Savitribai Phule Pune University, Pune
SE (Information Technology Engineering) 2019 Course
(With effect from Academic Year 2020-21)

Semester-III

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit			
		Theory	Practical	Tutorial	IN-Sem	End-Sem	TW	PR	OR	Total	TH	PR	TUT	Total
214441	Discrete Mathematics	03	-	01	30	70	25	-	-	125	03	--	01	04
214442	Computer Organization and Logic Design	03	-	-	30	70	-	-	-	100	03	-	-	03
214443	Data Structures and Algorithms	03	-	-	30	70	-	-	-	100	03	-	-	03
214444	Object Oriented Programming	03	-	-	30	70	-	-	-	100	03	-	-	03
214445	Basics of Computer Network	03	-	-	30	70	-	-	-	100	03	-	-	03
214446	Computer Organization and Logic Design Lab	-	02	-	-	-	25	25	-	50	-	01	-	01
214447	Data Structures and Algorithms Lab	-	04	-	-	-	25	25	-	50	-	02	-	02
214448	Object Oriented Programming Lab	-	04	-	-	-	25	25	-	50	-	02	-	02
214449	Soft Skill Lab	-	02	-	-	-	25	-	-	25	-	01	-	01
214450	Mandatory Audit Course 3	-	-	-	-	-	-	-	-	-	Non Credit			-
	Total	15	12	01	150	350	125	75	--	700	**15**	**06**	**01**	**22**

Abbreviations:

TH: Theory   TW: Term Work   PR: Practical

OR: Oral   TUT: Tutorial

Note: Students of S.E. (Information Technology) can opt any one of the audit course from the list of audit courses prescribed by BoS (Information Technology)

*Mandatory Audit Course 3:   <u>214450</u> A- Ethics and values in IT

<div align="right">

<u>214450</u> B- Quantitative Aptitude and Logical Reasoning

<u>214450</u> C- Language Study- Japanese- Module I

<u>214450</u> D - Cyber Security and Low

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Savitribai Phule Pune University, Pune Second Year Information Technology (2019 Course) 214443: Data Structure & Algorithms		
Teaching Scheme:	**Credit**	**Examination Scheme:**
TH: 03hr/week	**03**	**Mid Semester: 30Marks** **End Semester: 70Marks**

Prerequisite Courses, if any: Fundamental knowledge of programming language and basics of algorithms

Companion Course, if any: Discrete Structures/Discrete Mathematics

Course Objectives:

1. To study data structures and their implementations and applications.
2. To learn different searching and sorting techniques
3. To study some advanced data structures such as trees, graphs and tables.
4. To learn different file organizations.
5. To learn algorithm development and analysis of algorithms.

Course Outcomes:

On completion of the course, students will be able to–

CO1: Analyze algorithms and to determine algorithm correctness and time efficiency class.

CO2: Implement abstract data type (ADT) and data structures for given application

CO3: Design algorithms based on techniques like brute -force, divide and conquer, greedy, etc.)

CO4: Solve problems using algorithmic design techniques and data structures

CO5: Analyze of algorithms with respect to time and space complexity

COURSE CONTENT		
Unit- I	**Introduction**	**(06 Hrs)**

Introduction to Data Structures: Concept of data, Data object, Data structure, Concept of Primitive and non-primitive, linear and Nonlinear, static and dynamic, persistent and ephemeral data structures, **Definition of ADT, Array:** Single and multidimensional array address calculation, recursion.

Searching and sorting: Need of searching and sorting, Concept of internal and external sorting, sort stability, Searching methods: Linear and binary search algorithms, Fibonacci Series.

Sorting methods: Bubble, insertion, Quick, Merge, shell and comparison of all sorting methods.

Case Studies	Set Operation, String Operation
Mapping of Course Outcomes for Unit I	**CO1, CO2, CO3, CO5**
Unit- II	**Stack &Queue**	**(06 Hrs)**

Linked Organization: Concept of linked organization, Singly Linked List, Doubly Linked List, Circular Linked List as an ADT (Operations: Create, Display, Search, Insert, Delete).

