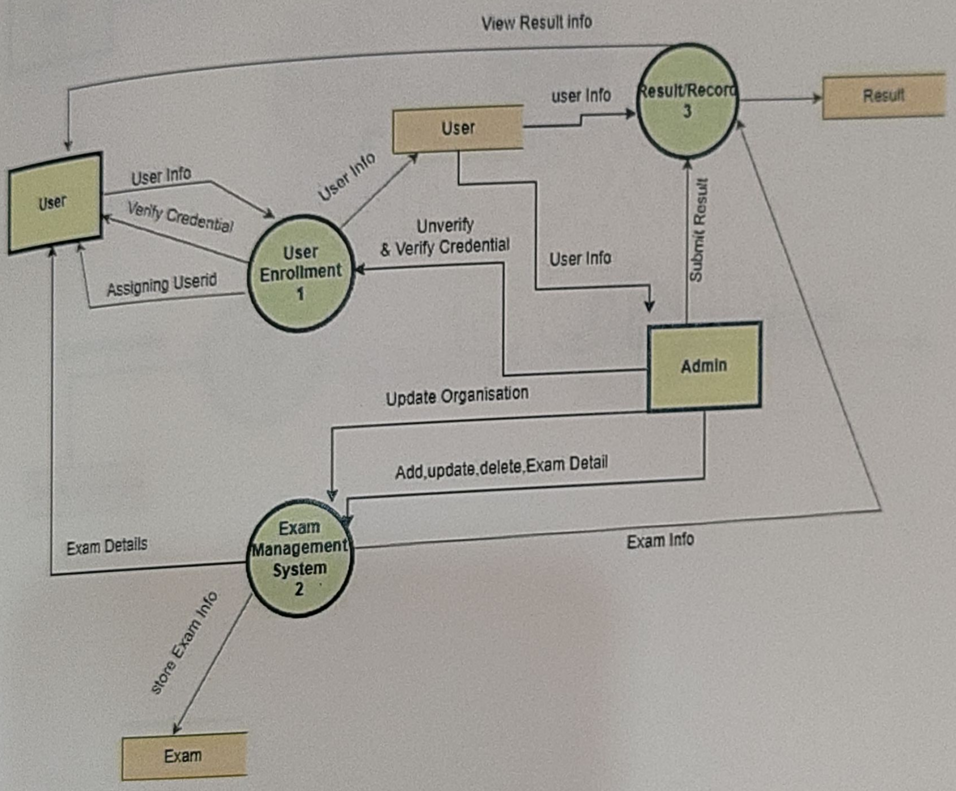

View Result info
user Info
Result/Record
3
Result
User
User Info
User Info
User
Verify Credential
User
Enrollment
1
Assigning Userid
Unverify
& Verify Credential
User Info
Submit Result
Admin
Update Organisation
Add,update,delete,Exam Detail
Exam Details
Exam
Management
System
2
Exam Info
store Exam Info
Exam

FIGURE LEVEL – 1 DFD

C.Level-2 DFD:-

i. Level – 2 DFD for Process 1:-

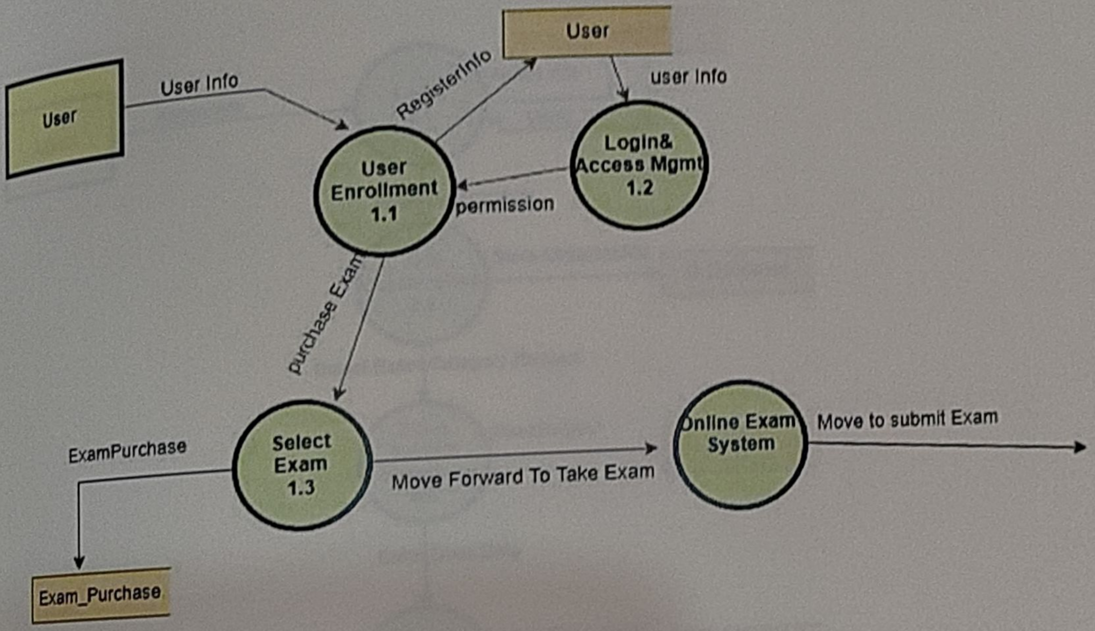

User
User Info
User
RegisterInfo
user Info
User Enrollment 1.1
Login& Access Mgmt 1.2
permission
purchase Exam
Select Exam 1.3
ExamPurchase
Move Forward To Take Exam
Online Exam System
Move to submit Exam
Exam_Purchase

FIGURE LEVEL – 2 DFD (Process-1)

ii. Level – 2 DFD for Process 2:-

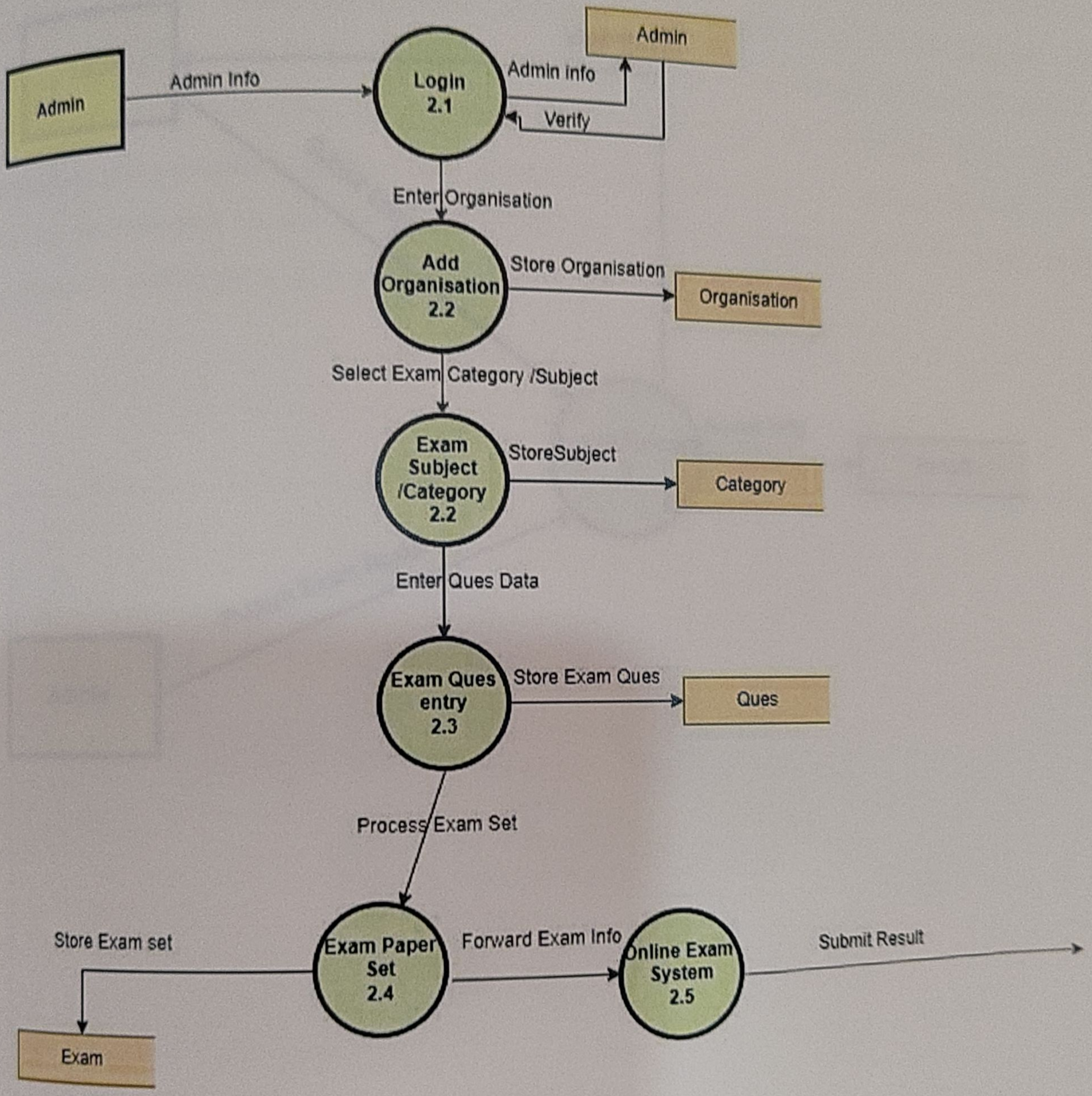

Admin
Admin Info
Login
2.1
Admin info
Admin
Verify
Enter Organisation
Add
Organisation
2.2
Store Organisation
Organisation
Select Exam Category /Subject
Exam
Subject
/Category
2.2
StoreSubject
Category
Enter Ques Data
Exam Ques
entry
2.3
Store Exam Ques
Ques
Process Exam Set
Store Exam set
Exam Paper
Set
2.4
Forward Exam Info
Online Exam
System
2.5
Submit Result
Exam

FIGURE LEVEL – 2 DFD (Process - 2)

iii. Level – 2 DFD for Process 3:-

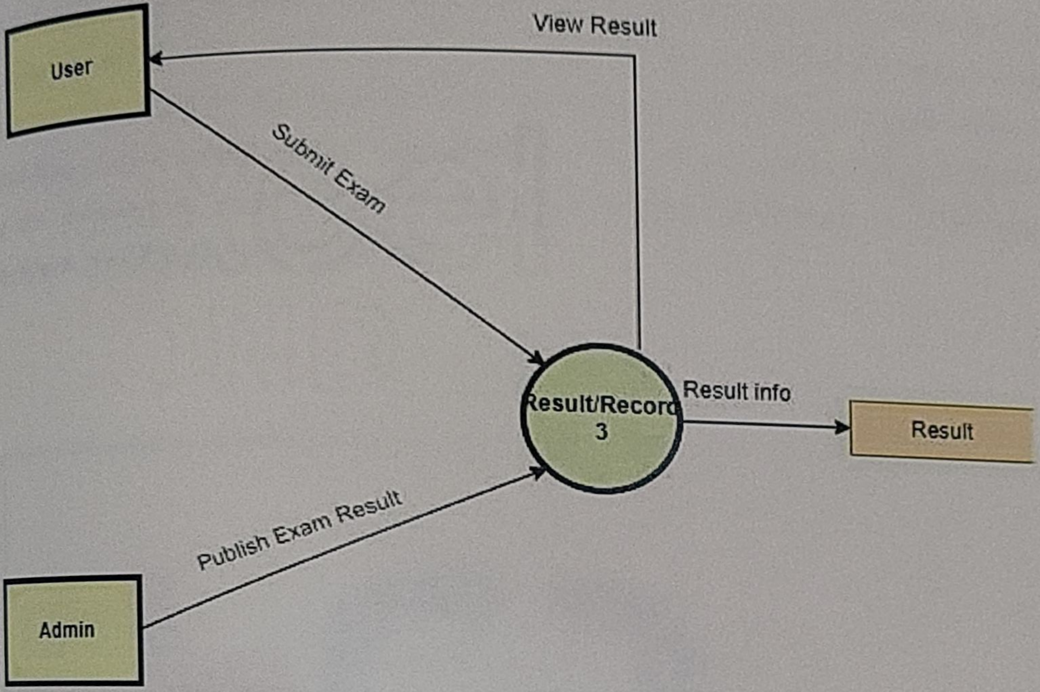

View Result
User
Submit Exam
Result/Record
3
Result info
Result
Publish Exam Result
Admin

FIGURE LEVEL – 2 DFD (Process-3)

2.4 Software Development Process

We have used iterative and incremental Waterfall Methodology in the development of Learning management System (Exam System). The main reason behind using iterative waterfall model is feedback path. The Iterative Waterfall Model is a software development approach that combines the sequential steps of the traditional Waterfall Model with the flexibility of iterative design. It allows for improvements and changes to be made at each stage of the development process, instead of waiting until the end of the project. The iterative waterfall model provides feedback paths from every phase to its preceding phases, which is the main difference from the classical waterfall model.

While the incremental model approach helped us to take advantage of what was learnt during development of earlier parts of the system.

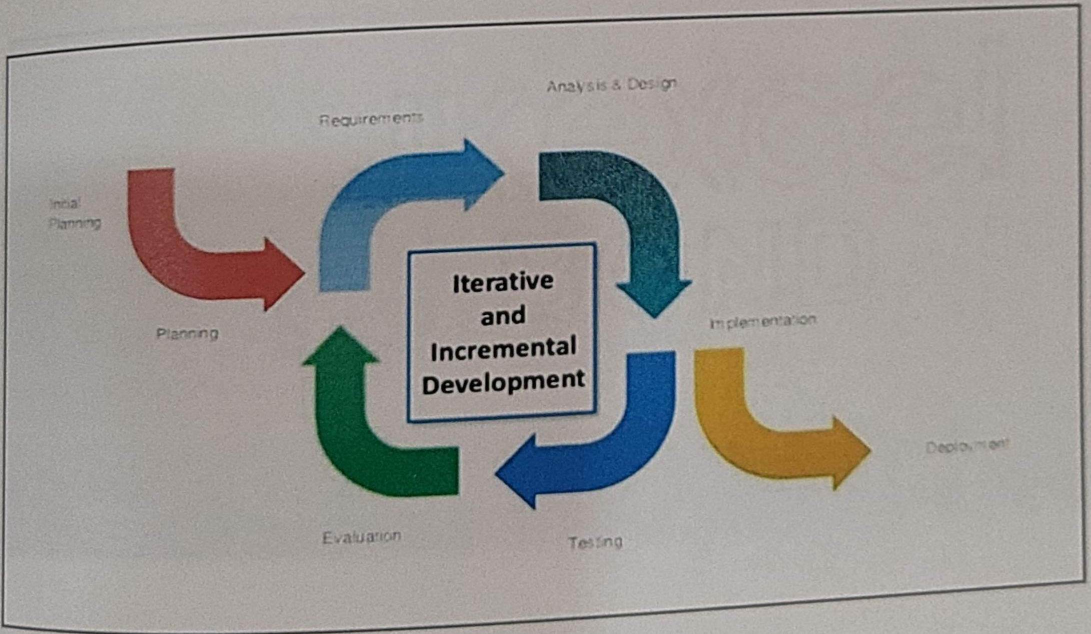
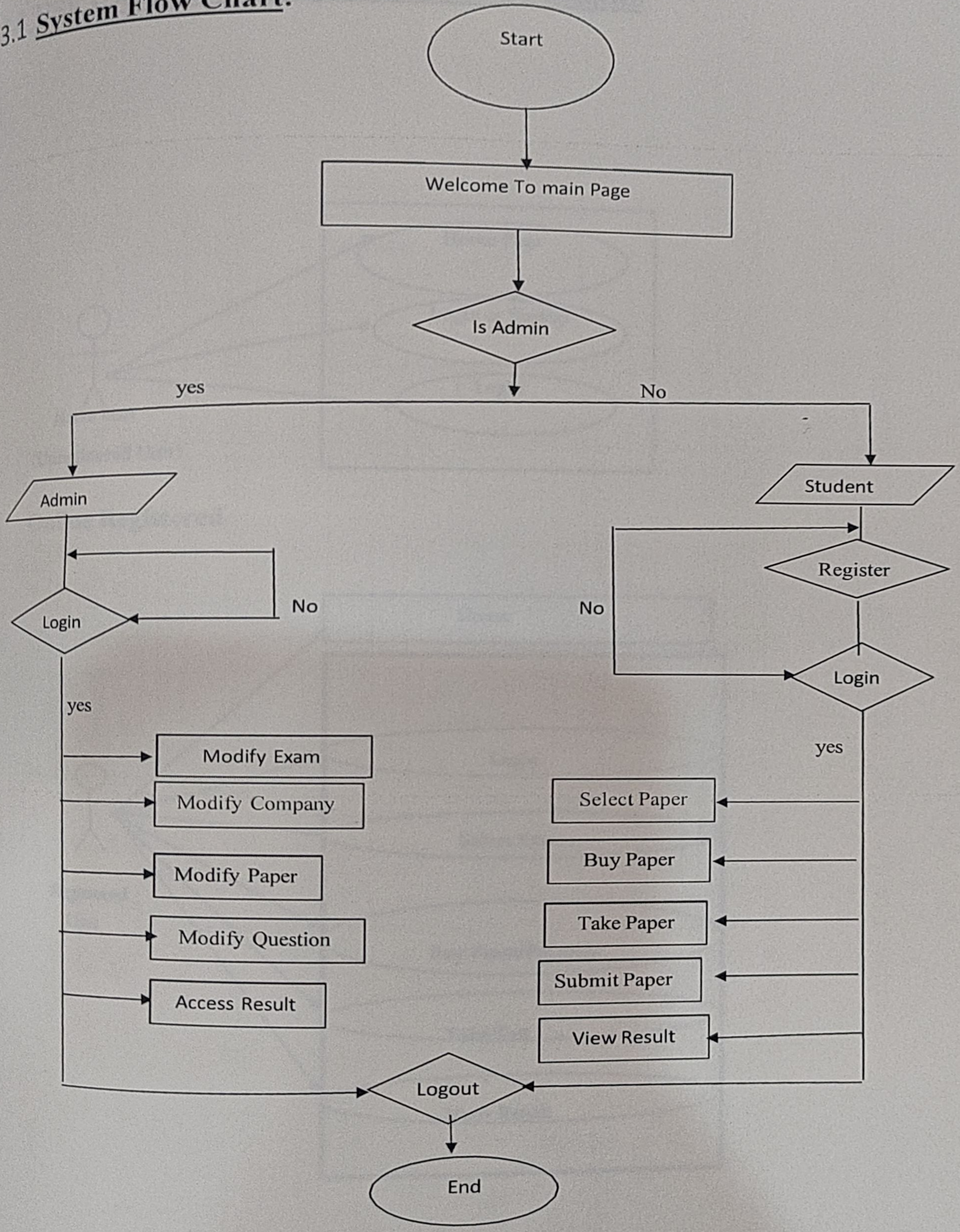

Analysis & Design
Requirements
Initial Planning
Planning
Iterative and Incremental Development
Implementation
Deployment
Evaluation
Testing

