



JNAN VIKAS MANDAL'S

Mohanlal Raichand Mehta College of Commerce
 Diwali Maa Degree College of Science
 Amritlal Raichand Mehta Degree College of Arts
 Padmashree (Dr.) R.T. Doshi Degree College of Computer Science
 Plot No.9, Sector -19, Airoli, Navi Mumbai
 NAAC Re-Accredited CGPA-3.33 'A'-Grade

Date : 17/06/2022

NOTICE

All departmental members are hereby informed that the online department meeting is arranged on June 18, 2022 at 01.30 pm in IT Lab.

Agenda

1. Conduction of Certification course of SYIT students

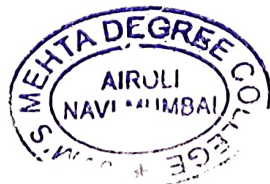
Asst. Prof. Archana Sanap
 Incharge- IT DEPT

Asst. Prof. Janhavi Kshirsagar
 Coordinator CS-IT DEPT

Dr. B. R. Deshpande
 Vice Principal



Dr. (Mrs) Leena Sarkar



Principal

PRINCIPAL
 JNAN VIKAS MANDAL'S
 M.R. MEHTA COLLEGE OF COMMERCE
 D.M. COLLEGE OF SCIENCE
 A.R. MEHTA COLLEGE OF ARTS
 Dr. R.T. DOSHI COLLEGE OF COMPUTER SCIENCE
 Plot No.9, SEC.- 19, AIROLI,
 NAVI MUMBAI-400 708



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Minutes of Meeting

The departmental meeting was held on June 18, 2022 at 01:30 p.m. in IT Lab.
Following matters were discussed and finalized as per agenda.

❖ Conduction of Certification course of SYIT students

It was decided that the certification course should be conducted from 20th June, 2022 to 25th June, 2022. For SYIT Fundamentals of Algorithm subject is decided. And it was decided that it should be 30 hrs.

❖ Subject Distribution

It was decided that ML subject will be taken by Dr.Sunitha Joshi and Mrs. Sharayu Kadam. CPU scheduling subject will be taken by Mustufa Nullwala, Disk Scheduling subject will be taken by Ashish Chavan, Data structure and algorithm subject will be taken by Rajshree Pisal and Recursive Algorithm will be taken by Mrs. Bhagyashree Kulkarni. All the teachers were asked to design the syllabus for 10 hours each share by 19th June 2022.

❖ Work Distribution

Subjects are distributed among following teachers

Dr.Sunitha Joshi-Classification algorithms in ML
Asst.Prof. Sharayu Kadam - Classification algorithms in ML
Asst.Prof.Mustafa Nullwala- CPU Scheduling algorithms
Asst.Prof. Ashish Chavan- Disk Scheduling
Asst.Prof.Rajshree Pisal- Data structure and algorithm
Asst.Prof.Bhagyashree Kulkarni - Recursive algorithms

Adjournment

Meeting was adjourned at 02:30 pm.



Following members were present:

Dr.(Mrs.) Leena Sarkar (Principal)

Signature

Leena

Dr. B. R. Deshpande (Vice Principal)

[Signature]

Asst. Prof. Janhavi Kshirsagar(CS-OT Coordinator)

JK

Asst. Prof. Archana Sanap (IT Incharge)

Archana

Asst. Prof Sharayu Kadam.

Sharayu

Asst. Prof Rajshree Pisal.

Rajshree

Asst. Prof Bhagyashree Kulkarni

Bh

Asst. Prof. Sunitha Joshi

SJ

Ass.Prof. Ashish Chavan.

Ass.Prof. Mustufa Nullwala.



Syllabus of Certificate Course in "Fundamentals of Algorithm" for (S.Y.B.Sc.IT)

Duration: - 30 hours

OBJECTIVES: -

- Learner will understand the basics of algorithms
- Learner will be able to understand the asymptotic analysis of algorithms
- Learner will be able to understand algorithm in various aspects

OUTCOME: -

- Learners will apply algorithms in various aspects.
- Learner will implement the running time of algorithms using asymptotic analysis
- Learners will associate the need and importance of algorithms in different areas.