Stack: Concept of stack, Concept of implicit and explicit stack, stack as an ADT using sequential and linked organization, Applications of stack: converting expressions from infix to postfix or prefix form, evaluating postfix or prefix form.

Queue: Concept of queues as ADT, Implementation of queue using array and linked organization, Concept of circular queue, double ended queue, Applications of queue: priority queue.

Case Studies	**Reversing a string, balanced parentheses in algebraic expressions, Towers of Hanoi problem, double ended queue as Stack and Queue.**
Mapping of Course Outcomes for Unit II	**CO1, CO2, CO3, CO5**
Unit- III	**Trees**	**(06 Hrs)**

Tree : Trees and binary trees-concept and terminology, Expression tree, Binary tree as an ADT, Recursive and Non recursive algorithms for binary tree traversals, Binary search trees, Binary search tree as ADT.

Threaded binary tree: Concept of threaded binary tree (inorder, preorder and postorder). Preorder and In-order traversals of in-order threaded binary tree, Applications of trees.

Case Studies	**Construction of BST from pre and postorder traversal, Expression Tree construction**
Mapping of Course Outcomes for Unit III	**CO1, CO2, CO3, CO5**
Unit- IV	**Graph**	**(06 Hrs)**

Graph -Concept and terminologies, Graph as an ADT, Representation of graphs using adjacency matrix and adjacency list, Breadth First Search traversal, Depth First Search traversal, Prim's and Kruskal's algorithms for minimum spanning tree, Shortest path using Warshall's algorithm, Shortest path using Dijkstra's algorithm, topological sorting.

Case Studies	Consider a network of computers connected to each other. The connection has various parameters associated with it as distance, propagation delay, bandwidth (capacity of carrying data), etc. Based on these parameters, decide which path should be chosen to send data from one computer to every other on the network.
Mapping of Course Outcomes for Unit IV	CO1, CO2, CO3, CO5

Unit- V	Symbol Table &Heap	(06 Hrs)

Symbol Table: Notion of Symbol Table, OBST, AVL Trees
Heap: Heap data structure, Min and Max Heap, Heap sort implementation, applications of heap
Hashing: Hash tables and scattered tables: Basic concepts, hash function, characteristics of good hash function, Different key-to-address transformations techniques, synonyms or collisions, collision resolution techniques- linear probing, quadratic probing, rehashing, chaining with and without replacement.

Case Studies	In a system, jobs are submitted for execution at different times. If the system is idle, the job is taken for execution immediately. If there is a job in execution, the newly submitted job has to be put in a queue. The jobs are assigned a number which tells the priority of the jobs. The system must take high priority jobs first for execution. Implement the above said system using heap data structure.
Mapping of Course Outcomes for Unit V	CO1, CO2, CO4

Unit- VI	Analysis of Algorithms & File Organization	(06 Hrs)

Analysis of algorithm: Frequency count and its importance in analysis of an algorithm, Time complexity & Space complexity of an algorithm Big 'O', 'Ω' and 'Θ' notations, Analyze Insertion sort, Quick Sort, binary search, hashing for Best, Worst and Average case.
File : Concept of File, File types and file organization (sequential, index sequential and DirectAccess), Comparison of different file organizations.

Case Studies	Best case, Average case and Worst case analysis of Merge and Quick sort.
Mapping of Course Outcomes for Unit VI	CO1, CO3,CO4,CO5

Text Books:											

1. R. Gilberg, B. Forouzan, "Data Structures: A pseudo Code Approach with C++", Cengage Learning, ISBN 9788131503140.
2. E. Horowitz, S. Sahni, D. Mehta, "Fundamentals of Data Structures in C++", Galgotia Book Source, New Delhi, 1995, ISBN 16782928

Reference Books:

1. Bruno R Preiss, "Data Structures and Algorithms with Object-Oriented Design Patterns in C++", Wiley India Edition
2. G. A.V, PAI , "Data Structures and Algorithms ", McGraw Hill, ISBN -13: 978-0-07-066726-6
3. Y. Langsam, M. Augenstin, A. Tannenbaum, "Data Structures using C and C++", 2nd Edition, Prentice Hall of India, 2002, ISBN-81-203-1177-9.
4. A. Tharp ,"File Organization and Processing", 2008 ,Willey India edition, 9788126518685
5. J. Tremblay, P. Soresan, "An Introduction to Data Structures with Applications", 2nd edition, Tata McGraw Hill International Editions, 1984, ISBN-0-07-462471-7.
6. M. Folk, B. Zoellick, G. Riccardi, "File Structure An Object Oriented Approach with C++", Pearson Education, 2002, ISBN 81 - 7808 - 131 - 8.
7. M. Welss, "Data Structures and Algorithm Analysis in C++", 2nd edition, Pearson Education, 2002, ISBN-81-7808-670-0

The CO-PO mapping for the course

PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	2	3	-	3	-	-	-	-	-	2
CO2	1	3	3	3	-	3	-	-	-	-	-	2
CO3	2	1	2	3	-	3	-	-	-	-	-	2
CO4	2	3	3	3	-	3	-	-	-	-	-	2

CO5	3	3	2	3	-	3	-	-	-	-	-	2

Savitribai Phule Pune University, Pune
Second Year Information Technology (2019 Course)
214447: Data Structure & Algorithms Lab

Teaching Scheme	Credit	Examination Scheme
PR : 04 hr/week	02	TW: 25 Marks PR: 25Marks

Prerequisite Courses, if any: Fundamental knowledge of programming language and basics of algorithms

Course Objectives:
1. To study data structures and their implementations and applications.
2. To learn different searching and sorting techniques.
3. To study some advanced data structures such as trees, graphs and tables.
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CO4: Solve problems using algorithmic design techniques and data structures

CO5: Analyze of algorithms with respect to time and space complexity

Guidelines for Instructor's Manual

The faculty member should prepare the laboratory manual for all the experiments and it should be made available to students and laboratory instructor/Assistant.

The instructor's manual should include prologue, university syllabus, conduction & Assessment guidelines, topics under consideration-concept, objectives, outcomes, algorithm written in pseudo language, sample test cases and references. Experiments to be conducted in C++.

Guidelines for Student's Lab Journal

1. The laboratory assignments are to be submitted by students in the form of journals. The Journal consists of prologue, Certificate, table of contents, and handwritten write-

up of each assignment (Title, Objectives, Problem Statement, Outcomes, software & Hardware requirements, Date of Completion, Assessment grade/marks and assessor's sign, Theory-Concept, algorithms, printouts of the code written using coding standards, sample test cases etc.

2. Practical Examination will be based on the term work.
3. Candidate is expected to know the theory involved in the experiment.
4. The practical examination should be conducted if the journal of the candidate is completed in all respects and certified by concerned faculty and head of the department.
5. All the assignment mentioned in the syllabus must be conducted.

Guidelines for Lab /TW Assessment

6. Examiners will assess the term work based on performance of students considering the parameters such as timely conduction of practical assignment, methodology adopted for implementation of practical assignment, timely submission of assignment in the form of handwritten write-up along with results of implemented assignment, attendance etc.
7. Examiners will judge the understanding of the practical performed in the examination by asking some questions related to theory & implementation of experiments he/she has carried out.
8. Appropriate knowledge of usage of software and hardware such as compiler, debugger, coding standards, algorithm to be implemented etc. should be checked by the concerned faculty member(s).

Guidelines for Laboratory Conduction

The instructor is expected to frame the assignments by understanding the prerequisites, technological aspects, utility and recent trends related to the topic. The instructor may set multiple sets of assignments and distribute among batches of students. It is appreciated if the assignments are based on real world problems/applications.

The guidelines published by BoS-IT time to time regarding conduction of laboratory assignments and Practical/Oral examination is mandatory. All the assignments should be conducted on multicore hardware and 64-bit open-source software.