Fig. Software Development Process

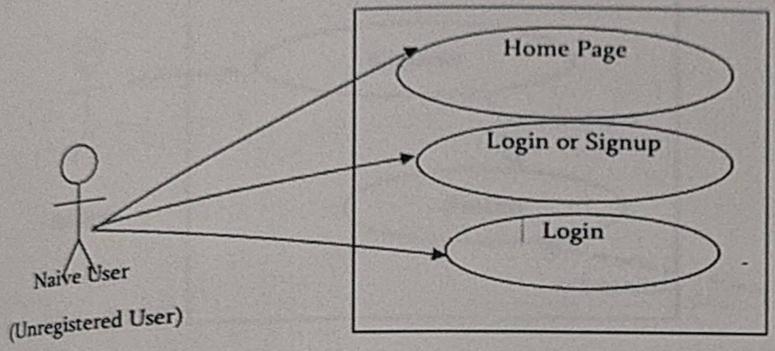
CHAPTER 3
SYSTEM DESIGN

CHAPTER 3:SYSTEM DESIGN

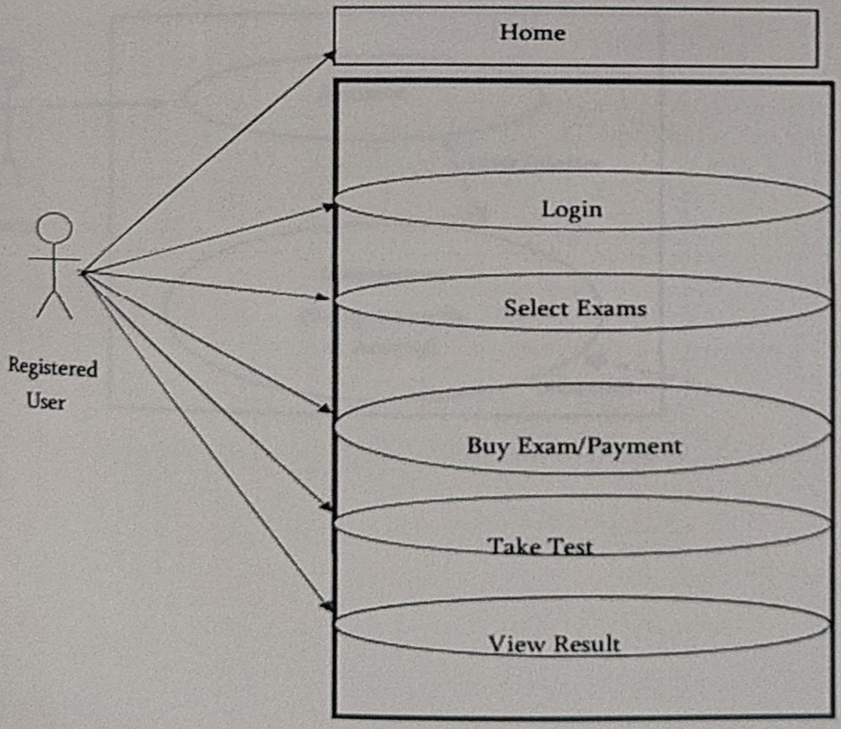
3.1 System Flow Chart:


Start
Welcome To main Page
Is Admin
yes
No
Admin
Student
Login
No
Register
No
Login
yes
yes
Modify Exam
Modify Company
Modify Paper
Modify Question
Access Result
Select Paper
Buy Paper
Take Paper
Submit Paper
View Result
Logout
End

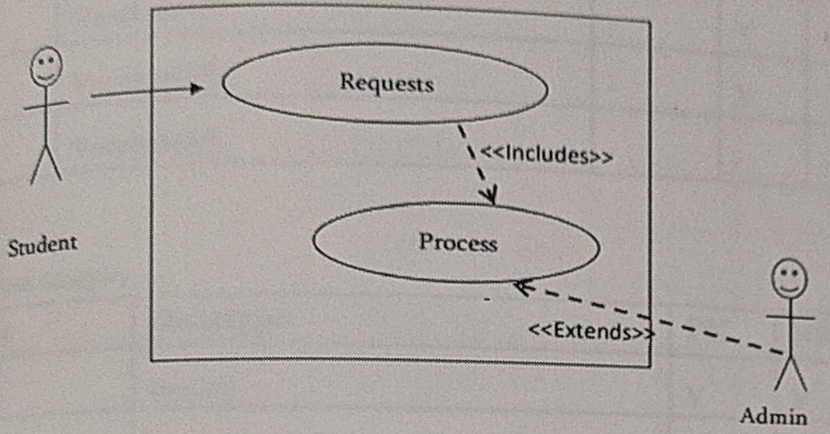
3.2 USE CASE DIAGRAM – User And Facilities

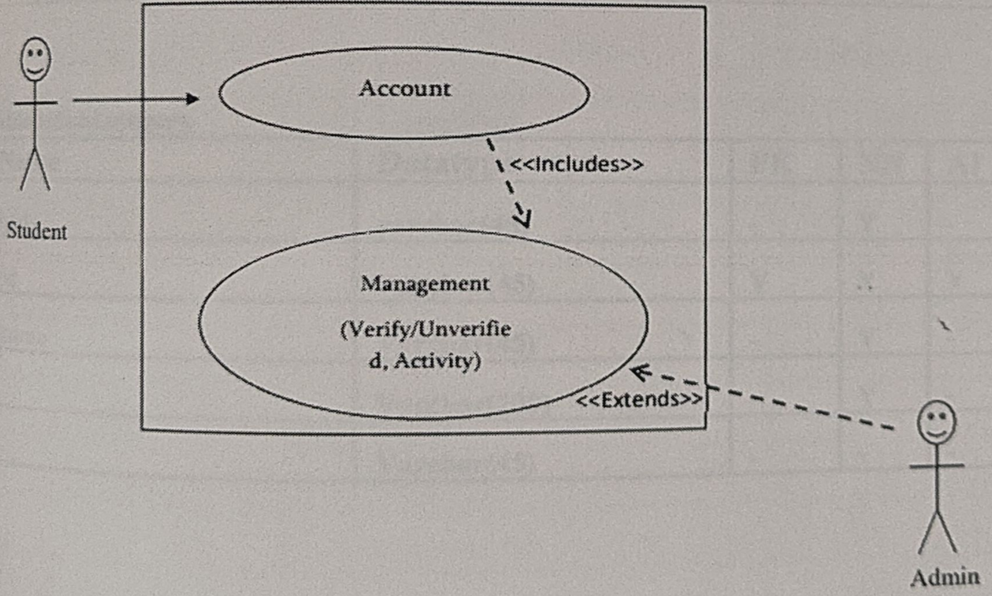

Home Page
Login or Signup
Login
Naive User
(Unregistered User)

Online Registered


Home
Login
Select Exams
Buy Exam/Payment
Take Test
View Result
Registered User

3.3 USE CASE RELATIONSHIP DIAGRAMS


Requests
<<Includes>>
Process
<<Extends>>
Student
Admin


Account
<<Includes>>
Management
(Verify/Unverified, Activity)
<<Extends>>
Student
Admin

3.4 Database Tables:

1. Table1: Admin

Column Name	Datatype	PK	NN	AI	UN
dminid	Varchar(45)	Y	Y	Y	Y
dminname	Varchar(45)	-	Y	-	-
assword	Varchar(45)	-	Y	-	-
icture	Varchar(45)	-	-	-	-

2.Table2:Main Category

olumn Name	Datatype	PK	NN	AI	UN
aincategoryid	Int(10)	Y	Y	Y	Y
aincategory	Varchar(45)	-	Y	-	-
con	archar(45)	-	Y	-	-

3. Table3: SubCategory

olumn Name	Datatype	PK	NN	AI	UN
aincategoryid	varchar(45)	-	Y	-	-
ubcategoryid	Varchar(45)	Y	Y	Y	Y
ubcategoryname	Varchar(45)	-	Y	-	-
escription	Varchar(200)	-	Y	-	-
con	Varchar(45)	-	-	-	-

4. Table4: SetExam

Column Name	Datatype	PK	NN	AI	UN
Examid	Varchar(45)	Y	Y	Y	Y
Organizationid	Varchar(45)	-	Y	-	-
Setno	Int(10)	-	Y	-	Y
Setorg	Varchar(45)	-	Y	-	-
Duration	Varchar(45)	-	Y	-	-
Paidstatus	Varchar(45)	-	Y	-	-
Price	Int(10)	-	Y	-	-
Paperstatus	Varchar(45)	-	-	-	-
Status	Varchar(45)	-	-	-	-

5.Table5: SetQuePaper

Column Name	Datatype	PK	NN	AI	UN
Questionid	Int(10)	Y	Y	Y	Y
Organizationid	Int(10)	-	Y	-	Y
Examid	Int(10)	-	Y	-	Y
Setno	Int(10)	-	Y	-	Y
Questionno	Int(10)	-	Y	-	Y
Question	Longtext	-	Y	-	-
Opt1	Varchar(200)	-	Y	-	-
Opt2	Varchar(200)	-	Y	-	-
pt3	Varchar(200)	-	Y	-	-
pt4	Varchar(200)	-	Y	-	-
ns	Varchar(200)	-	Y		-
ol	Longtext	-	-	-	-

6. Table6: Organisation

Column Name	Datatype	PK	NN	AI	UN
Organizationid	Int(10)	Y	Y	Y	Y
Subcategoryid	Varchar(45)	-	Y	-	-
Organization	Varchar(45)	-	Y	-	-
Icon	Varchar(45)	-	Y	-	-
Maincategoryid	Int(10)	-	Y	-	-

7.Table8: User

Column Name	Datatype	PK	NN	AI	UN
Userid	Int(10)	Y	Y	Y	Y
Fname	Varchar(45)	-	Y	-	-
Lname	Varchar(45)	-	Y	-	-
Email	Varchar(255)	-	Y	-	Y
Mobile	Varchar(45)	-	Y	-	Y
Password	Varchar(100)	-	Y	-	-
CreateDate	Datetime	-	Y	-	-
Updatedate	Datetime	-	Y	-	-
Status	Varchar(100)	-	-	-	-

8. Table8: Purchase(Exam Purchaser)

Column Name	Datatype	PK	NN	AI	UN
pid	Int(10)	Y	Y	Y	Y
Examid	Int(10)		Y		
Orderno	Varchar(500)	-	Y	-	-
Userid	Varchar(45)	-	Y	-	-
Purchasedate	Date	-	Y	-	-
Purchasetime	Varchar(45)	-	Y	-	-
Amount	Varchar(45)	-	Y	-	-
Itempurchased	Varchar(70)	-	Y	-	-
Statuspaper	Varchar(45)	-	Y	-	-

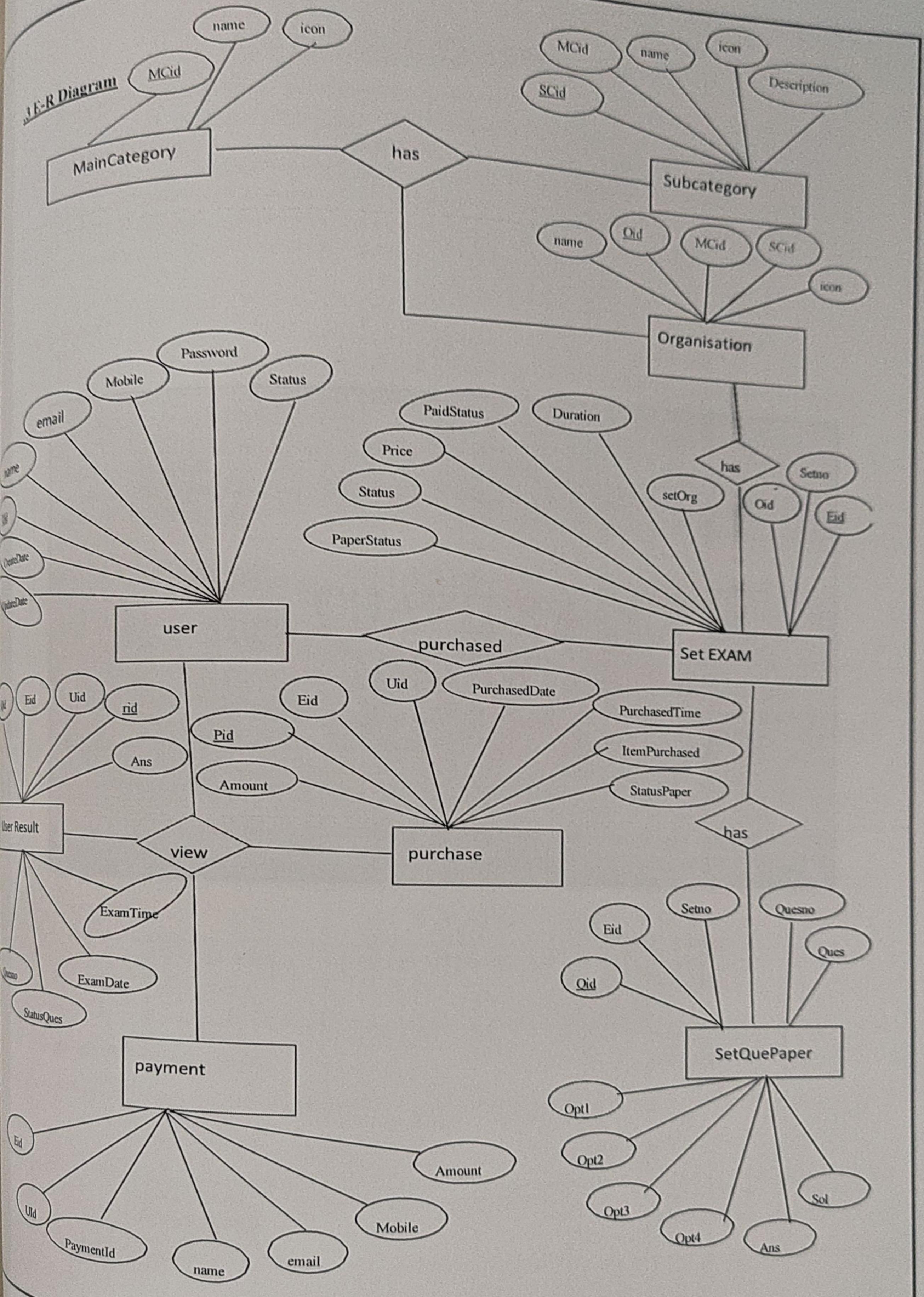
9.Table9: UserResult

Column Name	Datatype	PK	NN	AI	UN
rid	Int(10)	Y	Y	Y	Y
Examid	Int(10)		Y		
Userid	Varchar(45)	-	Y	-	-
Organizationid	Int(10)		Y	Y	
Setno	Int(10)		Y	Y	
Examdate	Varchar(45)	-	Y	-	-
Examtime	Varchar(45)	-	Y	-	-
Questionno	Varchar(45)	-	Y	-	-
Ans	Varchar(45)	-	Y	-	-
Statusquestion	Varchar(45)	-	Y	-	-

10. Table10: User Payment

umn Name	Datatype	PK	NN	AI	UN
nentid	Int(15)	Y	Y	Y	Y
	Varchar(45)	-	Y	-	-
	Int(15)		Y		
e	Varchar(150)	-	Y	-	-
il	Varchar(45)	-	Y	-	-
ile	Varchar(45)	-	Y	-	-
ount	Varchar(45)	-	Y	-	-

.3 E-R Diagram



name
icon
MCid
MainCategory
has
MCid
name
icon
SCid
Description
Subcategory
name
Oid
MCid
SCid
icon
Organisation
Password
Mobile
Status
email
name
CreateDate
UpdateDate
user
PaidStatus
Duration
Price
Status
PaperStatus
has
setOrg
Oid
Setno
Eid
purchased
Set EXAM
Eid
Uid
rid
Ans
User Result
Uid
PurchasedDate
Eid
PurchasedTime
Pid
ItemPurchased
Amount
StatusPaper
view
purchase
has
ExamTime
Quesno
ExamDate
StatusQues
Setno
Quesno
Eid
Ques
Oid
SetQuePaper
payment
Opt1
Eid
Opt2
Amount
Opt3
Sol
Uid
Mobile
Opt4
Ans
PaymentId
email
name

CHAPTER 4

TESTING

CHAPTER 4: TESTING

ing is the process of evaluating an application or system to detect defects, bugs, errors and other e that may affect its quality, reliability or functionality. It involves running the application in a olled environment to verify that it behaves as expected, and comparing its actual results its nded results. The main objective of testing is to ensure that the application meets the requirements d specifications set forth by its users or customers, and that it performs the tasks it is designed to do in consistent, reliable and efficient manner. So here we are using three testing approaches to check that e developed system met the specified requirements or not.

4.1 Unit Testing :

nit testing is an essential part of the testing process. It involves testing individual code components or its to verify that they perform as expected and meet their intended requirements. For LMS Project llowing units have been tested individually:

se	Section	Element name	Test data	Expected result	Actual Result
T-01	admin Login	email, password	No Data	Please fill out this field.	Test case passed.
		email, password	Administrator/******	Error Occurred.	Test case passed.
		email, password	admin/*****	Successfully logged in.	Test case passed.
T-02	User Login	email, password	No Data	Please fill out this field.	Test case passed.
		email, password	Akshay25@gmail.com/******	Error Occurred.	Test case passed.
		email, password	Akshay21@gmail.com/*********	Successfully logged in.	Test case passed.
T-03	User Registration	name, email, address, phone	No Data	Please fill out this field.	Test case passed.
		name, email, address, phone	Data in incorrect format.	Error Occurred.	Test case passed.
		name, email, address, phone	Data in correct format.	Successfully Registered.	Test case passed.

1.1 Integration Testing

ntegration testing is a type of software testing website that verifies the interaction and integration etween different module or components. The main objective of integration testing is to ensure that ndividual modules work correctly when integrated and interact with each other as expected. Integration esting helps to identify defects, errors and other issues that may arise due to the interaction between odules. Integration testing can be done manually or using automated tools and frameworks. We have one integration testing manually. The following modules have tested using integration testing.

a. Integration of Exam Module with LMS Application:

Test Case ID	**Test Case Scenario**	**Test Description**	**Pass Condition**	**Fail Condition**	**Test Result**
TC-INT-01	JWT Token Generation	Verify successful generation of JWT Token upon user login to LMS	A JWT Token gets generated upon user login.	No JWT Token is generated.	Pass
TC-INT-02	JWT Token Content Check	Verify that JWT Token contains necessary user identity and permissions	Token contains user identity, set and access rights.	Missing or False information is present in token	Pass
TC-INT-03	Set Selection	Test the functionality of selecting set within LMS for Exam	User is able to select Set of Exam.	User encounters error during set selection.	Pass

		Module			
TC-INT-04	Set Permission Check	Ensure that selected role corresponds to user permission and access rights	Selected role grants appropriate permission and access rights.	Does not grant required permissions.	Pass
TC-INT-05	Automatic Login	Test the automatic login process from LMS after Set selection.	User is seamlessly logged in.	User encounters error while log in.	Pass

h. Integration of Exam Module with Category Module and User Management Module:

Test Case ID	Test Case Scenario	Test Description	Pass Condition	Fail Condition	Test Result
TC-INT-06	Data Integration	Verify that data is correctly synchronized between EM, CM and UMM	Accurately Synchronized.	Discrepancies found in data.	Pass
TC-INT-07	Interface Integration	Test interface to ensure consistency in design elements.	Consistent Design.	Inconsistencies observed.	Pass

3,System Testing

stem Testing is a comprehensive software testing phase where the entire integrated system is tested as hole to validate its behavior and functionality against specifies requirements.