CORE SYLLABUS

Duration: 05 Hours

Dr.Sunitha Joshi-Classification algorithms in ML (5 Lectures)

SR. NO.	TOPICS	DURATION
1	What is Classification? How does it work? Types of Classification algorithms	1 hrs
2	Binary classification, Multiclass, Multilabel classification, Imbalance classification	2 hrs
3	Steps to build classification model, Popular Classification Algorithms(Logistic, Naive Bayes,K nearest neighbors,Decision Tree)	2 hrs

Duration: 05 Hours

Asst.Prof. Ashish Chavan- Disk Scheduling (05 Lectures)

SR. NO.	TOPICS	THEORY HOURS
1.	Introduction to disk scheduling algorithms, Important terms in disk scheduling	2 hrs
2	Disk scheduling algorithms: FCFS, SSTF,SCAN,CSCAN,LOOK,CLOOK	2 hrs
3.	Examples on disk scheduling algorithms	1 hrs

Duration: 05 Hours



Asst.Prof. Sharayu Kadam - Classification algorithms in ML (5 Lectures)

SR. NO.	TOPICS	DURATION
1	Nearest Neighbor : k Nearest Neighbors , Analysis	1 hrs
2	Neural Networks : Feedforward Neural Networks, Learning Neural Networks, The Expressive Power of Neural Networks.	2 hrs
3	The Sample Complexity of Neural Networks, The Runtime of Learning Neural Networks, SGD and Backpropagation	2hrs

Duration: 05 Hours

Asst.Prof.Mustafa Nullwala- CPU Scheduling algorithms (05 Lectures)

SR. NO.	TOPICS	DURATION
1	Introduction to CPU scheduling algorithms: First-Come First-Served (FCFS) Scheduling, Shortest-Job-Next (SJN) Scheduling,	2 hrs
2	Priority Scheduling, Shortest Remaining Time, Round Robin(RR) Scheduling, Multiple-Level Queues Scheduling	3 hrs

Duration: 05 Hours

Asst.Prof.Rajshree Pisal- Data structure and algorithm (05 Lectures)

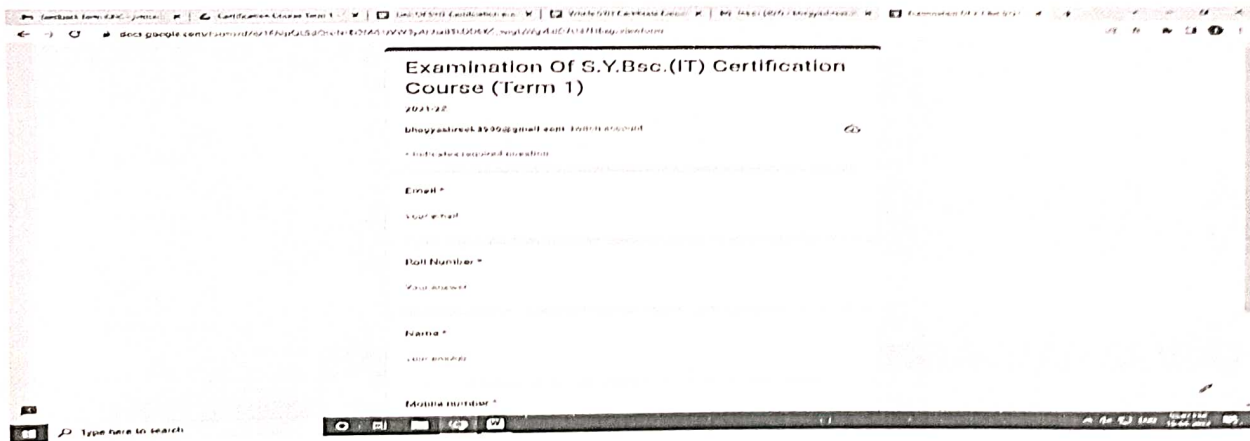
SR. NO.	TOPICS	DURATION
1	Why to learn Data Structure? Application of Data Structure.	1 hrs
2	Data Structures & Algorithms – Overview: Characteristics of Data Structure, Need of Data Structure,	1 hrs
3	Algorithms Basics: Characteristics of an algorithm, How to write an algorithm, Algorithm complexity	1 hrs
4	Asymptotic Analysis: Asymptotic Notations Greedy Algorithms: Counting coins	1 hrs
5	Divide and Conquer: Divide/Break, Conquer/Solve, Merge/Combine Dynamic Programming: Comparison with divide and conquer	1 hrs