Guidelines for Practical Examination

Both internal and external examiners should jointly set problem statements for practical examination. During practical assessment, the expert evaluator should give the maximum weightage to the satisfactory implementation of the problem statement. The supplementary and relevant questions may be asked at the time of evaluation to judge the student 's understanding of the fundamentals, effective and efficient

implementation. The evaluation should be done by both external and internal examiners.

List of Assignments

1. Searching and Sorting – CO1, CO2, CO3, CO5

Consider a student database of SE IT class (at least 15 records). Database contains different fields of every student like Roll No, Name and SGPA. (array of structure)

     a. Design a roll call list, arrange list of students according to roll numbers in ascending order (Use Bubble Sort)
     b. Arrange list of students alphabetically. (Use Insertion sort)
     c. Arrange list of students to find out first ten toppers from a class. (Use Quick sort)
     d. Search students according to SGPA. If more than one student having same SGPA, then print list of all students having same SGPA.
     e. Search a particular student according to name using binary search without recursion. (all the student records having the presence of search key should be displayed)

(Note: Implement either Bubble sort or Insertion Sort.)

2. Stack – CO1, CO2, CO3, CO5

Implement stack as an abstract data type using singly linked list and use this ADT for conversion of infix expression to postfix, prefix and evaluation of postfix and prefix expression.

3. Circular Queue – CO1, CO2, CO3, CO5

Implement Circular Queue using Linked List. Perform following operations on it.

    a) Insertion (Enqueue)
    b) Deletion (Dequeue)
    c) Display (forward and reverse)

4. Expression Tree – CO1, CO2, CO3, CO5

Construct an Expression Tree from postfix and prefix expression. Perform recursive and non- recursive In-order, pre-order and post-order traversals.

5. Binary Search Tree – CO1, CO2, CO3, CO5

Implement binary search tree and perform following operations:

    a) Insert (Handle insertion of duplicate entry)

b) Delete
c) Search
d) Display tree (Traversal)
e) Display - Depth of tree
f) Display - Mirror image
g) Create a copy
h) Display all parent nodes with their child nodes
i) Display leaf nodes
j) Display tree level wise

(Note: Insertion, Deletion, Search and Traversal are compulsory, from rest of operations, perform
Any three)

6. Threaded Binary Tree – CO1, CO2, CO3, CO5

Implement In-order Threaded Binary Tree. Traverse the implemented tree in Pre-order too.

7. Graph: Minimum Spanning Tree – CO1, CO2, CO3, CO5

Represent a graph of your college campus using adjacency list /adjacency matrix. Nodes should represent the various departments/institutes and links should represent the distance between them. Find minimum spanning tree using

a) Using Kruskal's algorithm.
b) Using Prim's algorithm.

Analyze above two algorithms for space and time complexity.

8. Graph: Shortest Path Algorithm – CO1, CO2, CO3, CO5

Represent a graph of city using adjacency matrix /adjacency list. Nodes should represent the various landmarks and links should represent the distance between them. Find the shortest path using Dijkstra's algorithm from single source to all destination. Analyze the implemented algorithm for space and time complexity.

9. Heap Sort - – CO1, CO2, CO4

Implement Heap sort to sort given set of values using max or min heap.

10. FILE Handling – CO1, CO3, CO5

Department maintains student's database. The file contains roll number, name, division and address. Write a program to create a sequential file to store and maintain student data. It should allow the user to add, delete information of student. Display information of particular student. If record of student does not exist an appropriate message is displayed. If student record is found it should display the student details.

Text Books

1. Richard F. Gilberg, Behrouz A. Forouzan, "Data Structures: A Pseudocode Approach using C++", Cengage Learning, 5th Edition, ISBN 978-8131504925
2. Mark Allen Weiss, "Data structures and Algorithm Analysis in C++ ", Pearson Education India, 3 edition (2007), ISBN 978-8131714744
3. Ellis Horowitz, Sartaj Sahni, Dinesh Mehta, "Fundamentals of Data Structures in C++", University Press (2008), ISBN 978-8173716065

Reference Books

1. Hemant Jain, "Problem Solving in Data Structures & Algorithms using C++", CreateSpace Independent Publishing Platform (2017), ISBN 978-1542396479.
2. G A V PAI, "DATA STRUCTURES and Algorithms Concepts, Techniques and Applications", McGraw Hill (2017), ISBN 978-0070667266
3. Michael T. Goodrich, Roberto Tamassia, David Mount, "Data Structures and Algorithms in C++ ", Wiley (2007), ISBN 978-8126512607
4. E Balagurusamy, "Object-Oriented Programming with C++", McGraw Hill Education; Seventh edition (2017), ISBN 978-9352607990.