Functional Testing: Functional Testing involves validating that each function of software application operates as expected, adhering to defined requirements and specification.

est Case ID	Test Case Scenario	Input / Test Data	Pass Condition	Fail Condition	Test Result
T-FT--01	Search Functionality	Enter specific keyword related to audit plan.	Relevant audits are displayed.	Irrelevant record or error displayed	Pass
T-FT-02	Filter Functionality	Select filter options such as audit plan status or date range.	Audit Plan are filtered.	Filter option doesn't work.	Pass
ST-FT-03	Pagination Functionality	Pagination control allow users to navigate through multiple pages of audit result.	Users can navigate through pagination control.	Pagination control doesn't allow users to navigate.	Pass
ST-FT-04	Reporting Functionality	Select Reporting Criteria.	Generated Report contains accurate and meaningful insights.	Inaccurate or false information present.	Pass

Non-Functional Testing: Non-Functional Testing focusses on evaluating aspects such as performance, usability, security and error handling of software ensuring it meets quality attributes beyond functional requirements.

Performance Testing:

Test Case ID	Test Case Scenario	Test Description	Pass Condition	Fail Condition	Test Result
ST-NFT-01	Response Time Testing	Measure System Response Time	Responses are generated within acceptable time frames.	Response time exceeds threshold.	Pass
ST-NFT-02	Load Testing	Evaluate system performance under load	System handles unexpected load.	System crashes.	Pass

Usability Testing:

Test Case ID	Test Case Scenario	Test Description	Pass Condition	Fail Condition	Test Result
ST-NFT-03	User Interface Testing	Evaluate UI Design and Usability	User can easily navigate through system and perform task without confusion and frustration.	UI is cluttered and confusing, leading to errors and user dissatisfaction.	Pass

Error Handling Testing:

Test Case ID	Test Case Scenario	Test Description	Pass Condition	Fail Condition	Test Result
ST-NFT-04	Exceptional Handling Testing	Evaluate system's response to exceptions.	System handles the exceptions gracefully and provide meaningful error messages.	System crashes or data loss occurs.	Pass

iii. **Security Testing**

Test Case ID	**Test Case Scenario**	**Test Description**	**Pass Condition**	**Fail Condition**	**Test Result**
ST-NFT-05	Authentication Testing	Verify User Authentication	Users are granted access only with valid credentials.	Allowing unauthorized access.	Pass
ST-NFT-06	Authorization Testing	Test Access Controls	User can access only the resources authorized for their roles and permissions.	Users can access unauthorized resource and perform unauthorized actions, indicating a failure in access controls.	Pass

CHAPTER 5
IMPLEMENTATION

CHAPTER 5: IMPLEMENTATION

The implementation phase of the Software Development Life Cycle (SDLC) is a critical stage where the software solution is actually built and put into operation. Here are some key aspects of the implementation phase:

5.1. Integrated Development Environment (IDE) Setup

Following are some software which are being used in the development of LMS Module:

a. **Visual Studio Code:**
   - i. Go to the official Visual Studio website:
   - ii. Click on the "Download" button for the version of Visual Studio you want to install.
   - iii. Choose the components you want to install, such as languages, frameworks, and tools.
   - iv. Click on the "Install" button to start the installation process.
   - v. Follow the installation wizard and select the options that suit your needs.

b. **MySQL Workbench:**
   - i. Go to MySQL Workbench website:
   - ii. Select the appropriate version of MySQL Workbench for your operating system.
   - iii. Click on the "Download" button to start the download.
   - iv. Once the download is complete, run the installer.
   - v. Follow the installation wizard and select the options that suit your needs.

5.2 .Technologies and Libraries Used

Following are libraries which are being used in the development of LMS Module:

a. **React.JS:** React.JS is a popular open-source JavaScript library for building user interfaces, developed by Facebook. It is widely used for creating interactive and dynamic web applications with a focus on component-based architecture and efficient rendering.

b. **Node.JS:** Node.js is an open-source, cross-platform JavaScript runtime environment that allows developers to run JavaScript code outside of a web browser. It is built on Chrome's V8 JavaScript engine and provides an event-driven, non-blocking I/O model that makes it lightweight and efficient for building scalable network applications.

c. **Sequelize.JS:** Sequelize.js is a popular Object-Relational Mapping (ORM) library for Node.js, designed to simplify database interactions by abstracting away the complexities of SQL queries and providing a JavaScript-friendly interface for interacting with relational databases.

5.3.Development Environment Setup

Following are the steps used for setting up development environment for EMM Module:

d. **Frontend Application:**

   i. Create a New React App by using command "npx create-react-app my-react-app".
   ii. Navigate to the project directory using command "cd my-react-app".
   iii. Now start the development server by running the command "npm start".
   iv. You can access your React application in your web browser at `http://localhost:3000`.

e. **Backend Application:**

   i. Go to the official Node.js website:
   ii. Once Node.JS is installed, initialize node app by using "npm init".
   iii. Now, install dependencies as per the requirement of project.
   iv. You can access your Node application in your web browser at `http://localhost:4000`.

f. **Version Control System:**

   i. Download and install Git from the official website:
   ii. Once Git is installed, you can create a new repository for your project.

5.4.Development Activities

Following are the activities done for the development of EMM Module

a. **Coding:** This involves writing algorithms, functions, classes, and other programming constructs to create the desired features and behaviour of the EMM (Exam Management Module).
b. **Implementing Design Specifications:** Implementing design specifications involves taking the high-level design concepts and turning them into detailed technical designs that can be translated into code. Implementing design specifications ensures that the development team has a clear understanding of the requirements and how they will be implemented in the code.
c. **Code Review:** During code review, developers examine the code for readability, maintainability, efficiency, and correctness. They may also provide feedback, suggestions for improvement, and identify potential issues or areas of concern. Code review helps maintain code quality, fosters knowledge sharing among team members, and reduces the likelihood of introducing defects into the codebase.

5.5.Deployment

In the Software Development Life Cycle (SDLC), deployment is the phase where the developed software is released and made available for use by end-users or customers. LMS Module is deployed using the AWS Clous Services.

a. Deployment Architecture:

i. A database is deployed and served using AWS managed database service (AWS RDS).
ii. aThe backend is deployed on a server with public IP using AWS EC2 Server.
iii. The frontend application is deployed and served on AWS S3.
iv. All the application components reside within an AWS VPC in a region

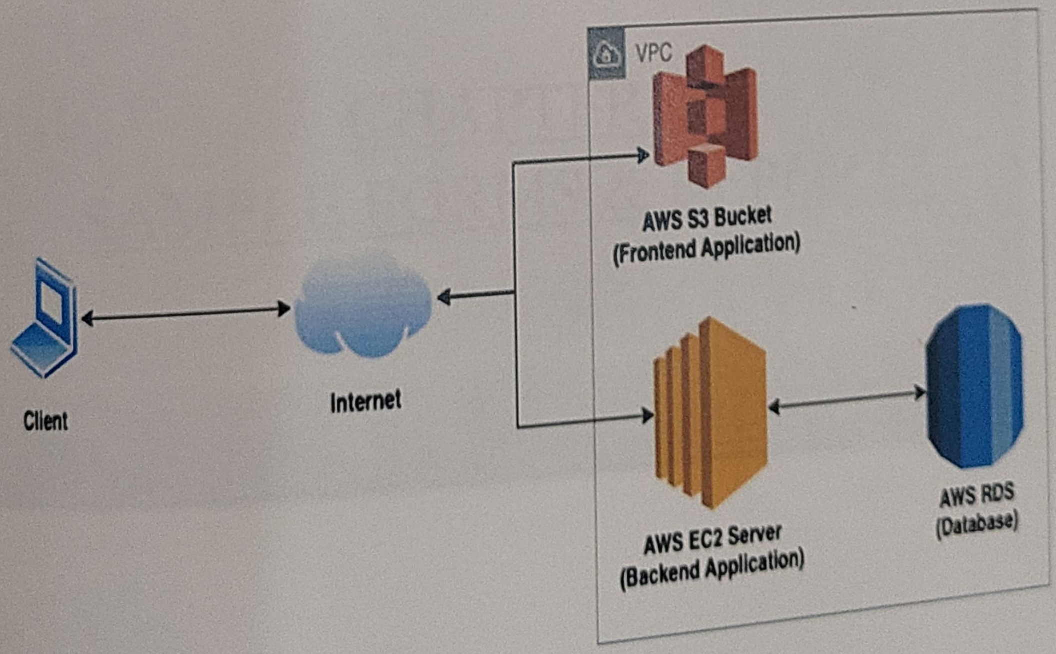

VPC
AWS S3 Bucket
(Frontend Application)
Client
Internet
AWS EC2 Server
(Backend Application)
AWS RDS
(Database)

Fig. Deployment Architecture

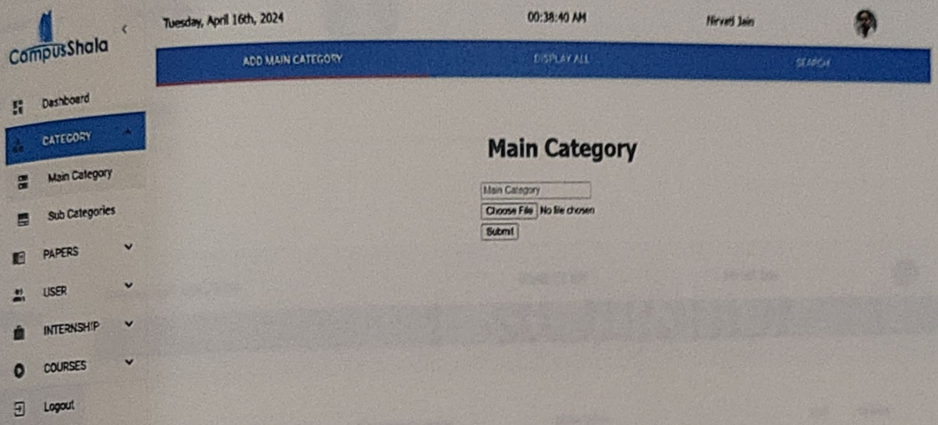
CHAPTER 6

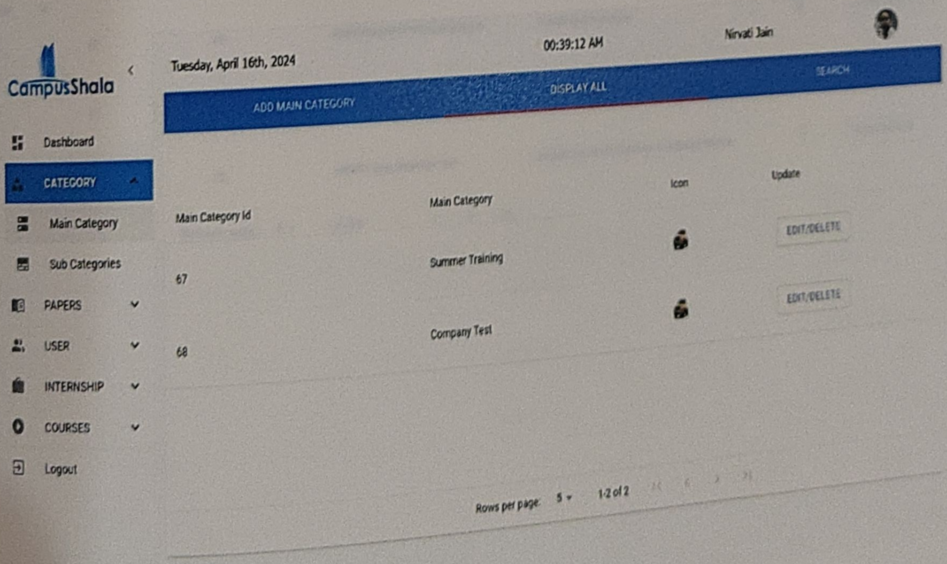
SAMPLE FORMS & REPORTS

CHAPTER 6: SAMPLE FORM & REPORT

Sample Forms-

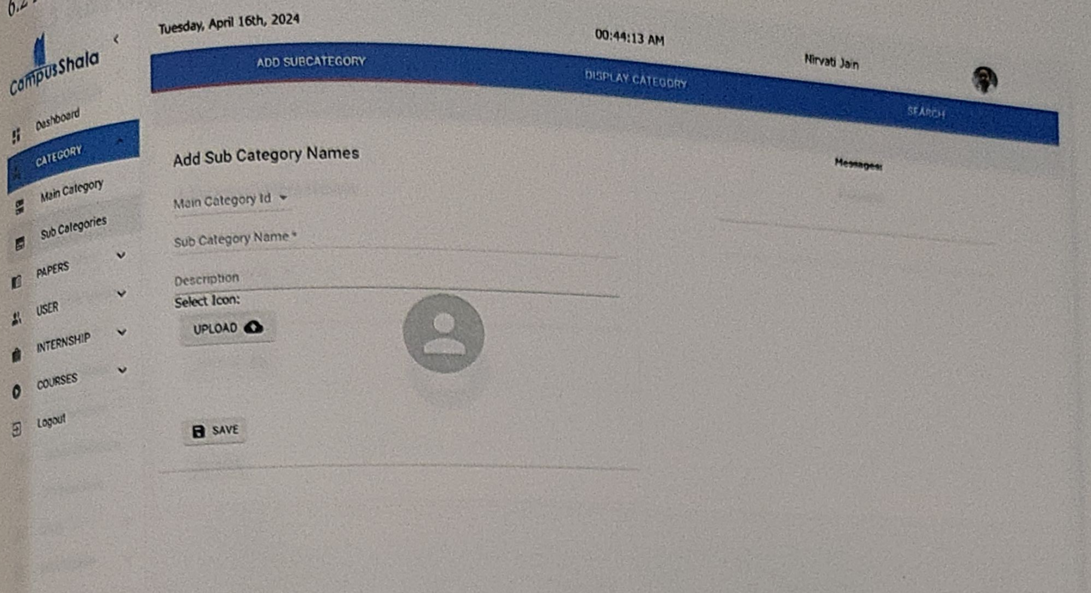
6.1 Add Main Category

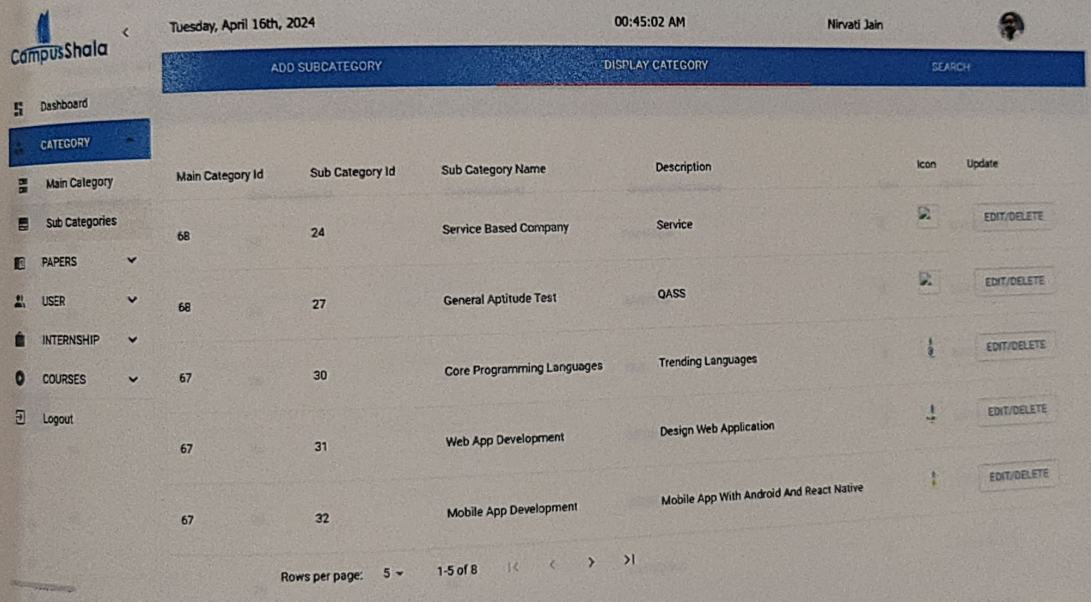

CampusShala
Tuesday, April 16th, 2024
00:38:40 AM
Nirvati Jain
ADD MAIN CATEGORY
DISPLAY ALL
SEARCH
Dashboard
CATEGORY
Main Category
Sub Categories
PAPERS
USER
INTERNSHIP
COURSES
Logout
Main Category
Main Category
Choose File
No file chosen
Submit


CampusShala
Tuesday, April 16th, 2024
00:39:12 AM
Nirvati Jain
ADD MAIN CATEGORY
DISPLAY ALL
SEARCH
Dashboard
CATEGORY
Main Category
Sub Categories
PAPERS
USER
INTERNSHIP
COURSES
Logout
Rows per page: 5
1-2 of 2

Main Category Id	Main Category	Icon	Update
67	Summer Training	👤	EDIT/DELETE
68	Company Test	👤	EDIT/DELETE

6.2 Add Sub Category :


Tuesday, April 16th, 2024
00:44:13 AM
Nirvati Jain
CampusShala
ADD SUBCATEGORY
DISPLAY CATEGORY
SEARCH
Dashboard
CATEGORY
Main Category
Sub Categories
PAPERS
USER
INTERNSHIP
COURSES
Logout
Add Sub Category Names
Messages:
Main Category Id
Sub Category Name *
Description
Select Icon:
UPLOAD
SAVE


Tuesday, April 16th, 2024
00:45:02 AM
Nirvati Jain
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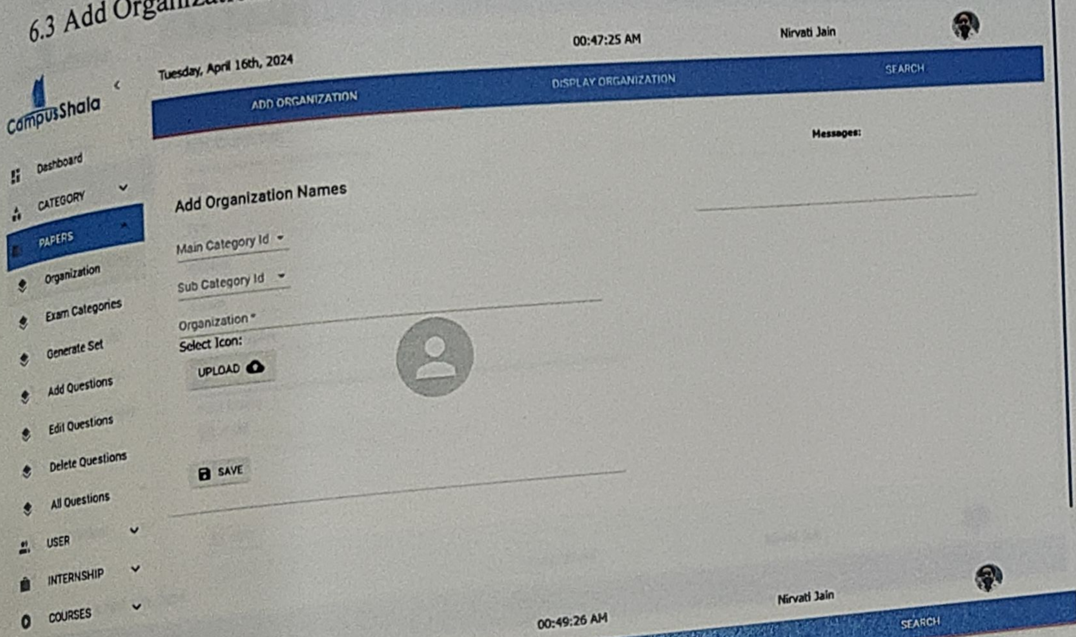
ADD SUBCATEGORY
DISPLAY CATEGORY
SEARCH
Dashboard
CATEGORY
Main Category
Sub Categories
PAPERS
USER
INTERNSHIP
COURSES
Logout