Duration: 05 Hours

Asst.Prof.Bhagyashree Kulkarni - Recursive algorithms (05 Lectures)

SR. NO.	TOPICS	DURATION
1.	Introduction to algorithm: Definition of algorithm, characteristics, advantages and disadvantages of algorithm.	1 hrs
2.	Analysis of algorithm: Overview, Priori Analysis, Posterior Analysis. Algorithm Complexity: Space complexity, Time complexity.	1 hrs
3.	Some common problems that are solved using recursive algorithms: 1. Factorial of a Number. 2. Fibonacci Series.	1 hrs
4.	3. Tower of Hanoi. 4. Tree traversal.	1 hrs
5.	5. DFS for Graph. Application of DFS.	1 hrs

Exam paper



Web browser tabs: Certification Course Term 1, Exam Of S.Y.Bsc.(IT) Certification Course, Web Of S.Y.Bsc.(IT) Certification Course, Home S.Y.Bsc.(IT) Certification Course, Examination Of S.Y.Bsc.(IT) Certification Course

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URL: <https://www.google.com/forms/d/e/1FAIpQLS4W...>

Examination Of S.Y.Bsc.(IT) Certification Course (Term 1)

shirgubhai8199@gmail.com Custom settings

* Indicates required question

Multiple Choice Question

Each instance is represented with a set of _____ attributes? 1 point

- Symbolical
- Numerical
- Both A and B
- Neither A nor B

What is the name of nodes which take binary values TRUE (T) and FALSE (F)? 1 point

- Real nodes
- Binary nodes
- Two way nodes
- Graph nodes



Feedback form CFC - jmm... Certification Course Term 1 ...

Which of the following is a time required by a process for CPU execution? * 2 points

- Turn Around Time
- Waiting Time
- Burst Time
- Completion Time

Algorithm is a step-by-step procedure, which defines a set of instructions to be executed in a certain order to get the desired output. * 2 points

- Procedure
- Algorithm
- Instruction
- Method

Following is not characteristic of algorithm? * 2 points

- Clear and Unambiguous
- Language Dependent
- Feasible
- Finiteness

Feedback form CFC - jmm... Certification Course Term 1 ...

Which of the following is a time required by a process for CPU execution? * 2 points

- Turn Around Time
- Waiting Time
- Burst Time
- Completion Time

In _____ a problem is solved by breaking it into sub problems and calling them self again and again until the problem is solved. * 2 points

- Machine Learning
- Operating system
- Data structure
- Recursion

_____ refers that memory usage of a data structure operation should be as little as possible. * 2 points

- Time complexity
- Flow control
- Error control
- Space complexity



Feedback form CTC - j... Certification Course Term 1... Link Of SFT Certification... Whole SFT Certificate Course... Inbox (107) - Mail... Examination of SFT (10/07/2023)

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In _____ disk scheduling algorithm, each input/output request is served in the order in which the requests arrive? * 4 points

- FCFS
- SCAN
- LOOK
- SSTF

Does Machine learning replace human intuitions? * 4 points

- Maybe
- Yes
- No
- Not sure

Postorder traversal is used to _____ * 2 points

- Delete the tree
- Create new tree
- Update the tree
- All the above

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_____ is an algorithm in which the process having the smallest execution time is chosen for the next execution. * 4 points

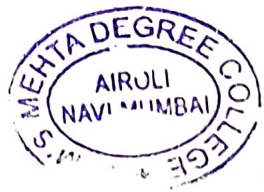
- First Come First Serve (FCFS)
- Shortest Job First (SJF)
- Priority Scheduling
- Round Robin (RR)

In which of the following disk scheduling algorithm, each request is served on the basis of seek time? * 4 points

- FCFS
- SCAN
- LOOK
- SSTF

A function fun is called _____ recursive if it calls another function say fun_new and fun_new calls fun directly or indirectly * 4 points

- Direct
- Indirect
- Both
- None



Which of the following are the programming way of storing data on their disks that is used to load efficiently?