The CO-PO mapping for the course											
PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	2	3	-	3	-	-	-	-	-	2
CO2	1	3	3	3	-	3	-	-	-	-	-	2
CO3	2	1	2	3	-	3	-	-	-	-	-	2
CO4	2	3	3	3	-	3	-	-	-	-	-	2
CO5	3	3	2	3	-	3	-	-	-	-	-	2

Subject: Data Structures & Algorithms

Sr. No.	Name of the Faculty	Username	Name of the College	College Code	Mobile Number	Teaching Experience	No of Times Subject Taught	Status
	Dr.Vivek Kulkarni	vivek_kulkarni@ yahoo.com			9665763636			BoS Advisory
	Dr. Abhijat Vichare	abhijatv@gmail.com	ACM-head		99603 55169			BoS Advisory
1	Dr. Nandkumar Kulkarni	npkulkarni.pune @gmail.com	SKNCOE	4036	9552501251	19	12	Coordinator-1
2	Ms Sonali P potadar	sppotdar.scoe@sinhgad.edu	SCOE	4023	9168409481	20	10	Coordinator-2
3	Nitin A. Dhawas	dhawasnitin2010 @gmail.com	Nutan Maharashtra Institute pf Engineering & Technology	4055	9420080661	21	5	Member
4	Riyaz A. Jamadar	riyaz.jamadar@gmail.com	AISSMS IOIT	4025	9823289109	18	14	Member
5	Seema H. Chandak	shchandak@pict.edu	Pune Institute Of computer Technology	4005	9371654105	15	11	Member
6	Jotiram Nana Mali	jotirammali@yahoo.com	Svpm's college of engineering malegaon (bk)	4019	9881409043	25	10	Member

Sr. No.	Name of the Faculty	Username	Name of the College	College Code	Mobile Number	Teaching Experience	No of Times Subject Taught	
			baramati					
7	Jayashree B. Jagdale	jbjagdale@pict.edu	PICT	4005	83088 00278	19.5	8	**Member**
8	Vikas Mapari	vikasmapari06@gmail.com	D Y Patil College of Engineering, Ambi, Pune	4067	992271 1317	12.3	8	**Member**
9	AMARNATH SHIVANAND CHADCHANKAR	chadchankar.amar@gmail.com	ZEAL COLLEGE OF ENGINEERING AND RESEARCH	4053	997547 4722	12	15	**Member**

Subject: Data Structures & Algorithms Lab

Sr. No.	Name of the Faculty	Username	Name of the College	College Code	Mobile Number	Teaching Experience	No of Times Subject Taught	
	Dr.Vivek Kulkarni	**vivek_kulkarni@yahoo.com**			**96657 63636**			**BoS Advisory**
	Dr. Abhijat Vichare	**abhijatv@gmail.com**	**ACM- head**		**99603 55169**			**BoS Advisory**
1	Dr. Madhuri Jawale	jawale.madhu@gmail.com	COE-Sangmaner		99601 75856	19	12	**Coordinator-1**
2	Dr. Nandkumar Prabhakar Kulkarni	npkulkarni.pune@gmail.com	SKNCOE	4036	95525 01251	17	10	**Coordinator-2**