Main Category Id	Sub Category Id	Sub Category Name	Description	Icon	Update
68	24	Service Based Company	Service		EDIT/DELETE
68	27	General Aptitude Test	QASS		EDIT/DELETE
67	30	Core Programming Languages	Trending Languages		EDIT/DELETE
67	31	Web App Development	Design Web Application		EDIT/DELETE
67	32	Mobile App Development	Mobile App With Android And React Native		EDIT/DELETE

Rows per page: 5 1-5 of 8

6.3 Add Organization:


CampusShala
Dashboard
CATEGORY
PAPERS
Organization
Exam Categories
Generate Set
Add Questions
Edit Questions
Delete Questions
All Questions
USER
INTERNSHIP
COURSES
ADD ORGANIZATION
DISPLAY ORGANIZATION
SEARCH
UPLOAD
SAVE

Tuesday, April 16th, 2024

00:47:25 AM

Nirvati Jain

Messages:

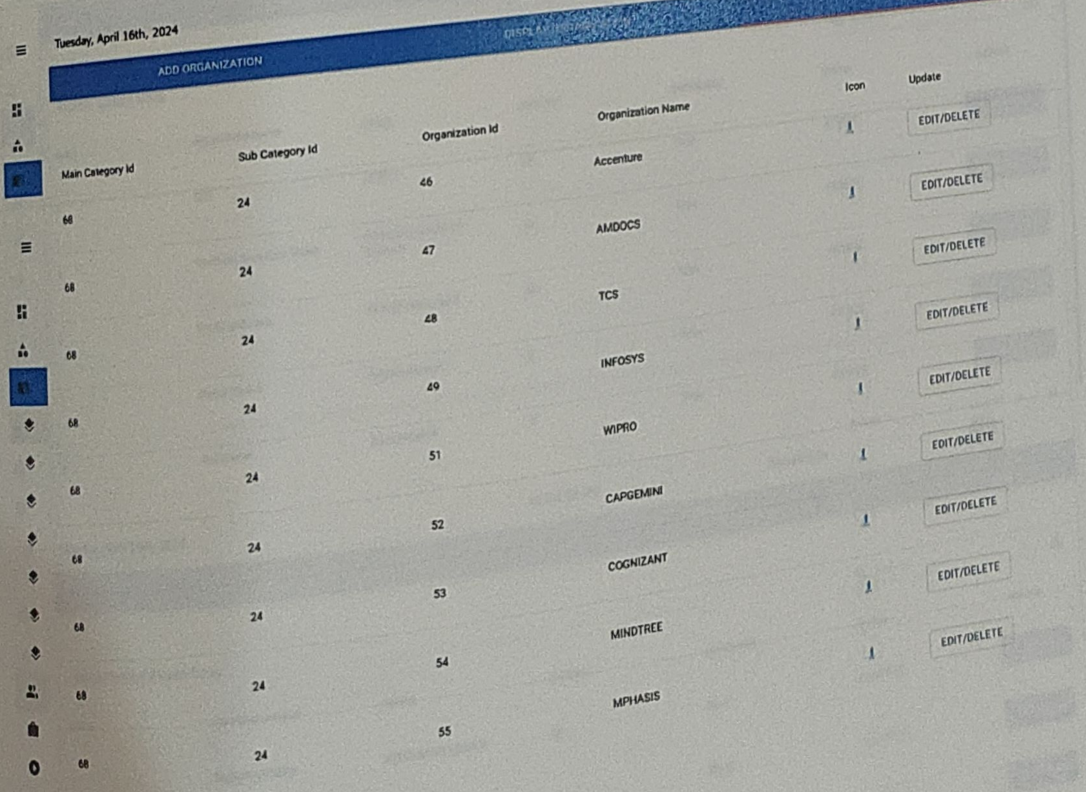
Add Organization Names

Main Category Id

Sub Category Id

Organization *

Select Icon:


ADD ORGANIZATION
DISPLAY ORGANIZATION
SEARCH

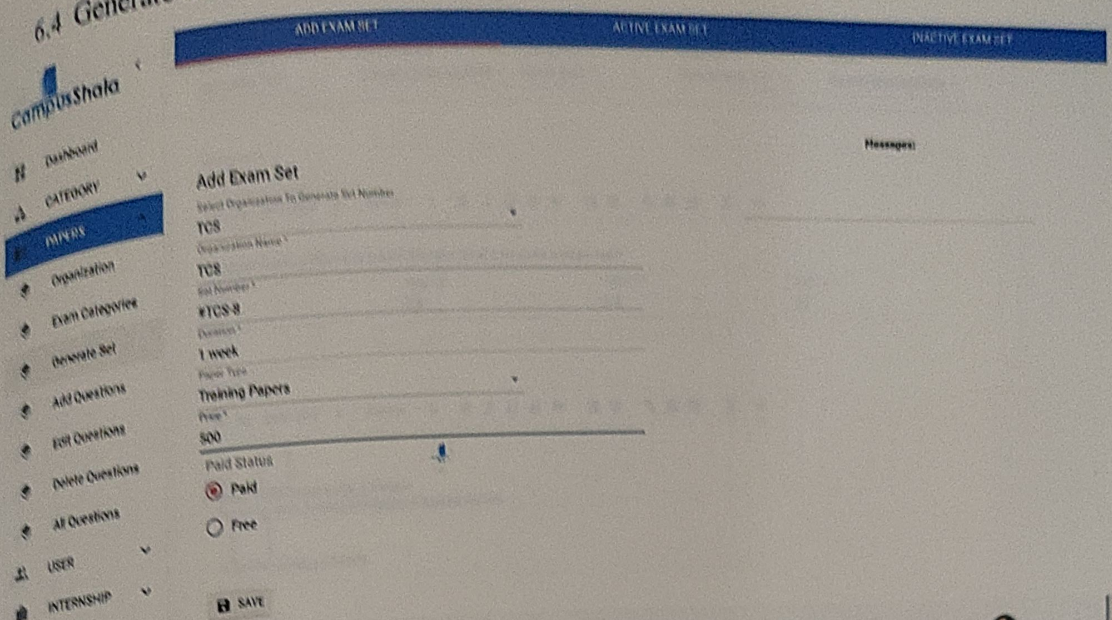
Tuesday, April 16th, 2024

00:49:26 AM

Nirvati Jain

Main Category Id	Sub Category Id	Organization Id	Organization Name	Icon	Update
68	24	46	Accenture		EDIT/DELETE
68	24	47	AMDOCS		EDIT/DELETE
68	24	48	TCS		EDIT/DELETE
68	24	49	INFOSYS		EDIT/DELETE
68	24	51	WIPRO		EDIT/DELETE
68	24	52	CAPGEMINI		EDIT/DELETE
68	24	53	COGNIZANT		EDIT/DELETE
68	24	54	MINDTREE		EDIT/DELETE
68	24	55	MPHASIS		EDIT/DELETE

6.4 Generate Set


ADD EXAM SET
ACTIVE EXAM SET
INACTIVE EXAM SET
CampusShala
Dashboard
CATEGORY
PAPERS
Organization
Exam Categories
Generate Set
Add Questions
Edit Questions
Delete Questions
All Questions
USER
INTERNSHIP
COURSES
Messages:
SAVE

Add Exam Set

Select Organization To Generate Set Number: TCS

Organization Name *: TCS

Set Number *: #TCS-8

Duration *: 1 week

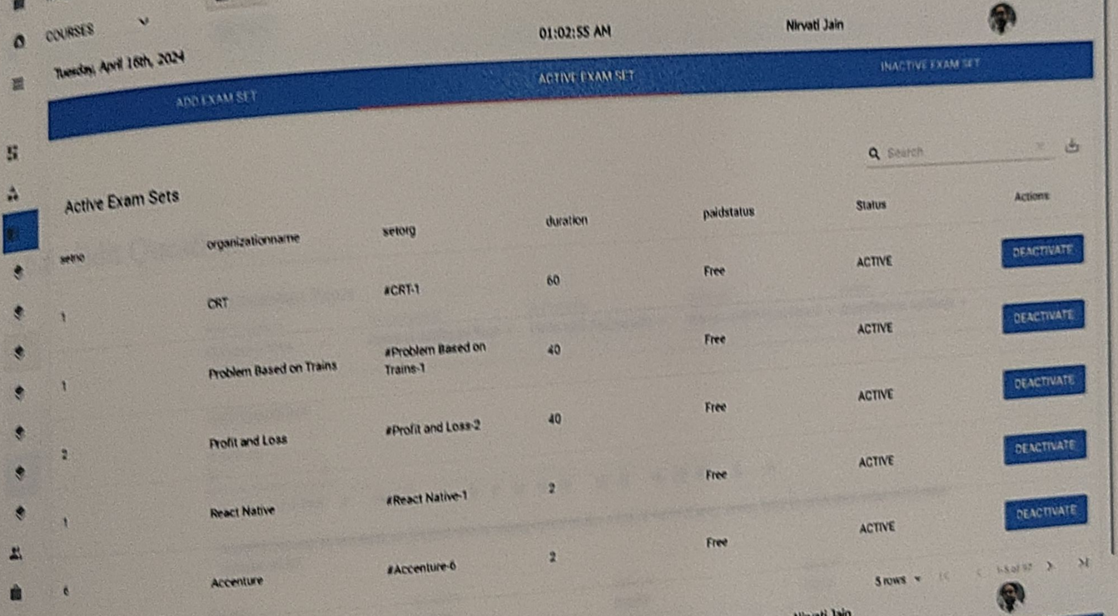
Paper Type: Training Papers

Price *: 500

Paid Status

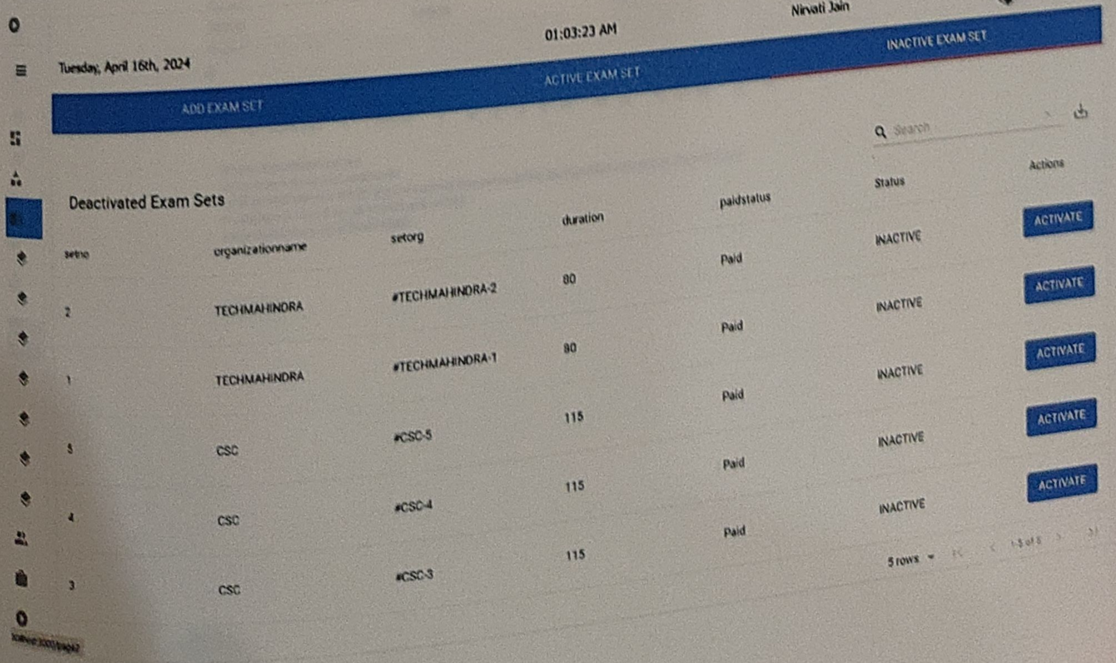
● Paid

○ Free


01:02:55 AM
Nirvati Jain
Tuesday, April 16th, 2024
ADD EXAM SET
ACTIVE EXAM SET
INACTIVE EXAM SET
Search
5 rows
1-5 of 97

Active Exam Sets

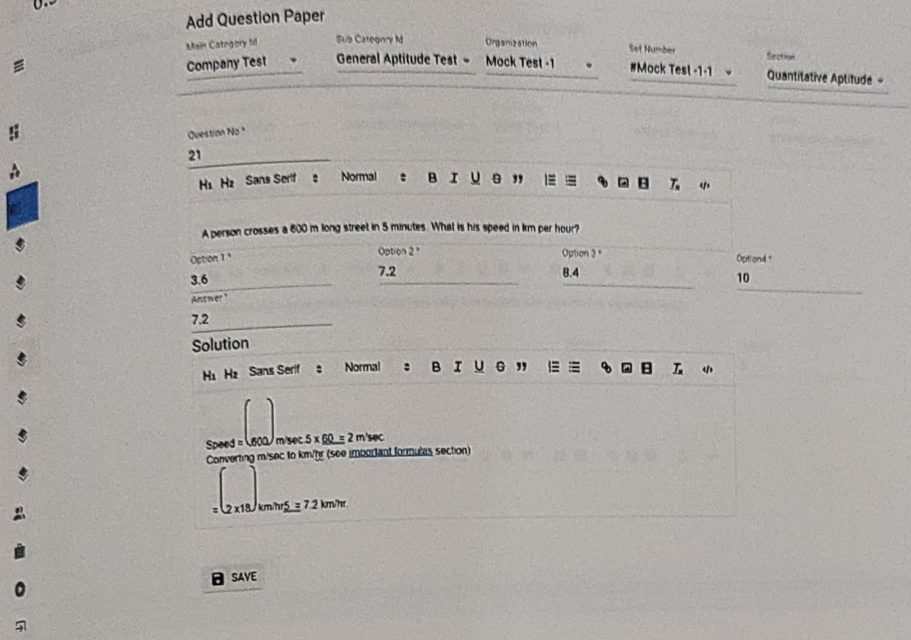
setno	organizationname	setorg	duration	paidstatus	Status	Actions
1	CRT	#CRT-1	60	Free	ACTIVE	DEACTIVATE
1	Problem Based on Trains	#Problem Based on Trains-1	40	Free	ACTIVE	DEACTIVATE
2	Profit and Loss	#Profit and Loss-2	40	Free	ACTIVE	DEACTIVATE
1	React Native	#React Native-1	2	Free	ACTIVE	DEACTIVATE
6	Accenture	#Accenture-6	2	Free	ACTIVE	DEACTIVATE


01:03:23 AM
Nirvati Jain
Tuesday, April 16th, 2024
ADD EXAM SET
ACTIVE EXAM SET
INACTIVE EXAM SET
Search
5 rows
1-5 of 8

Deactivated Exam Sets

setno	organizationname	setorg	duration	paidstatus	Status	Actions
2	TECHMAHINDRA	#TECHMAHINDRA-2	80	Paid	INACTIVE	ACTIVATE
1	TECHMAHINDRA	#TECHMAHINDRA-1	80	Paid	INACTIVE	ACTIVATE
5	CSC	#CSC-5	115	Paid	INACTIVE	ACTIVATE
4	CSC	#CSC-4	115	Paid	INACTIVE	ACTIVATE
3	CSC	#CSC-3	115	Paid	INACTIVE	ACTIVATE

6.5 Add Question



Add Question Paper

Main Category Id: Company Test

Sub Category Id: General Aptitude Test

Organization: Mock Test -1

Set Number: #Mock Test -1-1

Section: Quantitative Aptitude

Question No *: 21

A person crosses a 600 m long street in 5 minutes. What is his speed in km per hour?

Option 1 *: 3.6

Option 2 *: 7.2

Option 3 *: 8.4

Option4 *: 10

Answer *: 7.2

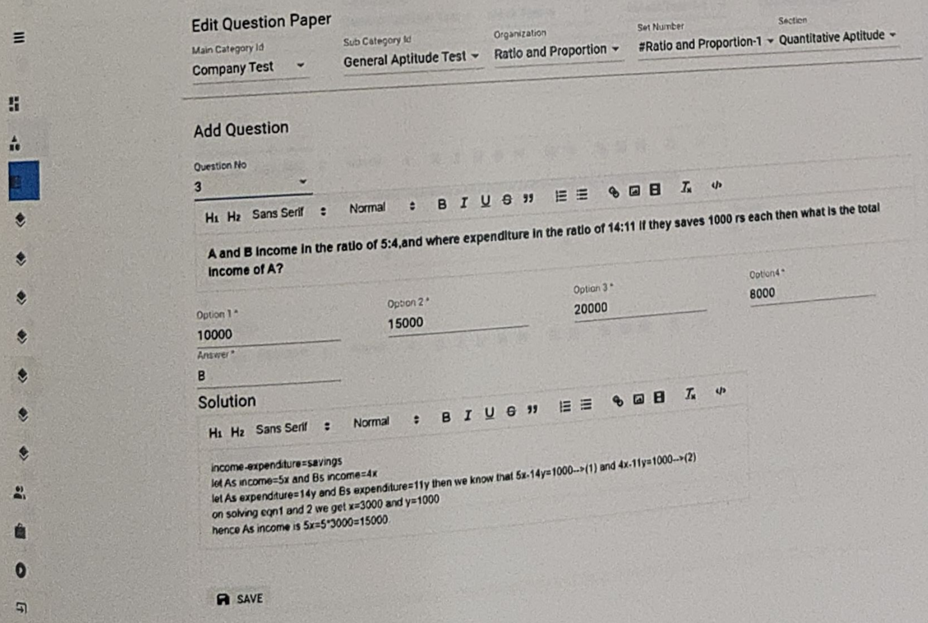
Solution

Speed = (600) m/sec.5 x 60 = 2 m/sec

Converting m/sec to km/hr (see important formulas section)

= (2 x 18) km/hr5 = 7.2 km/hr.

6.6 Edit Question:



Edit Question Paper

Main Category Id: Company Test

Sub Category Id: General Aptitude Test

Organization: Ratio and Proportion

Set Number: #Ratio and Proportion-1

Section: Quantitative Aptitude

Add Question

Question No: 3

A and B income in the ratio of 5:4,and where expenditure in the ratio of 14:11 if they saves 1000 rs each then what is the total income of A?

Option 1 *: 10000

Option 2 *: 15000

Option 3 *: 20000

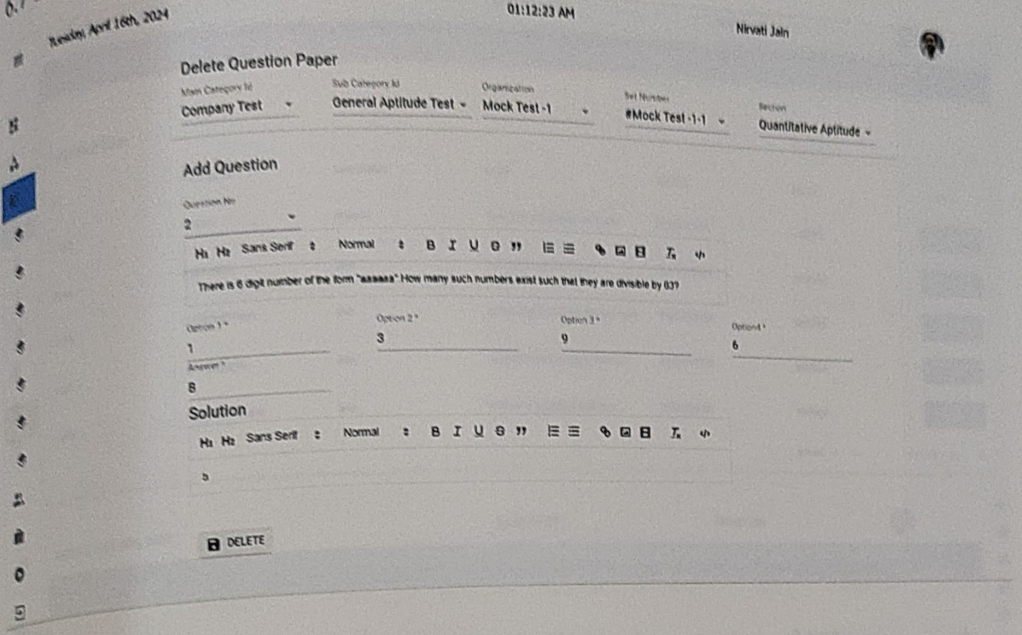
Option4 *: 8000

Answer *: B

Solution

income-expenditure=savings
let As income=5x and Bs income=4x
let As expenditure=14y and Bs expenditure=11y then we know that 5x-14y=1000-->(1) and 4x-11y=1000-->(2)
on solving eqn1 and 2 we get x=3000 and y=1000
hence As income is 5x=5*3000=15000

6.7 Delete Question:



Tuesday, April 16th, 2024

01:12:23 AM

Nirvati Jain

Delete Question Paper

Main Category Id: Company Test

Sub Category Id: General Aptitude Test

Organization: Mock Test -1

Set Number: #Mock Test -1-1

Section: Quantitative Aptitude

Add Question

Question No: 2

There is 6 digit number of the form "aaaaaa" How many such numbers exist such that they are divisible by 63?