- Primitives
- Data Structures
- Algorithms
- Computer languages

_____ time is the time required by the process for execution of the process by CPU.

- Arrival
- Completion
- Turn Around
- Burst

_____ is a single elementary unit of information representing an attribute of an entity.

- Record
- File
- Field
- Data

Machine learning needs knowledge of which two branches?

- Statistics and Mathematics
- Statistics and physics
- Statistics and CS
- mathematics and cs

Which of the following is not an Machine Learning strategies in ANNs?

- Unsupervised Learning
- Reinforcement Learning
- Sparse Learning
- Supervised Learning

_____ is the scenario depicting the least possible execution time of an operation of a data structure.

- Best case
- Good case
- Worst case
- Average case



_____ is an application of AI that uses statistical models and big data to make predictions about future trends.

- Data Science
- Machine Learning
- Deep Learning
- All

The first model of neural networks was proposed in _____ by McCulloch + Pitts

- 1945
- 1950
- 1943
- 1946

In Feed Forward ANNs information flows _____

- Unidirectional
- Bidirectional
- Tridirectional
- All Directional

- Unidirectional
- Bidirectional
- All Directional

C-LOOK disk scheduling means _____ LOOK?

- Constant
- Circular
- Commercial
- Controlled

The processes with higher priority should be carried out last, whereas jobs with equal priorities are carried out on a round robin or FCFS basis.

- True
- False

Clear form

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Participant list

Sr. No.	Name of the Student
1	Satyam Kumar Maurya
2	Namita karavade
3	Archana Arvind Gupta
4	Parth bhoir
5	Vaishnavi charate
6	Rupal Rakesh Saroj
7	Tapasvi Narayan Mohite
8	Sakshi Anand Tambe
9	Sadiqua Maqsood Ahmed Samani
10	Yadav Ankit Omprakash
11	Krity Sharma
12	Abhinay Gupta
13	Pankaj yadav
14	Tejaswini Santosh Kakade
15	Priya Rajesh Prasad
16	Aditya Ashok Sanas
17	Seema Gangaram Shende
18	Tejasvini Ramkisan Rajput
19	Prathamesh uday desai
20	Shiva singh
21	Aman maurya
22	Kaif Faruk shaikh
23	Yash Singh
24	Sandeep baburam Vishwakarma
25	Shraddha Yadav



26	Ronit Rawal
27	Sainath more
28	Dinesh Patil
29	Sujal shinde
30	MITALI
31	Karan Mishra
32	Suruchi shirke
33	Riddhi mochemadkar
34	Aniket Mahesh Mourya
35	Prajwal Pawar
36	Sanika gawade
37	Om borhade
38	Petiwala Asim Umar
39	Sanskruiti bhosale
40	Prerna Yadav

Marksheet


Sr. No.	Marks	Name of the Student
1	32 / 50	Satyam Kumar Maurya
2	36 / 50	Namita karavade
3	30 / 50	Archana Arvind Gupta
4	38 / 50	Parth bhoir
5	30 / 50	Vaishnavi charate
6	32 / 50	Rupal Rakesh Saroj
7	32 / 50	Tapasvi Narayan Mohite
8	34 / 50	Sakshi Anand Tambe
9	34 / 50	Sadiqua Maqsood Ahmed Samani
10	30 / 50	Yadav Ankit Omprakash