16	Prof. Shital Deshmukh	srdeshmukh@kkwagh.edu.in	KKW- Nashik	13	98231 11940	11	5	**Member**
14	Mrs Poonam Yogesh Pawar	pypawar.sae@sinhgad.edu	SAE- KONDHWA (bk)	404 3	99224 26638	15	3	**Member**
1	Mrs. Rupali Amit Bagate	rupali.bagate@gmail.com	Army Institute of Technology	402 2	95529 36611	11	6	**Member**
2	Mrs. Manjusha Amritkar	manjushaa@isquareit.edu.in	International Institute of Information Technology	409 5	99229 01388	14	6	**Member**
7	Mrs.Sampada.A.Kulkarni	sampada.kulkarni@moderncoe.edu.in	PES Modern, Shivajinagar	**403 1**	94210 77165	**13**	**5**	**Member**
8	Mrs. S. B. Dhuttargi	murgesonali@gmail.com	Bharati Vidyapeeth's College of Engineering for Women, Pune	403 4	98223 77626	18	4	**Member**

Phone : 020-25601206
Fax : 020-25601206
Email :
examcoordination@unipune.ac.in
Web : http://www.unipune.ac.in

CO-ORDINATION SECTION
Ganeshkhind, Pune - 411 007
Maharashtra (INDIA)

First half of the year,2020

20031100347

12/03/2020 09:00

Dhawas Nitin Ajabrao

Nutan Maharashtra Vidya Prasarak Mandal Nutan Maharashtra Institute of Engineering and Technology Addr: Vishnupuri Talegaon Dabhade Ta: Mawal Dist: Pune

Mobile No. : 9420080661   Email : nad.sit@sinhgad.edu

Sir/ Madam,

1. The University Authorities have been pleased to appoint you for the Paper Setter and Examiner, in the subject of :-

Post Name	Examination	Paper / Subject	Chairman	Important Dates
Paper Setter & Examiner **Appt NO.** 20118403	BE 2015 (Endsem) (Theory) BOS:INFORMATION TECHNOLOGY	Paper-Internet of Things (IoT) (414464A) , (sem-II)	**Purkar Santosh Vishnu** Karmaveer Kakasaheb Wagh Education Society Karmaveer Kakasaheb Wagh Institute of Engineering Education & Research Addr: Hirabai Haridas VidyanagariAmrutdhamPanchavati Ta: Nashik Dist: Nashik **9850120485**	**E-Mode Manuscript Submission:**20th September,2020

2. The appointment is based on certain assumptions and subject to the respective provisions of the Maharashtra Public Universities Act, 2016 and Statues/Ordinances, Rules and Regulations framed thereunder.
It shall be obligatory on every teacher of affiliated colleges to render necessary assistance and service in respect of examination of the University and evaluation of the students as prescribed by the statues.

3. Please put yourself in communication with your Chairman immediately in regard to the meeting of the preparation of question bank.

4. The paper setters are requested to work jointly for the topic wise preparation of question banks for multiple choice question papers.

5. For the preparation of question bank of final year/final semester examinations, syllabus completed up till the 13th March, 2020 be considered.

6. For backlog subjects of pre final year/semester the question bank shall be prepared on the basis of 100 percent syllabus.

7. The distribution of difficulty level of questions shall be as given below.
    (a) 40 percent questions: Very simple to attempt
    (b) 40 percent questions: Medium difficulty level
    (c) 20 percent questions: Higher difficulty level

8. The panel of paper setters should submit the question banks to the Chairman of the paper setting panel as per distribution finalized during their discussions.

9. Considering emergency situation, it is requested that the Chairman should submit question bank on or before 20th September 2020 through their official email id as registered on the BCUD portal.

10. Utmost care be taken at the time of setting of multiple-choice questions.

11. Please read and adhere to the above important instructions.
Your cooperation is solicited.

I seek your co-operation.

Thanking You

Yours,

For Director,Board of Examination and Evaluation

9/17/2020 2:29:07 PM

To,
The Principal/Directors,
        You are requested to relieve the teachers for paper setting. Also requested to communicate names of the teacher/s who remain absent for the work of paper setting, the said information is required for submission to the University Authorities for necessary action under the provisions of section 48(4) of the maharashtra Public Universityes Act,2016.