Option 1 *: 1

Option 2 *: 3

Option 3 *: 9

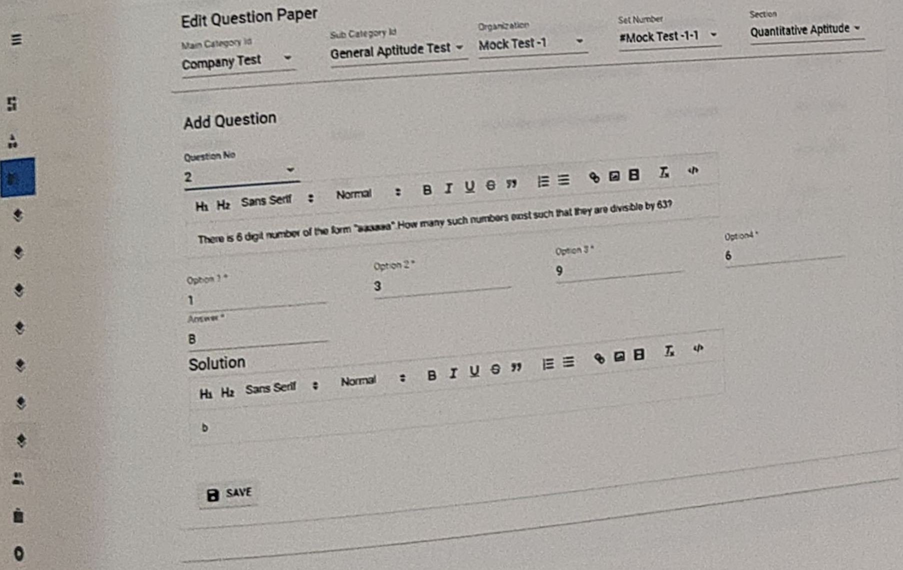
Option4 *: 6

Answer *: B

Solution

b

6.8 All Questions:



Edit Question Paper

Main Category Id: Company Test

Sub Category Id: General Aptitude Test

Organization: Mock Test -1

Set Number: #Mock Test -1-1

Section: Quantitative Aptitude

Add Question

Question No: 2

There is 6 digit number of the form "aaaaaa" How many such numbers exist such that they are divisible by 63?

Option 1 *: 1

Option 2 *: 3

Option 3 *: 9

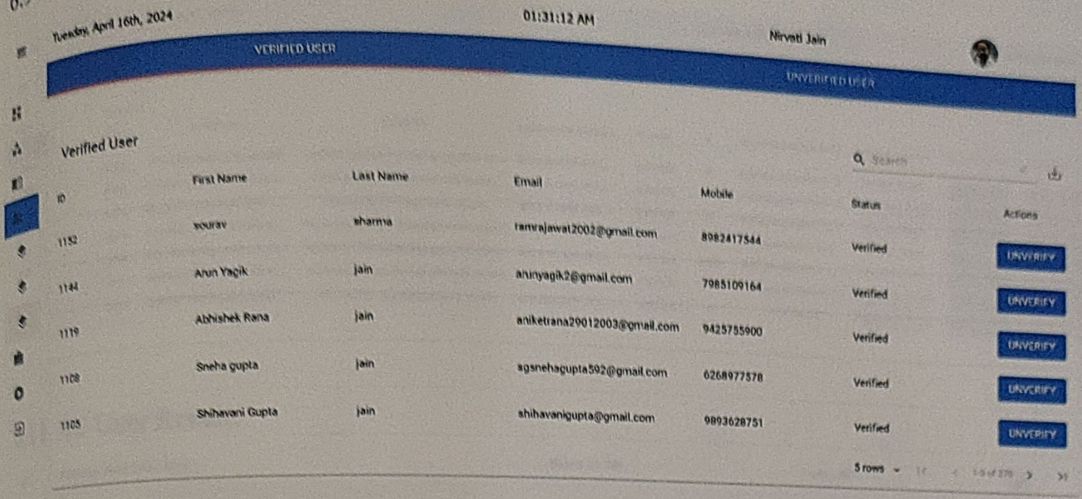
Option4 *: 6

Answer *: B

Solution

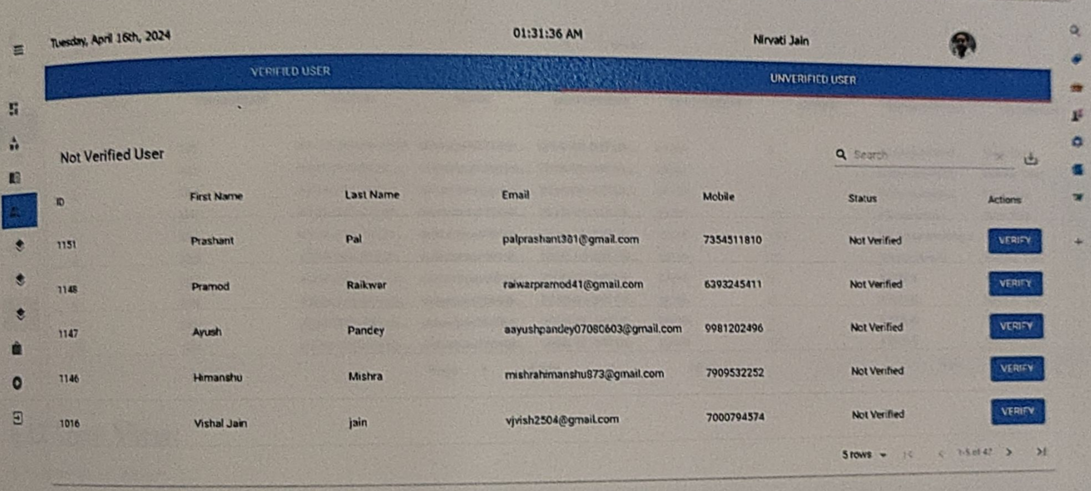
b

6.9 User Status:


Tuesday, April 16th, 2024
01:31:12 AM
Nirvati Jain
VERIFIED USER
UNVERIFIED USER
Search
5 rows

Verified User

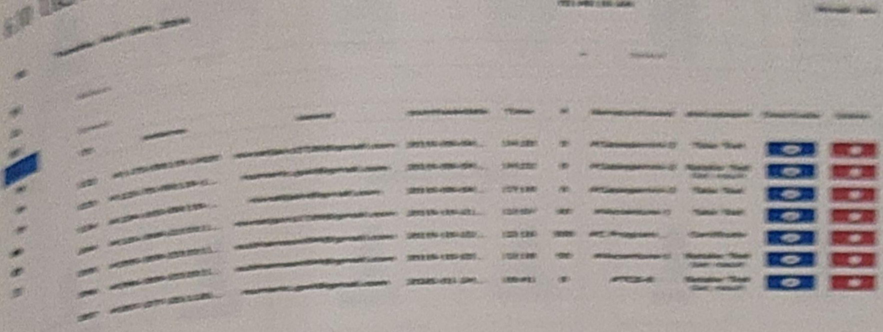
ID	First Name	Last Name	Email	Mobile	Status	Actions
1152	sourav	sharma	ramrajawat2002@gmail.com	8982417544	Verified	UNVERIFY
1144	Arun Yagik	jain	arunyagik2@gmail.com	7985109164	Verified	UNVERIFY
1119	Abhishek Rana	jain	aniketrana29012003@gmail.com	9425755900	Verified	UNVERIFY
1108	Sneha gupta	jain	sgsnehagupta592@gmail.com	6268977578	Verified	UNVERIFY
1105	Shihavani Gupta	jain	shihavanigupta@gmail.com	9893628751	Verified	UNVERIFY


Tuesday, April 16th, 2024
01:31:36 AM
Nirvati Jain
VERIFIED USER
UNVERIFIED USER
Search
5 rows

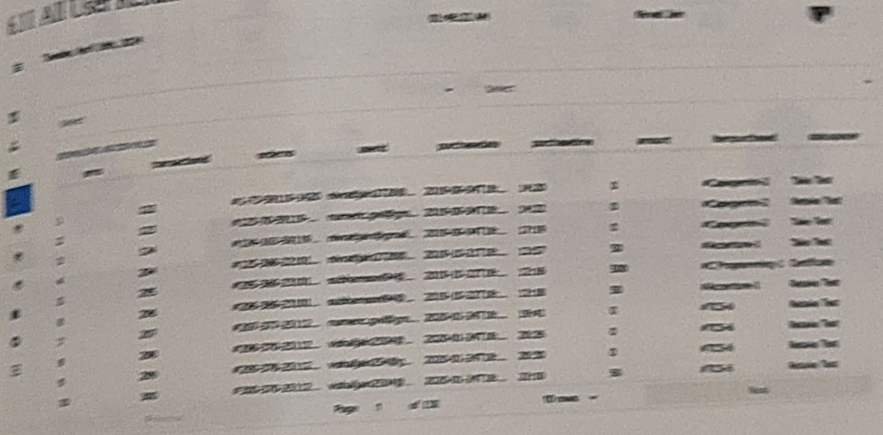
Not Verified User

ID	First Name	Last Name	Email	Mobile	Status	Actions
1151	Prashant	Pal	palprashant381@gmail.com	7354511810	Not Verified	VERIFY
1148	Pramod	Raikwar	raiwarpramod41@gmail.com	6393245411	Not Verified	VERIFY
1147	Ayush	Pandey	aayushpandey07080603@gmail.com	9981202496	Not Verified	VERIFY
1146	Himanshu	Mishra	mishrahimanshu873@gmail.com	7909532252	Not Verified	VERIFY
1016	Vishal Jain	jain	vjvish2504@gmail.com	7000794574	Not Verified	VERIFY

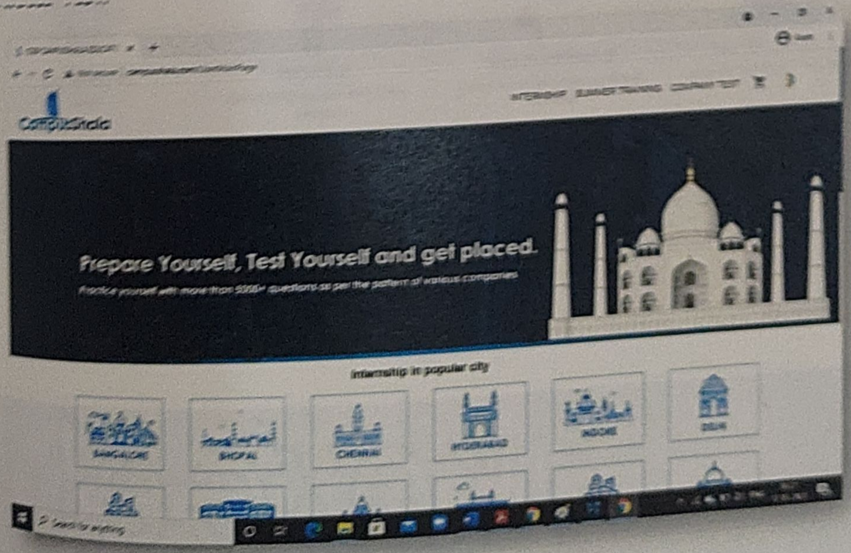
6.10 User Report:



6.11 All User Result:



6.12 User View: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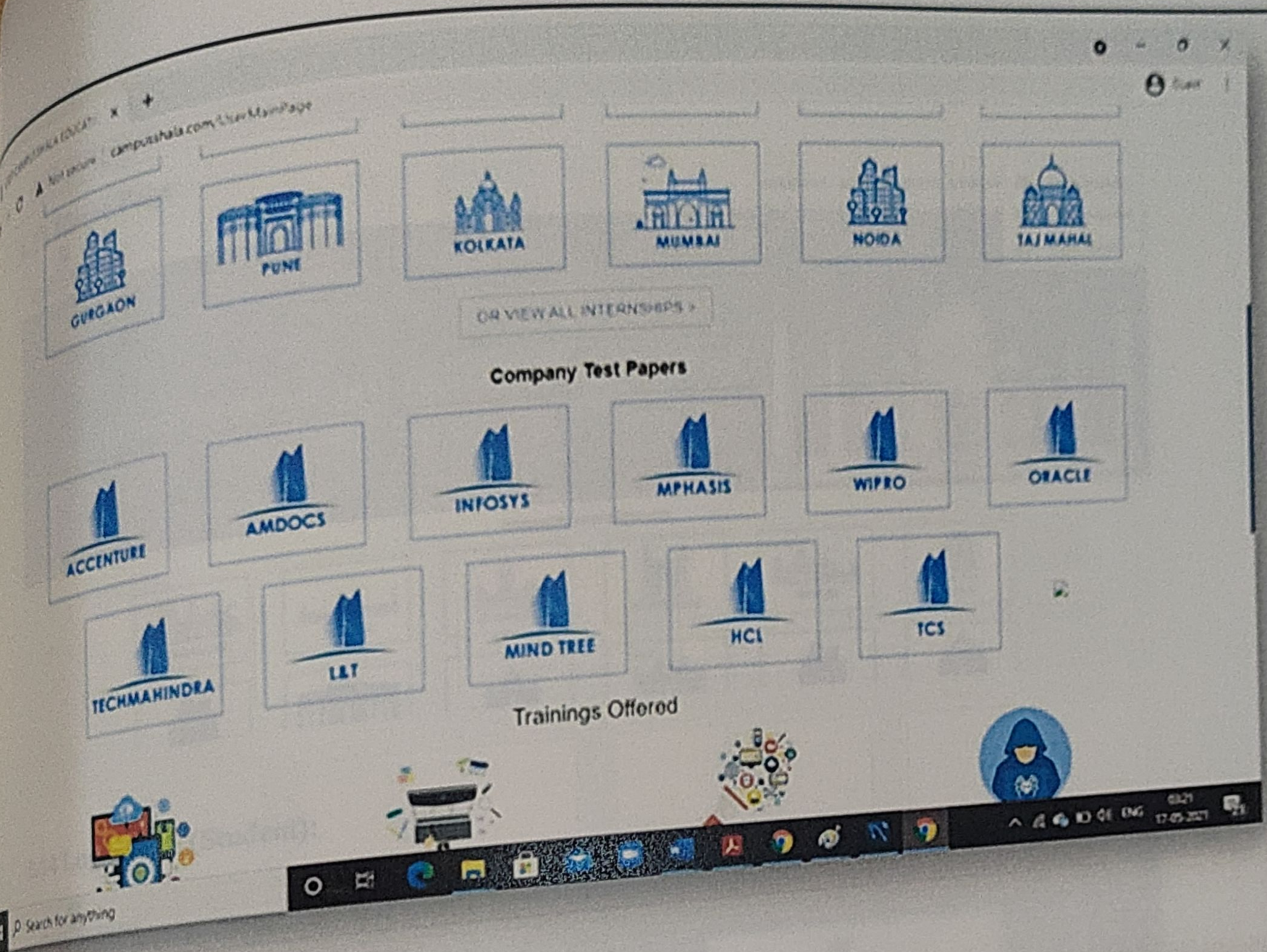
Practice yourself with more than 5000+ questions as per the pattern of various companies
Internship in popular city
BANGALORE
BHOPAL
CHENNAI
HYDERABAD
INDORE
DELHI


campusshala.com/UserMainPage
Not secure
Guest
Search for anything
ENG
03:21
17-05-2021

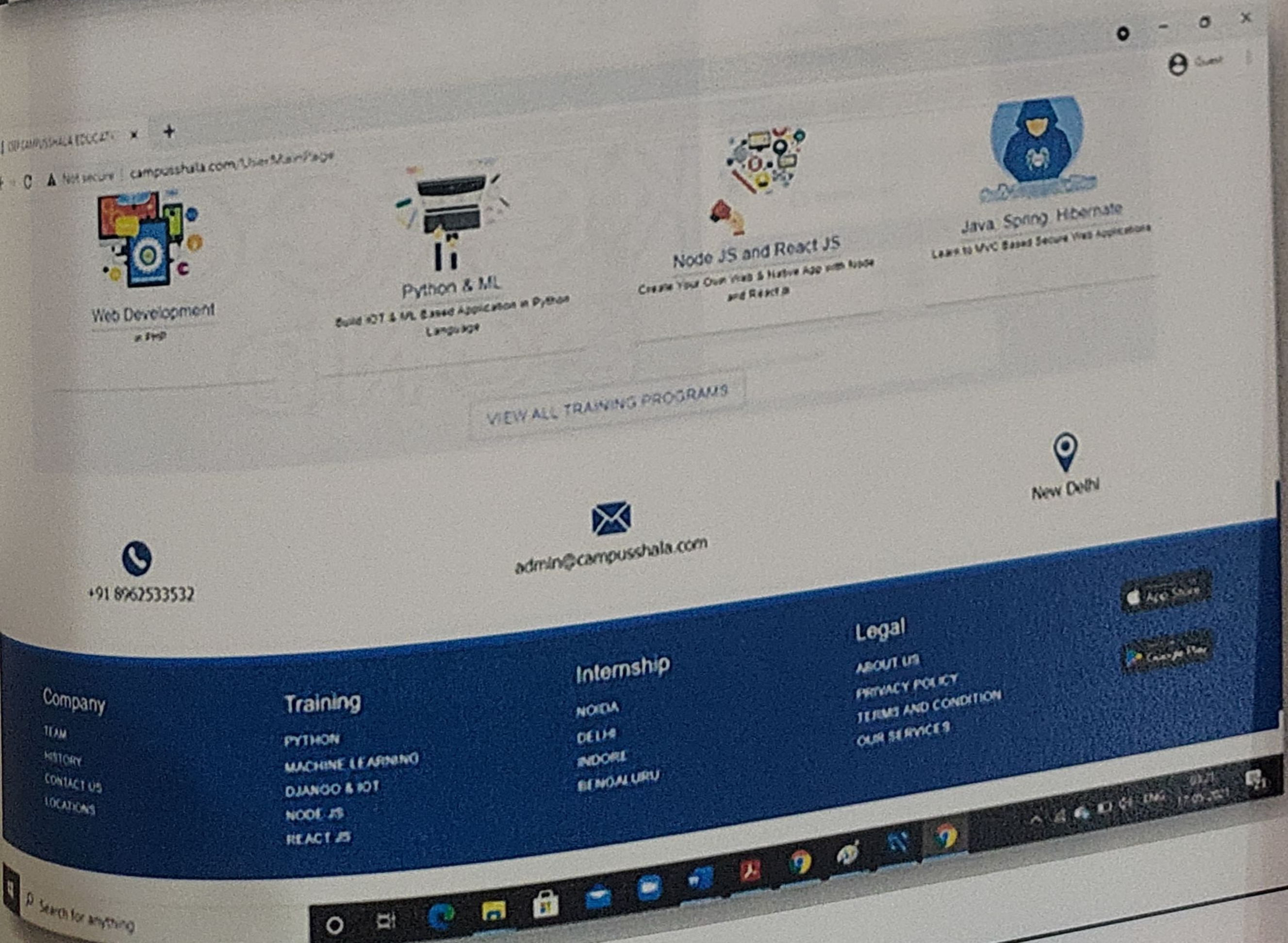
GURGAON
PUNE
KOLKATA
MUMBAI
NOIDA
TAJ MAHAL

OR VIEW ALL INTERNSHIPS ›

Company Test Papers

ACCENTURE
AMDOCS
INFOSYS
MPHASIS
WIPRO
ORACLE
TECHMAHINDRA
L&T
MIND TREE
HCL
TCS

Trainings Offered


CEP CAMPUSSHALA EDUCATI
campusshala.com/UserMainPage
Not secure
Guest
App Store
Google Play
Search for anything
ENG
03:21
17-05-2021