11	40 / 50	Krity Sharma
12	40 / 50	Abhinay Gupta
13	40 / 50	Pankaj yadav
14	40 / 50	Tejaswini Santosh Kakade
15	20 / 50	Priya Rajesh Prasad
16	20 / 50	Aditya Ashok Sanas
17	30 / 50	Seema Gangaram Shende
18	32 / 50	Tejasvini Ramkisan Rajput
19	32 / 50	Prathamosh uday dosal
20	40 / 50	Shiva Singh
21	34 / 50	Aman maurya
22	32 / 50	Kalf Faruk shaikh
23	40 / 50	Yash Singh
24	32 / 50	Sandeep baburam Vishwakarma
25	26 / 50	Shraddha Yadav
26	26 / 50	Ronit Rawal
27	30 / 50	Salnath more
28	38 / 50	Dinosh Patil
29	36 / 50	Sujal shinde
30	36 / 50	MITALI
31	36 / 50	Karan Mishra
32	30 / 50	Suruchi shirke
33	32 / 50	Riddhi mochomadkar
34	34 / 50	Aniket Mahosh Mourya
35	34 / 50	Prajwal Pawar
36	34 / 50	Sanika gawade
37	36 / 50	Om borhade
38	22 / 50	Potiwala Asim Umar
39	36 / 50	Sanskriti bhosale



Flyer



JNAN VIKAS MANDAL'S DEGREE COLLEGE
 NAAC RE-CREDITED 'A' GRADE (CGPA 3.33)
 PLOT NO.9, SECTOR-19, AIROLI, NAVI MUMBAI

DEPARTMENT OF INFORMATION TECHNOLOGY ORGANIZES ONLINE CERTIFICATE COURSE ON FUNDAMENTALS OF ALGORITHMS

Dr. Sunitha Joshi
Mrs. Sharayu Kadam
Mr. Ashish Chavan
Mr. Mustufa Nullwala
Mrs. Rajshree Pisal
Mrs. Bhagyashree Kulkarni

Date: 24th June to 3rd July 2021
Duration: 40 Hours
Mrs. Archana Sanap
 IT-Incharge

Mrs. Jhanvi Kshirsagar
 CS-IT Coordinator

Dr. (Mrs.) Leena Sarkar
 Principal

Certificate



JNAN VIKAS MANDAL'S DEGREE COLLEGE
 NAAC RE-ACCREDITED 'A' GRADE (CGPA-3.33)
 Plot No. 9, Sector - 19, Airoli, Navi Mumbai, Maharashtra - 400 708

CERTIFICATE

This certificate is awarded to

<<NAME>>

who has successfully completed Certificate Course "Fundamentals of Algorithm" organized by Department of Information Technology of JNM's Degree College

Archana Sanap
 Mrs. Archana Sanap
 In-Charge IT

Jhanvi Kshirsagar
 Mrs. Jhanvi Kshirsagar
 Coordinator CS-IT

Leena Sarkar
 Dr. Leena Sarkar
 Principal





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Report


The certificate course in "Fundamentals of Algorithm" was conducted for second year students of information technology. The certificate course was conducted with an aim of introducing the fundamentals of security in the field of information technology which helped the students to gain an insight into the various solutions and aspects of the security in the field of information technology.

The subjects of the course were Classification algorithms in ML, Disk Scheduling, Data structure and algorithm, Recursive algorithms. The course commenced from 20th June 2022. The course ended on 25th June 2022. The total duration of course was 30 hours. Following faculties conducted the lectures


Sr No	Teacher Name	Subject Name
1	Dr.Sunitha Joshi and Mrs. Sharayu Kadam	Classification algorithms in ML
2	Mr.Ashish Chavan and Mr. Mustufa Nullwala	Disk Scheduling
3	Mrs.Rajshree Pisal	Data structure and algorithm
4	Mrs. Bhagyashree Kulkarni	Recursive algorithms

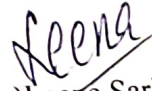
Course exam was conducted on 25th June 2022 from 2pm to 3pm. Total 50 marks exam was conducted by Mrs.Bhagyashree Kulkarni. Total 40 students attempted the examination. Results of the certificate course were released via email to the students who attempted the exam.


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 Asst. Prof. Janhavi Kshirsagar
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