For early payment of examination remuneration work through ECS, you are requested to update your BCUD online teacher profile with Bank Account details. Also submit printed copy of same at the time of paper setting meeting. For details contact 020-25601388

Paper setter payment will done through automated NEFT/RTGS service for which please update your pancard ,bank account details and bank IFSC code in your teacher profile.`

Course Code	Course Name	Subject Code	Subject Name
24813	M.E. (2013 PAT.)	604102	WIRELESS & MOBILE TECHNOLOGIES
25013	M. COM. (2013)	215	BANKING LAW & PRACTICES
70115	F.E. (2015 COURSE) EXAMINATION	102006	ENGINEERING GRAPHICS I

9/17/2020 2:29:07 PM

Phone : 020-25601206
Fax : 020-25601206
Email :
examcoordination@unipune.ac.in
Web : http://www.unipune.ac.in

CO-ORDINATION SECTION
Ganeshkhind, Pune - 411 007
Maharashtra (INDIA)

First half of the year,2020

20031100318

12/03/2020 07:00

Dhawas Nitin Ajabrao

Nutan Maharashtra Vidya Prasarak Mandal Nutan Maharashtra Institute of Engineering and Technology
 Addr: Vishnupuri Talegaon Dabhade
Ta: Mawal Dist: Pune

Mobile No. : 9420080661   Email : nad.sit@sinhgad.edu

Sir/ Madam,

1. The University Authorities have been pleased to appoint you for the Paper Setter and Examiner, in the subject of :-

Post Name	Examination	Paper / Subject	Chairman	Important Dates
Paper Setter & Examiner **Appt NO.** 20118314	BE 2012 (Endsem) (Theory) BOS:Information Technology	Paper-Elective - III Advanced Computer Networks (414463E) , (sem-II)	**Kawale Raghunath Manoharrao** Pune District Education Association College of Engineering,Manjari Budruk Addr: Hadapsar-Manjari Road,Manjari Bk,Pune-412307 Ta: Pune (corporation Area) Dist: Pune **9421272276**	**E-Mode Manuscript Submission:**20th September,2020

2. The appointment is based on certain assumptions and subject to the respective provisions of the Maharashtra Public Universities Act, 2016 and Statues/Ordinances, Rules and Regulations framed thereunder.
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9/17/2020 2:33:14 PM

To,
The Principal/Directors,

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Paper setter payment will done through automated NEFT/RTGS service for which please update your pancard ,bank account details and bank IFSC code in your teacher profile.`

Course Code	Course Name	Subject Code	Subject Name
24813	M.E. (2013 PAT.)	604102	WIRELESS & MOBILE TECHNOLOGIES
25013	M. COM. (2013)	215	BANKING LAW & PRACTICES
70115	F.E. (2015 COURSE) EXAMINATION	102006	ENGINEERING GRAPHICS I

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Savitribai Phule Pune University

| Faculty of ENGINEERING | **TEAM LIST** | First half of the year,2020 |

Board of study in INFORMATION TECHNOLOGY

Exam : BE 2015 (Endsem)

Paper / Subject : Paper-Internet of Things (IoT) (414464A) , (sem-II)