Web Development
in PHP

Python & ML
Build IOT & ML Based Application in Python Language

Node JS and React JS
Create Your Own Web & Native App with Node and React js

Java, Spring, Hibernate
Learn to MVC Based Secure Web Applications

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admin@campusshala.com

New Delhi

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HISTORY
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LOCATIONS

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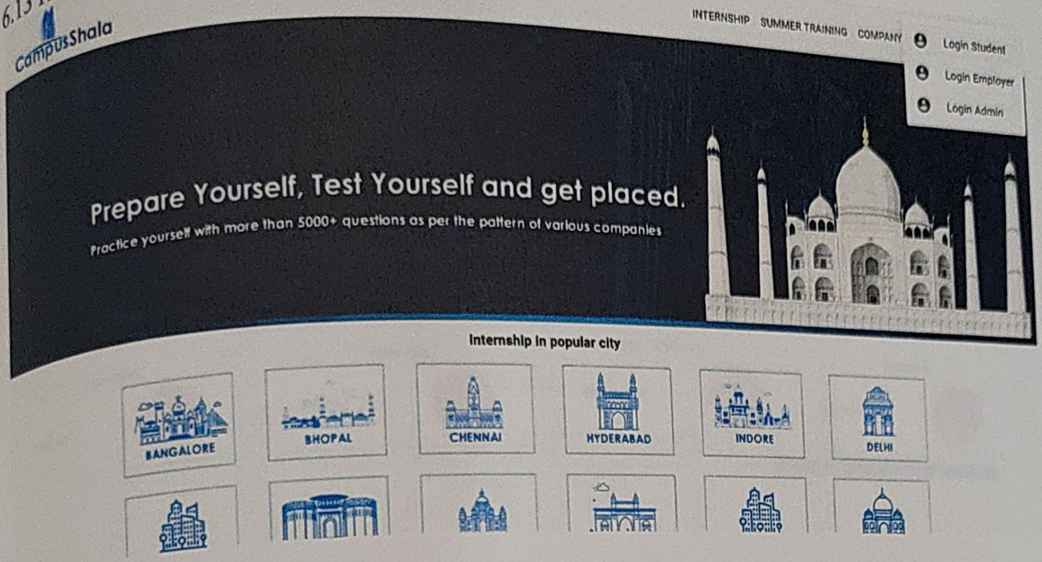
PYTHON
MACHINE LEARNING
DJANGO & IOT
NODE JS
REACT JS

Internship
NOIDA
DELHI
INDORE
BENGALURU

Legal
ABOUT US
PRIVACY POLICY
TERMS AND CONDITION
OUR SERVICES

6.13 Home Page:


CampusShala
INTERNSHIP
SUMMER TRAINING
COMPANY
Login Student
Login Employer
Login Admin
BANGALORE
BHOPAL
CHENNAI
HYDERABAD
INDORE
DELHI

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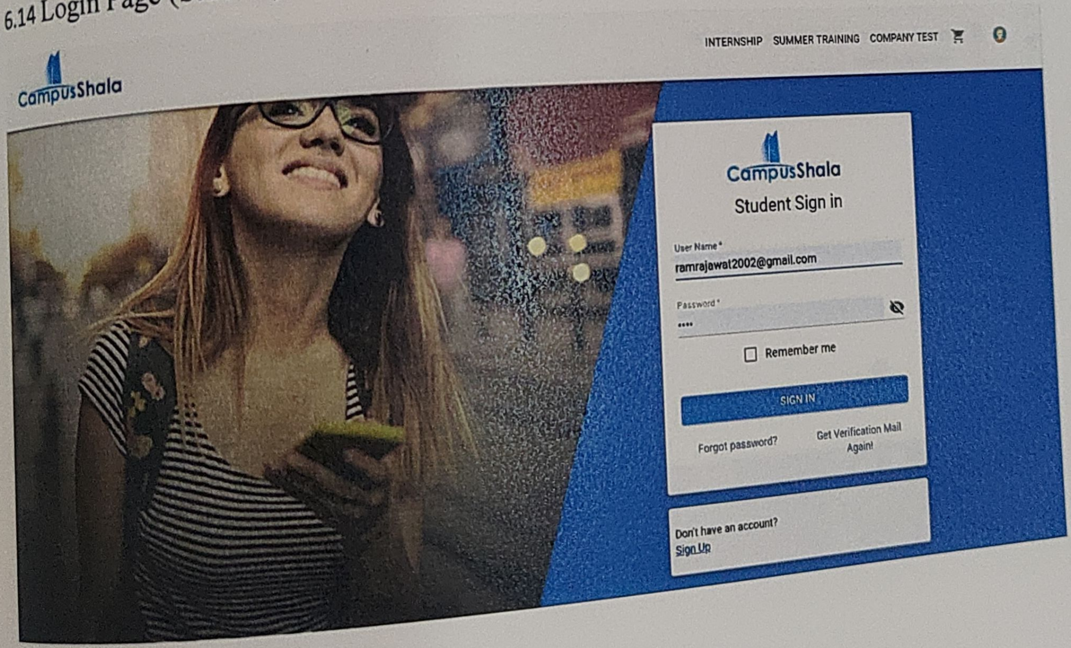
Practice yourself with more than 5000+ questions as per the pattern of various companies

Internship in popular city

6.14 Login Page (Student):


INTERNSHIP
SUMMER TRAINING
COMPANY TEST
CampusShala
CampusShala
SIGN IN
Forgot password?
Get Verification Mail Again!
Sign Up

Student Sign in

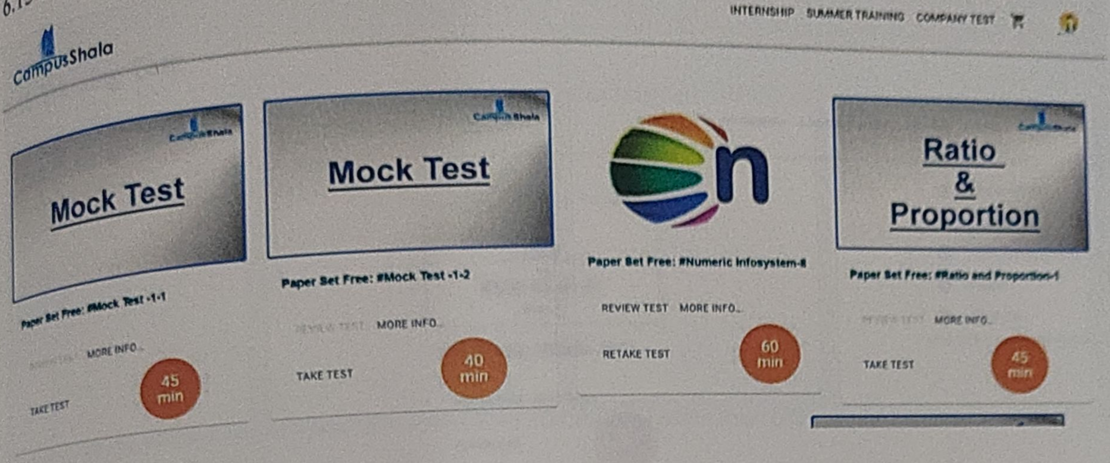
User Name * ramrajawat2002@gmail.com

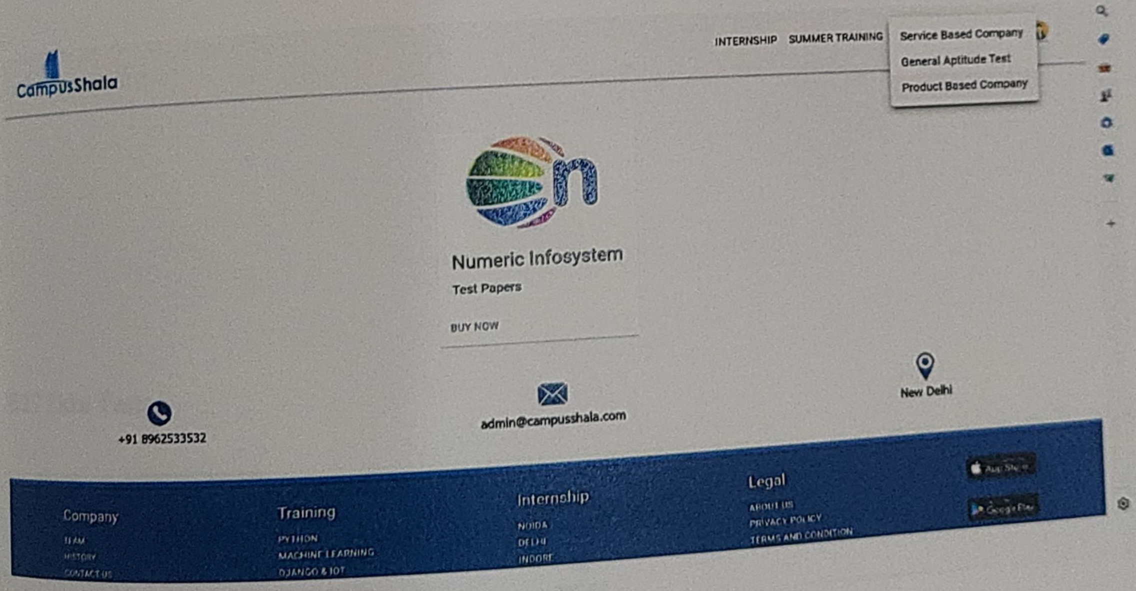
Password * ••••

☐ Remember me

Don't have an account?

6.15 Student Account:


CampusShala
INTERNSHIP
SUMMER TRAINING
COMPANY TEST
Mock Test
Paper Set Free: #Mock Test -1-1
MORE INFO..
TAKE TEST
45 min
Mock Test
Paper Set Free: #Mock Test -1-2
MORE INFO..
TAKE TEST
40 min
Paper Set Free: #Numeric Infosystem-8
REVIEW TEST
MORE INFO..
RETAKE TEST
60 min
Ratio & Proportion
Paper Set Free: #Ratio and Proportion-1
MORE INFO..
TAKE TEST
45 min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General Aptitude Test
Product Based Company
Numeric Infosystem
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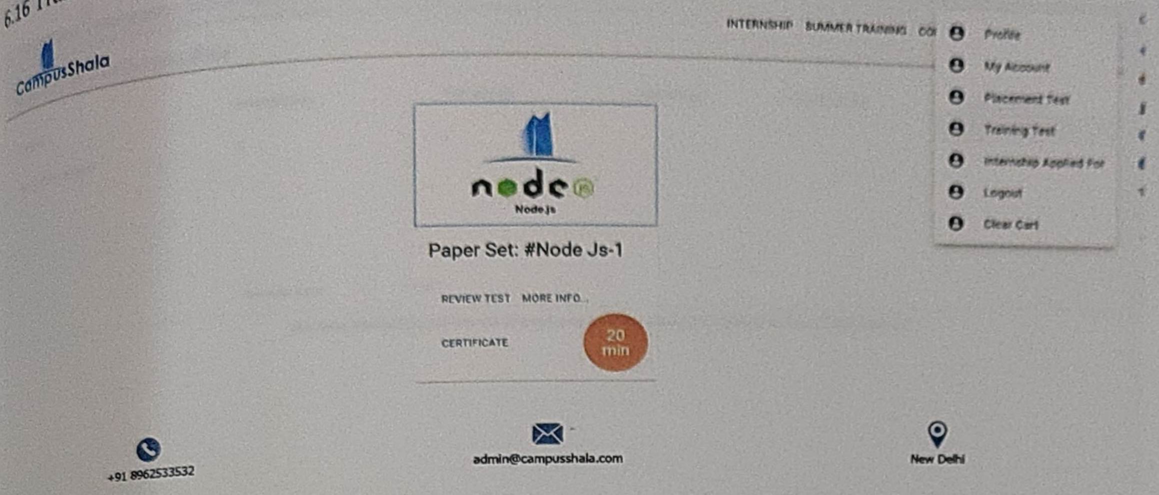
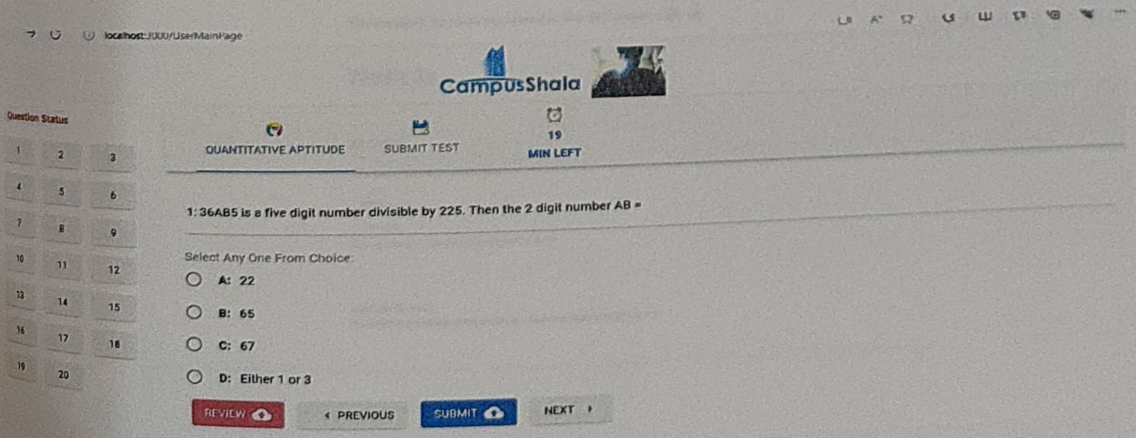
Internship
NOIDA
DELHI
INDORE
Legal
ABOUT US
PRIVACY POLICY
TERMS AND CONDITION

6.16 Training Test:


CampusShala
INTERNSHIP
SUMMER TRAINING
CO
Profile
My Account
Placement Test
Training Test
Internship Applied For
Logout
Clear Cart
node
Node js
REVIEW TEST
MORE INFO...
CERTIFICATE
20 min
+91 8962533532
admin@campusshala.com
New Delhi

Paper Set: #Node Js-1

6.17 Take Test:


localhost:3000/UserMainPage
CampusShala
Question Status
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
QUANTITATIVE APTITUDE
SUBMIT TEST
19
MIN LEFT
REVIEW
PREVIOUS
SUBMIT
NEXT

1: 36AB5 is a five digit number divisible by 225. Then the 2 digit number AB =

Select Any One From Choice:

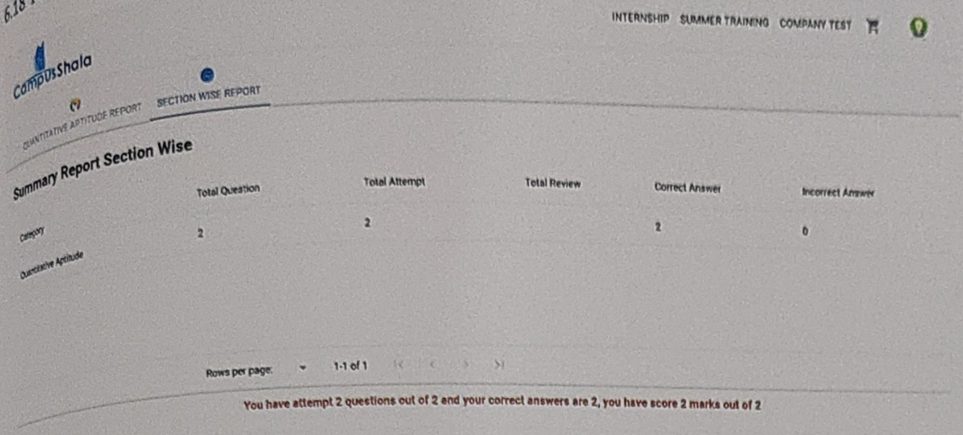
○ A: 22

○ B: 65

○ C: 67

○ D: Either 1 or 3

6.18 Test Result Report:

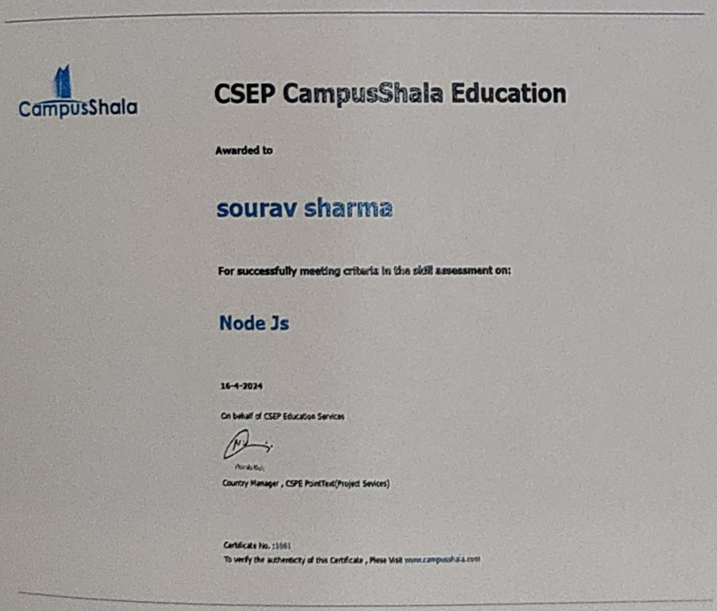

CampusShala
INTERNSHIP
SUMMER TRAINING
COMPANY TEST
QUANTITATIVE APTITUDE REPORT
SECTION WISE REPORT
Rows per page:
1-1 of 1

Summary Report Section Wise

Category	Total Question	Total Attempt	Total Review	Correct Answer	Incorrect Answer
Quantitative Aptitude	2	2		2	0

You have attempt 2 questions out of 2 and your correct answers are 2, you have score 2 marks out of 2

6.19 Certificate:



CampusShala

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Awarded to

sourav sharma

For successfully meeting criteria in the skill assessment on:

Node Js

16-4-2024

On behalf of CSEP Education Services

Country Manager , CSPE PointText(Project Sevices)

Certificate No. :1061
To verify the authenticty of this Certificate , Plese Visit www.campusshala.com

CHAPTER 7
CONCLUSION

CHAPTER 7: CONCLUSION

It's never easy to be simple. The process of developing a simple and easy-to-use platform that makes the administrator's job easier is not without its challenges, as this project has demonstrated. Every stage of the process, from comprehending user requirements to system design to system prototype and finalization, calls for a deep comprehension of and dedication to accomplishing Project Goal. The system prototype shows simple navigation and data is organized, even if the student database management module is not yet fully integrated into the system and utilized in real time. Overall, work processes have become simpler and efficiency has increased. Although all the objectives have been met, the system still has room for improvement. The system is robust and flexible enough for future upgrade using advanced technology and devices.

