

|  |  |
| --- | --- |
| **ASSIGNMENT** | |
| **Course Code** | 19CSE214A |
| **Course Name** | Design & Analysis of Algorithms |
| **Programme** | B. Tech |
| **Department** | Computer Science & Engineering |
| **Faculty** | Faculty of Engineering Technology |

#### 

|  |  |
| --- | --- |
| **Name of the Student** | SUBHENDU MAJI |
| **Reg. No** | 18ETCS002121 |
| **Semester/Year** | 4th / 2020 |
| **Course Leader/s** | Vaishali R Kulkarni |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Declaration Sheet** | | | | | | | | |
| Student Name | SUBHENDU MAJI | | | | | | | |
| Reg. No | 18ETCS002121 | | | | | | | |
| Programme | B. Tech | | | | | Semester/Year | 4th / 2020 | |
| Course Code | 19CSE214A | | | | | | | |
| Course Title | Design and Analysis of Algorithms | | | | | | | |
| Course Date |  | | To | |  | | | |
| Course Leader | Vaishali R Kulkarni | | | | | | | |
| **Declaration**  The assignment submitted herewith is a result of my own investigations and that I have conformed to the guidelines against plagiarism as laid out in the Student Handbook. All sections of the text and results, which have been obtained from other sources, are fully referenced. I understand that cheating and plagiarism constitute a breach of University regulations and will be dealt with accordingly. | | | | | | | | |
| Signature of the Student | |  | | | | | Date |  |
| Submission date stamp  (by Examination & Assessment Section) | |  | | | | | | |
| Signature of the Course Leader and date | | | | Signature of the Reviewer and date | | | | |
|  | | | |  | | | | |

# **Contents**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

[**Declaration Sheet** ii](#_Toc34473898)

[**Contents** iii](#_Toc34473899)

[**Question No. 1** 5](#_Toc34473900)

[A1.1 Introduction 5](#_Toc34473901)

[A1.2 Set of case studies 5](#_Toc34473902)

[A1.3 Conclusion 5](#_Toc34473903)

[**Question No. 2** 5](#_Toc34473904)

[B1.1 Pseudocode for each approach 5](#_Toc34473905)

[B1.2 Discussion on efficiency of algorithms 5](#_Toc34473906)

[B1.3 Results of three approaches using C programming 5](#_Toc34473907)

[**Question No. 3** 5](#_Toc34473908)

[B2.1 Pseudocode for each approach 5](#_Toc34473909)

[B2.2 Discussion on efficiency of algorithms. 5](#_Toc34473910)

[B2.3 Comparison of time/ space complexity for each algorithm. 5](#_Toc34473911)

[Bibliography 7](#_Toc34473912)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | **Assignment** | | |  |  |  |
| **Reg.No.** | |  | **18ETCS002121** | **Name of Student** | **SUBHENDU MAJI** |  |  |  |
| **Sections** |  | | **Marking Scheme** | | |  | **Mar** | **ks** |
| **Max**  **Marks** | **First**  **Examiner Marks** | **Moderator** |
| **Part A** |  | |  | | |  |  |  |
| **A 1.1** | | **Introduction** | | | 2 |  |  |
| **A 1.2** | | **Set of case studies** | | | 2 |  |  |
| **A 1.5** | | **Conclusion** | | | 1 |  |  |
|  | | **Part-A Max Marks** | | | **05** |  |  |
| **Part B** |  | |  | | |  |  |  |
| **B 1.1** | | **Pseudocode for each approach** | | | 3 |  |  |
| **B 1.2** | | **Discussion on efficiency of algorithms** | | | 4 |  |  |
| **B 1.3** | | **Results of three approaches using C programming** | | | 3 |  |  |
|  | | **B.1 Max Marks** | | | **10** |  |  |
|  | |  | | |  |  |  |
| **B 2.1** | | **Pseudocode for each approach** | | | 3 |  |  |
| **B 2.2** | | **Discussion on efficiency of algorithms.** | | | 3 |  |  |
| **B 2.3** | | **Comparison of time/ space complexity for each algorithm.** | | | 4 |  |  |
|  | | **B.2 Max Marks** | | | **10** |  |  |
|  | | | **Total Assignment Marks** | | | **25** |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Course Marks Tabulation** | | | | |
| **Component-1 (B) Assignment** | **First**  **Examiner** | **Remarks** | **Moderator** | **Remarks** |
| A |  |  |  |  |
| B.1 |  |  |  |  |
| B.2 |  |  |  |  |
| **Marks (out of 25 )** |  |  |  |  |
| **Signature of First Examiner Signature of Moderator** | | | | |

# **Question No. 1**

**Solution to Question No. 1:**

## A1.1 Introduction

## A1.2 Set of case studies

## A1.3 Conclusion

# **Question No. 2**

**Solution to Question No. 2:**

## B1.1 Pseudocode for each approach

## B1.2 Discussion on efficiency of algorithms

## B1.3 Results of three approaches using C programming

# **Question No. 3**

**Solution to Question No. 3:**

## B2.1 Pseudocode for each approach

## B2.2 Discussion on efficiency of algorithms.

## B2.3 Comparison of time/ space complexity for each algorithm.

# Bibliography