Sr. No.	Post Name	Teacher Name	College Name
1.	Chairman 20118402	**Purkar Santosh Vishnu** svpurkar@kkwagh.edu.in 9850120485	Karmaveer Kakasaheb Wagh Education Society Karmaveer Kakasaheb Wagh Institute of Engineering Education & Research Addr: Hirabai Haridas VidyanagariAmrutdhamPanchavati Ta: Nashik Dist: Nashik
2.	Paper Setter & Examiner 20118403	**Dhawas Nitin Ajabrao** nad.sit@sinhgad.edu 9420080661	Nutan Maharashtra Vidya Prasarak Mandal Nutan Maharashtra Institute of Engineering and Technology Addr: Vishnupuri Talegaon Dabhade Ta: Mawal Dist: Pune
3.	Paper Setter & Examiner 20118404	**Mahajan Milind Ramesh** milind6787@gmail.com 9960920781	Pune Vidyarthi Griha Pune Vidyarthi Grihas College of Engineering and Technology Addr: 44 Vidyanagari Parvati Pune Ta: Pune (corporation Area) Dist: Pune
4.	Paper Setter & Examiner 20118405	**Patil Kirti Arun** kirti.patil2004@gmail.com 7775854611	Mumbai Educational Trust Institute of Engineering Addr: Bhujbal Knowledge City Adgaon Nashik Ta: Nashik Dist: Nashik
5.	Paper Setter & Examiner 20135640	**Mulla Nilofar Altafhusen** nilofar_mulla2005@yahoo.co.in 9766462277	Bharati Vidyapeeth Bharati Vidyapeeth Mahila Abhiyantriki Mahavidyalay Addr: Pune-Satara Road Dhanakawadi Pune Ta: Pune (corporation Area) Dist: Pune
6.	Paper Setter & Examiner 20135641	**Joshi Dhanashri Pramod** dhanashrijoshi28@gmail.com 9975545842	Akhil Bharatiya Maratha Shikshan Parishad Pune Anantrao Pawar College of Engineering & Research Addr: S No 103 Shahu College Campus Parvati Pune 09 Ta: Pune (corporation Area) Dist: Pune

Note only for Pharmacy : External examiners appointed for B.Pharm (first year to fourth year) examination schedule in First half of the year,2020 are requested to please treat the order for the Colleges, having students of that particular year (first/second/third/fourth)

Savitribai Phule Pune University

Faculty of ENGINEERING	**TEAM LIST**	First half of the year,2020

Board of study in INFORMATION TECHNOLOGY

Exam : BE 2015 (Endsem)

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Ref.: DYPU/SOET/DOE/ Aug/ 2021/ 170 **Date: 5ᵗʰ August 2021**

To,
The Chairman/Paper setter

CONFIDENTIAL
Sub**:** Appointment as Chairman / Paper Setter/ Examiner

Name of the School	Programme (UG/PG)	Academic Year	Course Code
School of Engineering and Technology	**PG**	**2020-2021**	(MEV-PCC202)
Specialization/Branch	**Semester**	**Batch**	**Course Title**
Electronics & Telecommunication Engineering	**II**		**Analog & Digital CMOS VLSI Design**

Chairman/ Paper Setter	Paper Setter	Paper Setter
Name of the Faculty:	**Name of the Faculty:**	**Name of the Faculty:**
Moresh Mukhedkar	Prof. Sandip Shelke	Dr. Sagar V. Joshi
Name of School	**Name of School**	**Name of School**
School of Engineering and Technology	School of Engineering and Technology	**NMIET,Talegaon Dabhade, Pune**
Ph. No	**Ph. No**	**Ph. No**
9579648618	9823468084	9011667200
Email ID:	**Email ID:**	**Email ID:**
moresh.mukhedkar@dyptc.edu.in	sandip.shelke@dyptc.edu.in	sagar.joshi@nmiet.edu.in

1. Please find attached herewith the **acceptance form** to be submitted by you within three days of receipt of this letter on doe@dypatiluniversitypune.edu.in/ hardcopy
2. The examination remuneration will be paid as per rules of the University. The payment of shall be transferred to saving bank account. Please give details of bank account number and IFSC code.
3. Please follow the attached guidelines for paper setting.

Prof. Santosh Nagpure **Department of Examination**	**Prof. Dr. Renu Parashar** **Department of Examinations**

To,

Department of Examination
D Y Patil University,
Pune

CONFIDENTIAL
Sub**:** Acceptance as Chairman / Paper Setter/ Examiner

I,_____of_____University/College/School received an appointment

as Chairman/Paper Setter/Examiner for the Program _____ Course _____ for the academic

year 2020-21.

Hereby, I am accepting the appointment and follow the rules and regulations for paper setting and

maintaining the confidentiality. I declare that none of my relative is appearing for the examination for

which question paper has been set by undersigned for DYPU, Pune.

Date:

Place: Name & Signature

Name of Bank and Branch	Name of Account holder	Account No	IFSC Code