Bibliography

The Following links were referred during the development and execution phase of the project.

1 tps://www.nodejs.org/

2 https://www.wpbeginner.com/

3 https://www.w3school.com/

4 https://www.youtube.com/

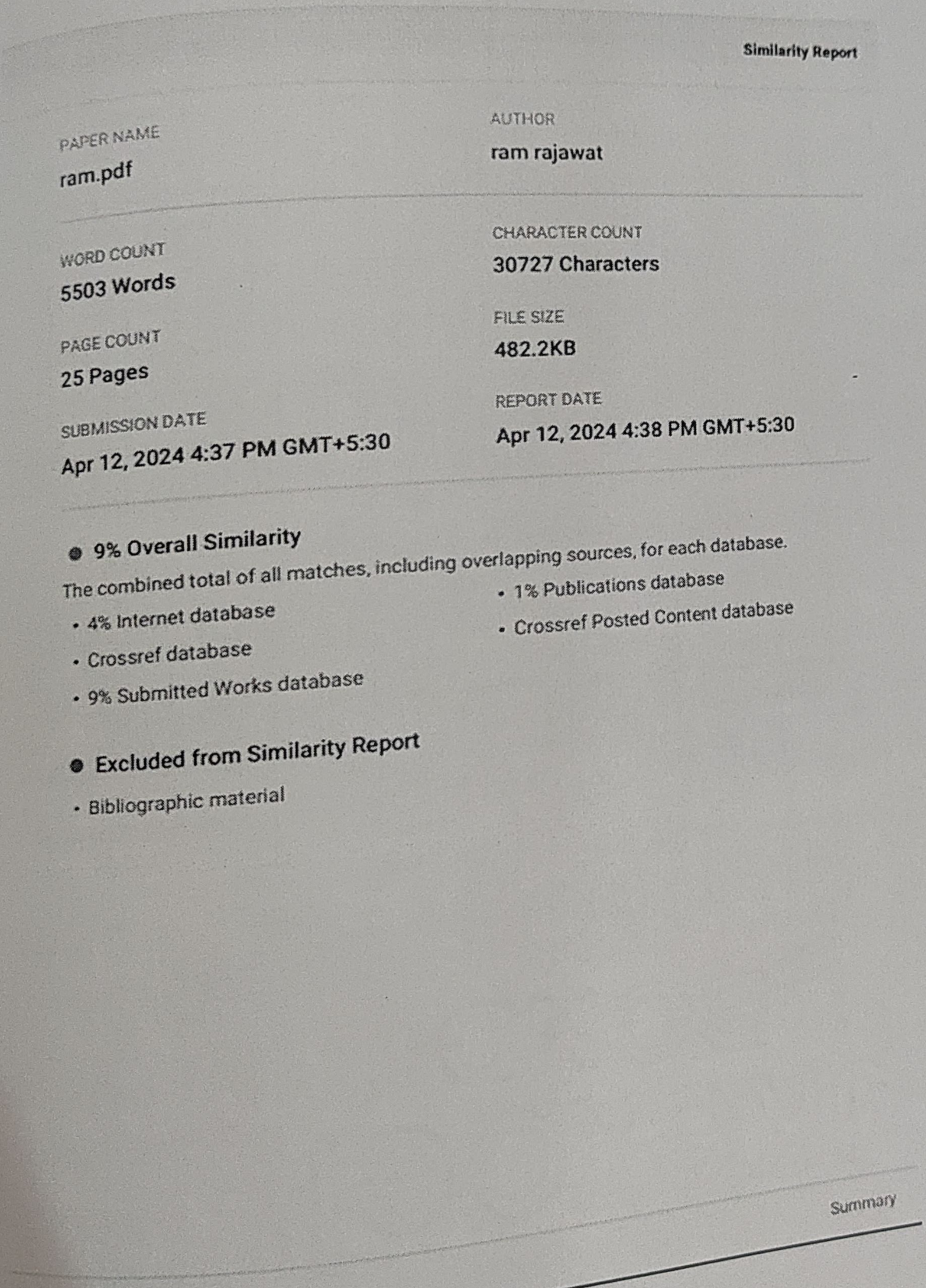
5 https://www.stackowerflow.com/

6 https://www.material-ui.com/

7 https://getbootstrap.com/

8 https://www.tutorialspoint.com/

Plagiarism Report



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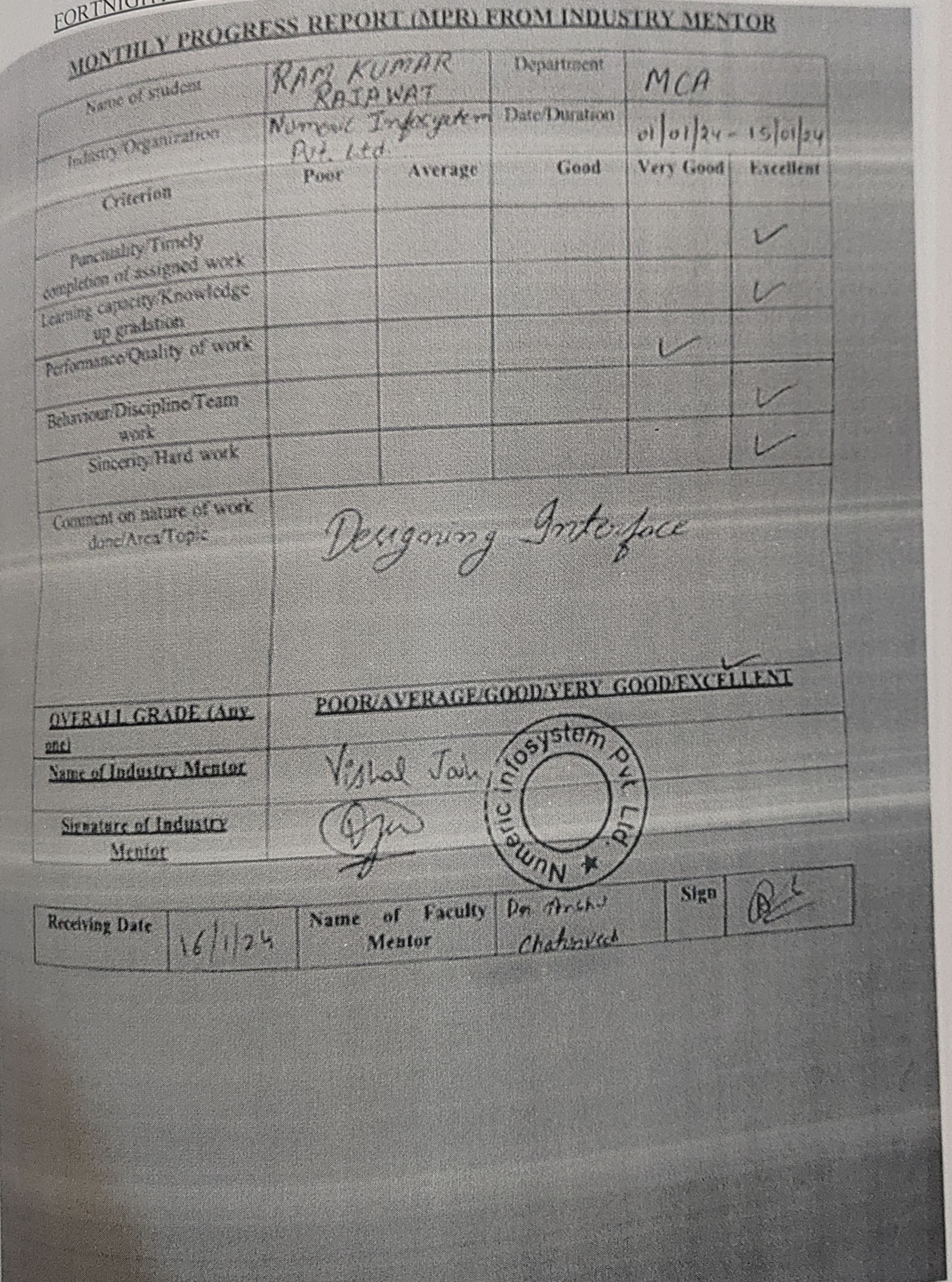
Summary

Fortnightly Progress Reports

FORTNIGHTLY PROGRESS REPORT (FPR-1)FROM INDUSTRY MENTOR



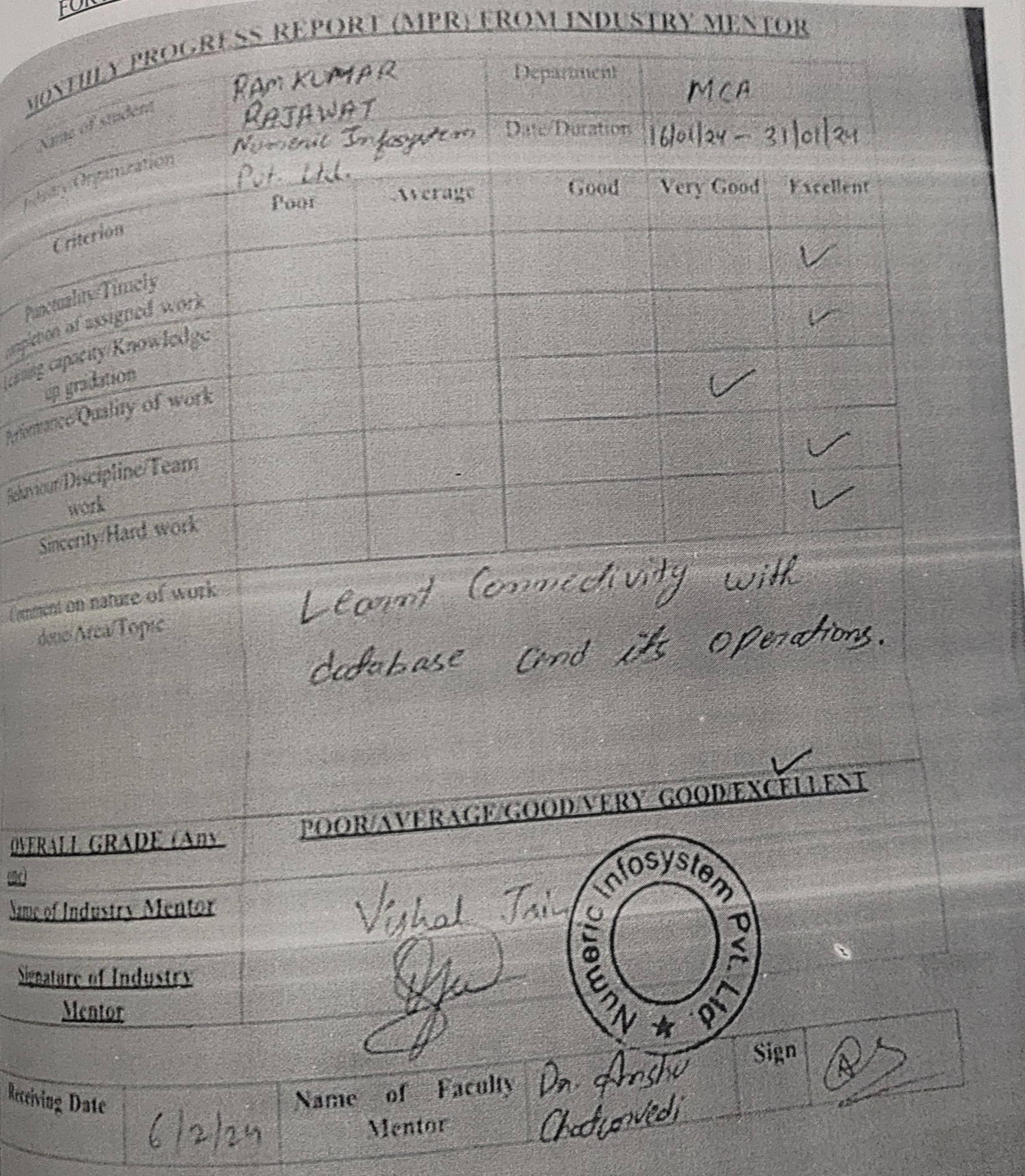
MONTHLY PROGRESS REPORT (MPR) FROM INDUSTRY MENTOR

Name of student	RAM KUMAR RAJAWAT		Department	MCA	
Industry/Organization	Numeric Infosystem Pvt. Ltd		Date/Duration	01/01/24 - 15/01/24	
Criterion	Poor	Average	Good	Very Good	Excellent
Punctuality/Timely completion of assigned work					✓
Learning capacity/Knowledge up gradation					✓
Performance/Quality of work				✓	
Behaviour/Discipline/Team work					✓
Sincerity/Hard work					✓
Comment on nature of work done/Area/Topic	Designing Interface				
OVERALL GRADE (Any one)	**POOR/AVERAGE/GOOD/VERY GOOD/[✓ EXCELLENT]**				
Name of Industry Mentor	Vishal Jain				
Signature of Industry Mentor					

Receiving Date	16/1/24	**Name of Faculty Mentor**	Dr. Archi Chaturvedi	**Sign**	

Fortnightly Progress Reports

FORTNIGHTLY PROGRESS REPORT (FPR-2)FROM INDUSTRY MENTOR



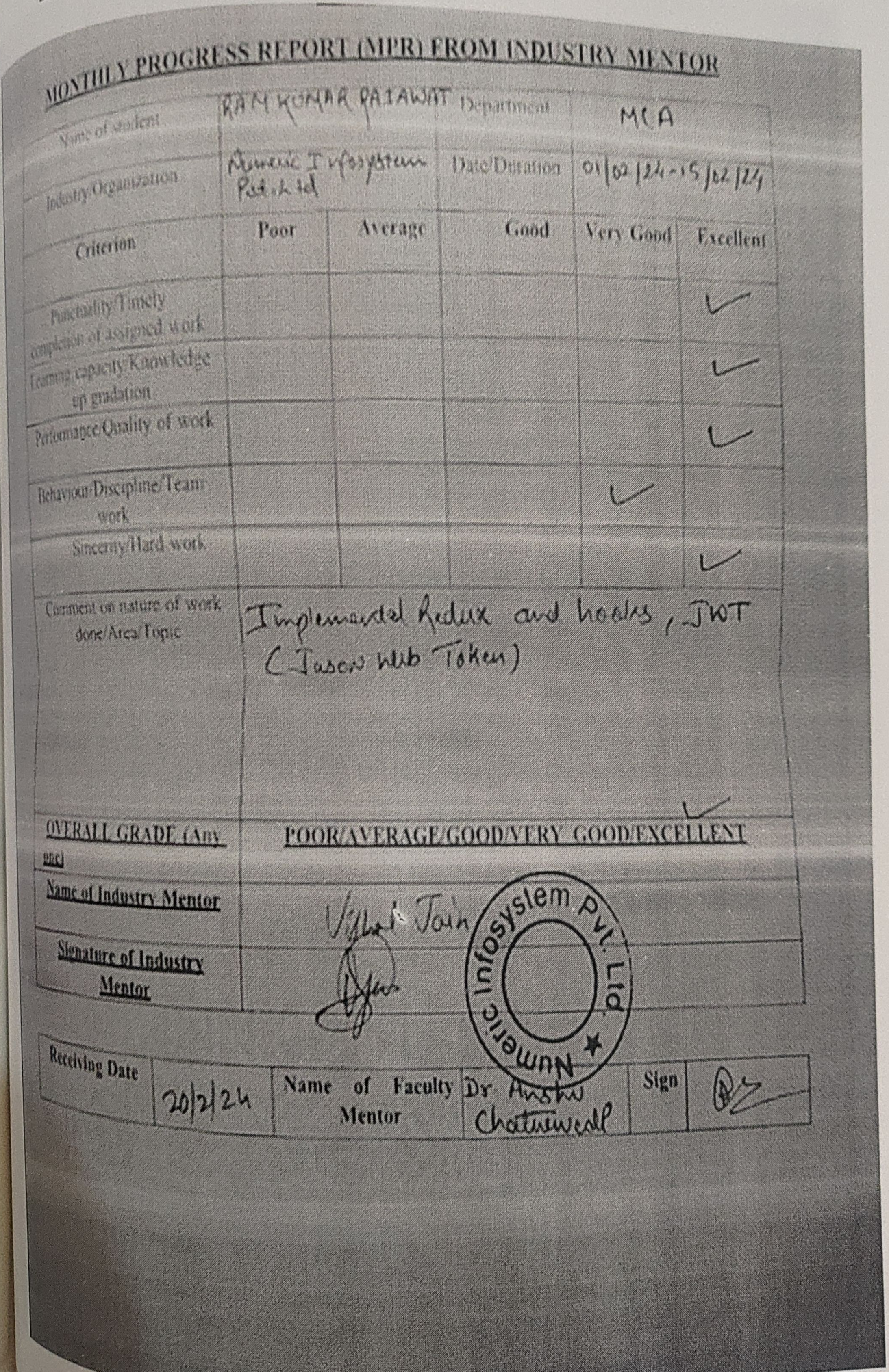
MONTHLY PROGRESS REPORT (MPR) FROM INDUSTRY MENTOR

Name of student	RAM KUMAR RAJAWAT		Department	MCA	
Industry/Organization	Numeric Infosystem Pvt. Ltd.		Date/Duration	16/01/24 – 31/01/24	
Criterion	Poor	Average	Good	Very Good	Excellent
Punctuality/Timely completion of assigned work					✓
Learning capacity/Knowledge up gradation					✓
Performance/Quality of work				✓	
Behaviour/Discipline/Team work					✓
Sincerity/Hard work					✓
Comment on nature of work done/Area/Topic	Learnt Connectivity with database and its operations.				
OVERALL GRADE (Any one)	POOR/AVERAGE/GOOD/VERY GOOD/[✓ EXCELLENT]				
Name of Industry Mentor	Vishal Jain				
Signature of Industry Mentor					

Receiving Date	6/2/24	Name of Faculty Mentor	Dr. Anshu Chaturvedi	Sign	

Fortnightly Progress Reports

FORTNIGHTLY PROGRESS REPORT (FPR-3)FROM INDUSTRY MENTOR



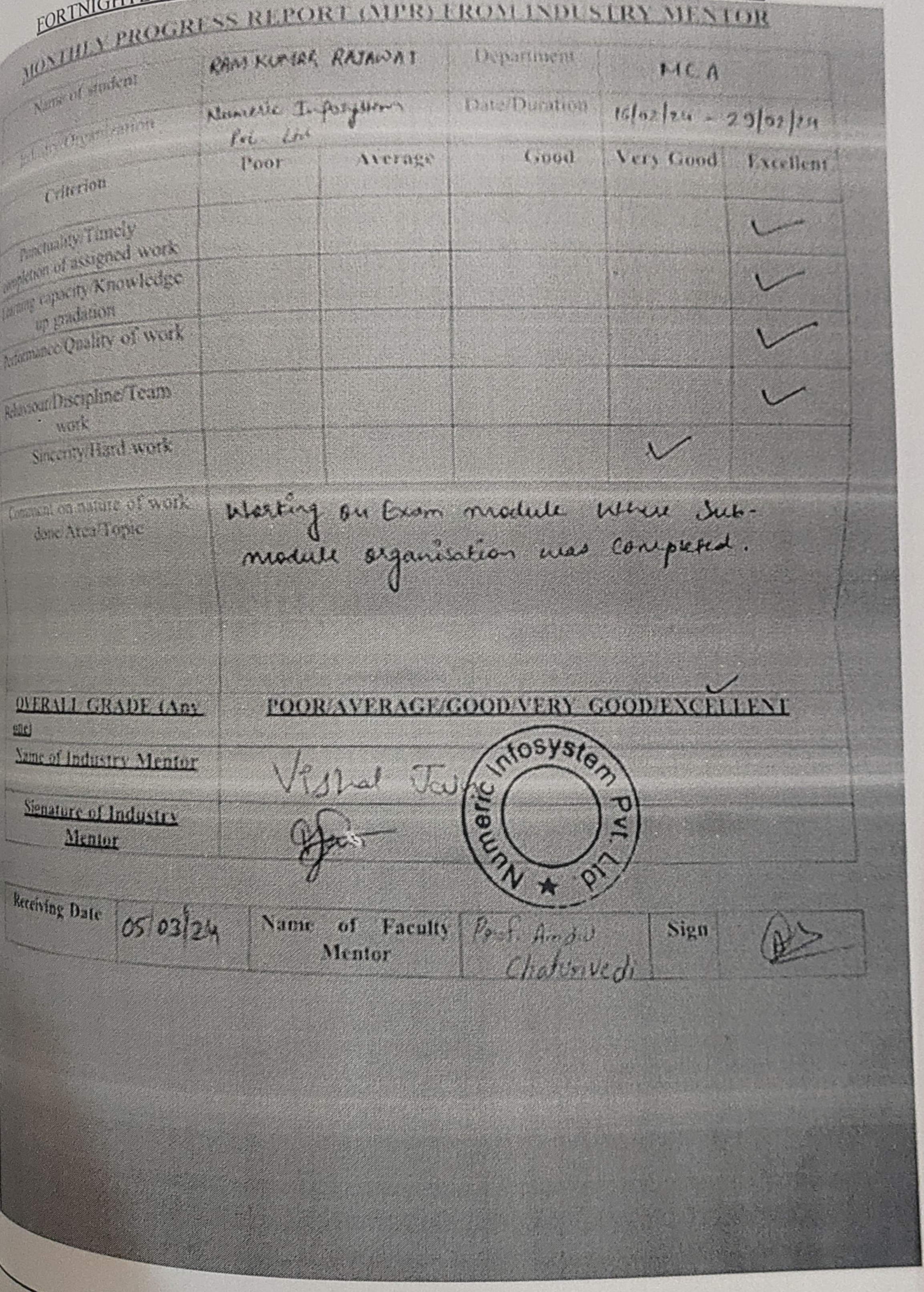
MONTHLY PROGRESS REPORT (MPR) FROM INDUSTRY MENTOR

Name of student	RAM KUMAR RAJAWAT		Department	MCA	
Industry/Organization	Numeric Infosystem Pvt. Ltd		Date/Duration	01/02/24 - 15/02/24	
Criterion	Poor	Average	Good	Very Good	Excellent
Punctuality/Timely completion of assigned work					✓
Learning capacity/Knowledge up gradation					✓
Performance/Quality of work					✓
Behaviour/Discipline/Team work				✓	
Sincerity/Hard work					✓
Comment on nature of work done/Area/Topic	Implemented Redux and hooks, JWT (Jason Web Token)				
OVERALL GRADE (Any one)	POOR/AVERAGE/GOOD/VERY GOOD/[✓ EXCELLENT]				
Name of Industry Mentor	Vibhat Jain				
Signature of Industry Mentor					

Receiving Date	20/2/24	Name of Faculty Mentor	Dr Anshu Chaturvedi	Sign	

Fortnightly Progress Reports

FORTNIGHTLY PROGRESS REPORT (FPR-4)FROM INDUSTRY MENTOR



MONTHLY PROGRESS REPORT (MPR) FROM INDUSTRY MENTOR

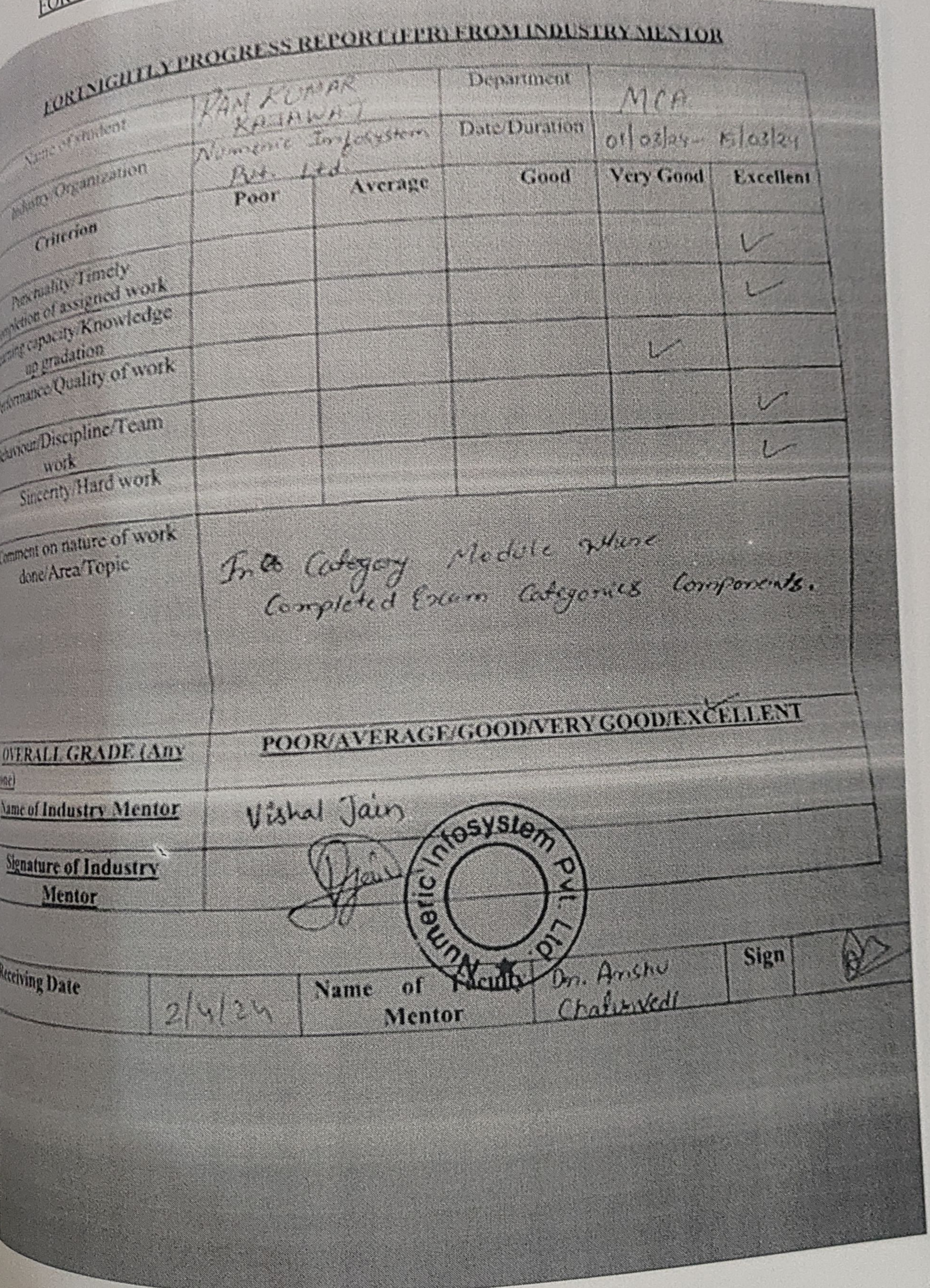
Name of student	RAM KUMAR RAJAWAT		Department	MCA	
Industry/Organization	Numeric Infosystems Pvt. Ltd		Date/Duration	16/02/24 - 29/02/24	
Criterion	Poor	Average	Good	Very Good	Excellent
Punctuality/Timely completion of assigned work					✓
Learning capacity/Knowledge up gradation					✓
Performance/Quality of work					✓
Behaviour/Discipline/Team work					✓
Sincerity/Hard work				✓	
Comment on nature of work done/Area/Topic	Working on Exam module where Sub-module organisation was completed.				
OVERALL GRADE (Any one)	**POOR/AVERAGE/GOOD/VERY GOOD/[✓ EXCELLENT]**				
Name of Industry Mentor	Vishal Jain				
Signature of Industry Mentor					

Numeric Infosystem Pvt. Ltd

Receiving Date	05/03/24	Name of Faculty Mentor	Prof. Ambuj Chaturvedi	Sign	

Fortnightly Progress Reports

FORTNIGHTLY PROGRESS REPORT (FPR-5)FROM INDUSTRY MENTOR



FORTNIGHTLY PROGRESS REPORT (FPR) FROM INDUSTRY MENTOR

Name of student	RAM KUMAR KAJAWAT	Department	MCA
Industry/Organization	Numeric Infosystem Pvt. Ltd	Date/Duration	01/03/24- 15/03/24

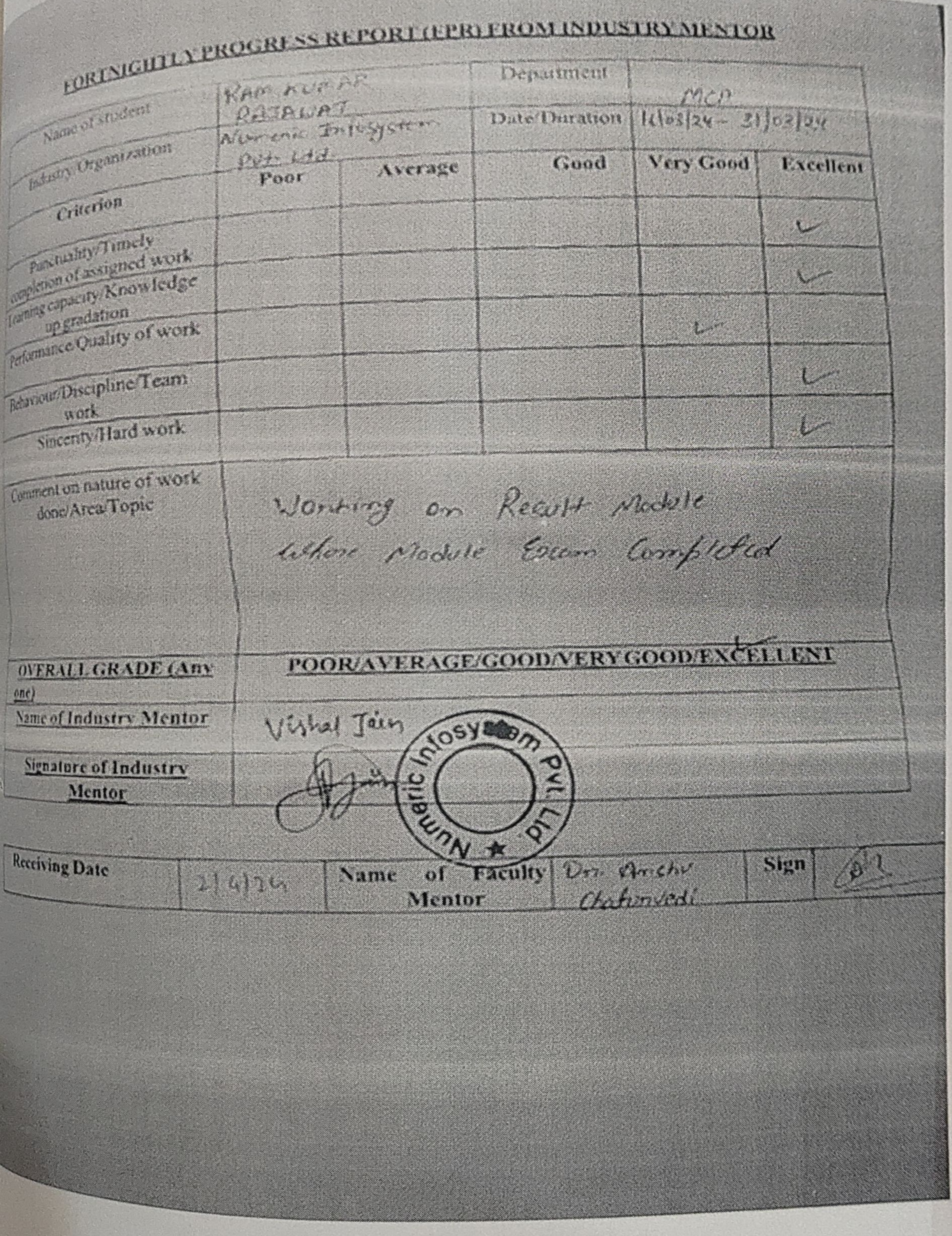
Criterion	Poor	Average	Good	Very Good	Excellent
Punctuality/Timely completion of assigned work					✓
Learning capacity/Knowledge up gradation					✓
Performance/Quality of work				✓	
Behaviour/Discipline/Team work					✓
Sincerity/Hard work					✓

Comment on nature of work done/Area/Topic	In ~~Ca~~ Category Module where Completed Exam Categories Components.
OVERALL GRADE (Any one)	POOR/AVERAGE/GOOD/VERY GOOD/[✓ EXCELLENT]
Name of Industry Mentor	Vishal Jain
Signature of Industry Mentor	

Receiving Date	2/4/24	Name of Faculty Mentor	Dr. Anshu Chaturvedi	Sign	

Fortnightly Progress Reports

FORTNIGHTLY PROGRESS REPORT (FPR-6)FROM INDUSTRY MENTOR



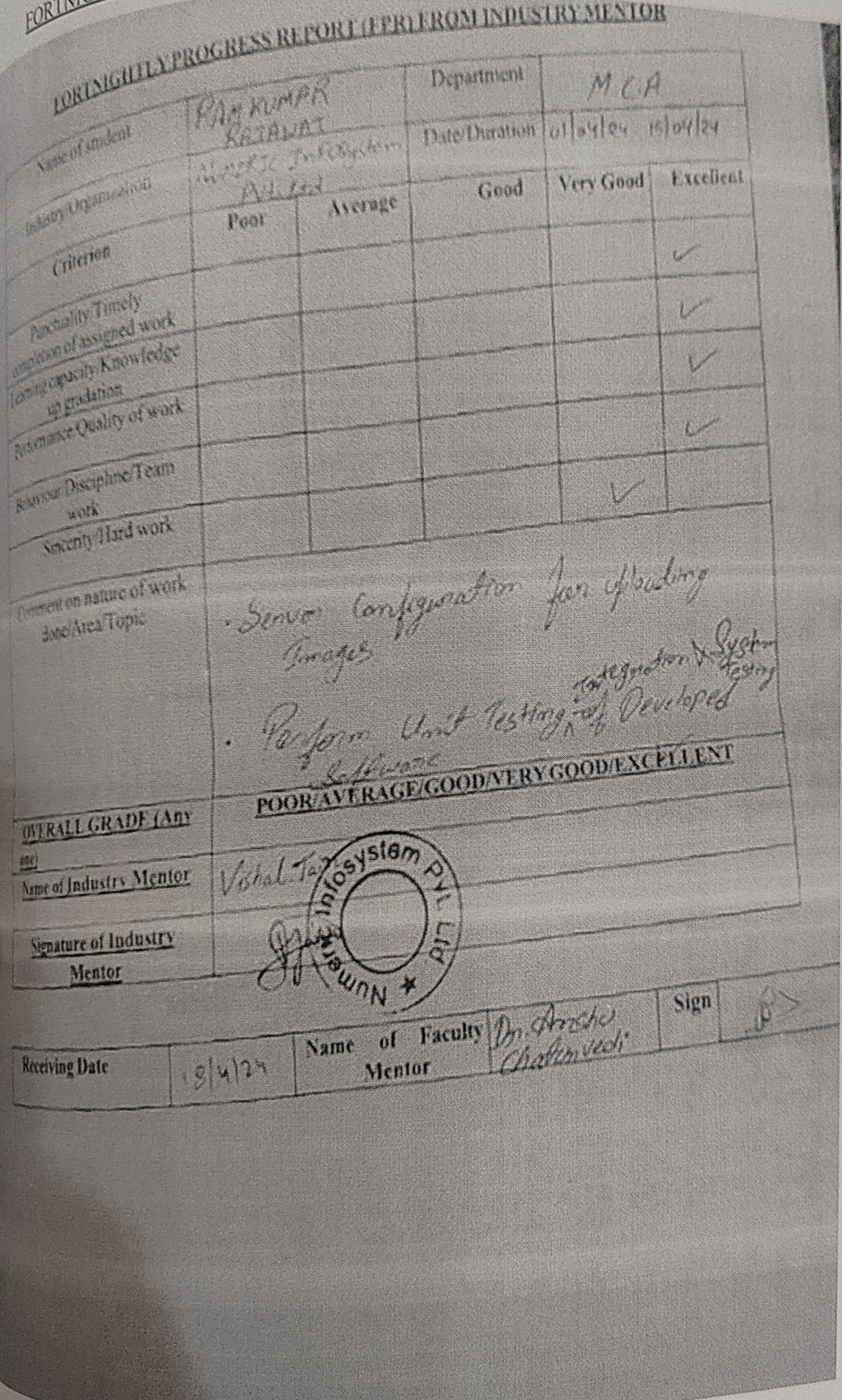
FORTNIGHTLY PROGRESS REPORT (FPR) FROM INDUSTRY MENTOR

Name of student	RAM KUMAR RAJAWAT		Department	MCP	
Industry Organization	Numeric Infosystem Pvt. Ltd		Date/Duration	1/03/24 - 21/03/24	
Criterion	Poor	Average	Good	Very Good	Excellent
Punctuality/Timely completion of assigned work					✓
Training capacity/Knowledge upgradation					✓
Performance/Quality of work				✓	
Behaviour/Discipline/Team work					✓
Sincerity/Hard work					✓
Comment on nature of work done/Area/Topic	Working on Result Module Where Module Exam Completed				
OVERALL GRADE (Any one)	**POOR/AVERAGE/GOOD/VERY GOOD/[✓ EXCELLENT]**				
Name of Industry Mentor	Vishal Jain				
Signature of Industry Mentor					

Receiving Date	2/4/24	Name of Faculty Mentor	Dr. Anchu Chaturvedi	Sign	

Fortnightly Progress Reports

FORTNIGHTLY PROGRESS REPORT (FPR-7)FROM INDUSTRY MENTOR



FORTNIGHTLY PROGRESS REPORT (FPR) FROM INDUSTRY MENTOR

Name of student	RAM KUMAR RATAWAT		Department	MCA	
Industry/Organisation	Numeric Infosystem Pvt. Ltd		Date/Duration	01/04/24 - 15/04/24	
Criterion	Poor	Average	Good	Very Good	Excellent
Punctuality/Timely completion of assigned work					✓
Learning capacity/Knowledge up gradation					✓
Performance/Quality of work					✓
Behaviour/Discipline/Team work					✓
Sincerity/Hard work				✓	
Comment on nature of work done/Area/Topic	• Server Configuration for Uploading Images • Perform Unit Testing, Integration & System Testing of Developed Software				
OVERALL GRADE (Any one)	POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT				
Name of Industry Mentor	Vishal Ta				
Signature of Industry Mentor					

Numeric Infosystem Pvt Ltd

Receiving Date	18/4/24	Name of Faculty Mentor	Dr. Archna Chaturvedi	Sign	