



**INTERNATIONAL  
INSTITUTE OF  
INFORMATION  
TECHNOLOGY**

Innovation & Leadership

**P-14, Rajiv Gandhi Info Tech Park, Phase – 1,  
Hinjawadi, Pune – 411057, India**

**Department of  
Computer Engineering**

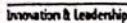
**Academic Year 2018 – 2019**

**Class : TE**

**Semester: I**

**Subject :Computer Networks**

**Identification &  
Activities for Advanced  
Learners**



**Class: T.E.**

Subject: Computer Networks.

Sign of Faculty: [Signature]



**List of Assignments/Projects given to Advanced Learners**

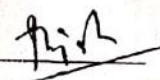
**Class : TE (Comp)**

**Course : Computer Networks**

**Name of Faculty: Ravindra P. Joshi**

| Roll No. | Name of Student                 | Assignment                                                          |
|----------|---------------------------------|---------------------------------------------------------------------|
| TC001    | ALHAT SIDDHARTH SANTOSH         | Implementation of Dijkstra's Shortest Path Algorithm                |
| TC002    | BAGAL AMRUTA POPAT              | Implementation of Dijkstra's Shortest Path Algorithm                |
| TC003    | BAGATE PRATIKSHA SHIVAJI        | Implementation of Dijkstra's Shortest Path Algorithm                |
| TC009    | MINAKSHI CHILME                 | Implementation of Dijkstra's Shortest Path Algorithm                |
| TC011    | PATIL VARSHA SHEKHAR            | Network Simulation using Packet tracer                              |
| TC014    | RANPISE SHUBHANGI ANIL          | Network Simulation using Packet tracer                              |
| TC016    | RODGE VERSHA DADASAHEB          | Network Simulation using Packet tracer                              |
| TC024    | BOCHARE RAVIRAJ BALKRISHNA      | Implementation of Leaky bucket Algorithm                            |
| TC033    | FENIL GAURANG MEHTA             | Implementation of Leaky bucket Algorithm                            |
| TC034    | GAIWAL RASIKA VILAS             | Implementation of Leaky bucket Algorithm                            |
| TC052    | ONKAR DYANESHWAR KALDAG         | Implementation of Leaky bucket Algorithm                            |
| TC065    | SHETTIGAR RAKSHITHA SATISH      | Implementation of Slow Start and AIMD congestion control algorithms |
| TC067    | SHRUTI SINHA                    | Implementation of Slow Start and AIMD congestion control algorithms |
| TC073    | INWALA ALI SAHEEB SAFDAR HUSSAI | Implementation of Slow Start and AIMD congestion control algorithms |

Sign of Faculty





International Institute of Information Technology, Pune - 411057

Department of Computer Engineering

Semester -1 (AY 2018-19)

Subject: CN

Date: Sept. 24, 2018

Class: TE (Comp)

Date of Submission: Oct. 06, 2018

Programming Assignments (For Advanced Learners)

**Group-A [Roll No. TC001-TC023] Implementation of Dijkstra's shortest path algorithm**

- Enter number of nodes as well as numbers of source and destination nodes as the input.
- Each node is labeled with its distance from the source node along with the best known path.
- Initially, no paths are known. Hence all nodes may be labeled with infinity
- As the algorithm proceeds and paths are found, the labels may change, reflecting better paths.
- Labels are either tentative or permanent - initially all of them are tentative.
- When it is discovered that a label represents the shortest possible path from source to that node, the label is made permanent. (in other words, the adjacent node with the shortest label is made permanent & becomes the next working node).
- This process continues until the source node becomes the working node.
- Algorithm starts from the source node to obtain the path. It checks the predecessors to the node in succession until the destination node is reached (successor node values are stored in a path).

The program input and output should be as follows,

Input -

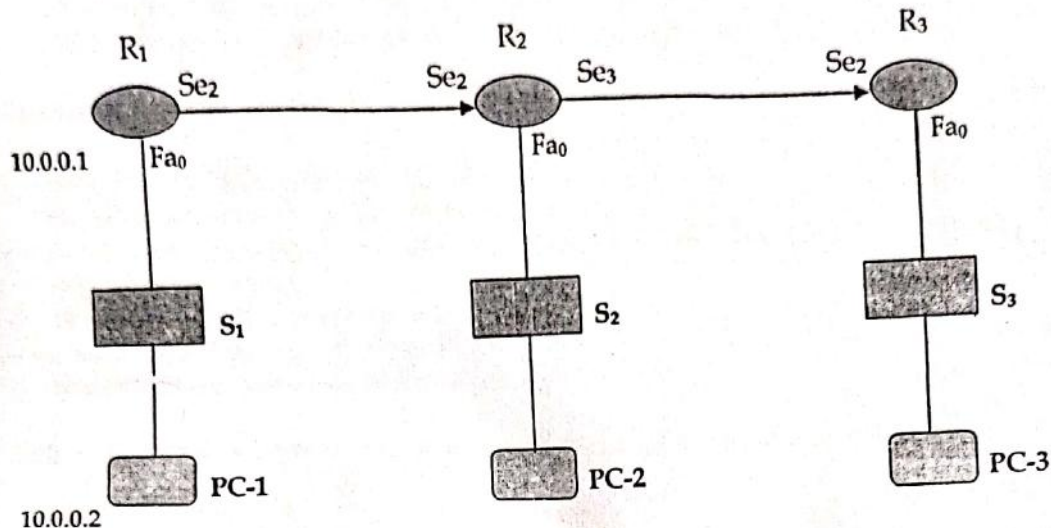
|                                                                          |   |                |
|--------------------------------------------------------------------------|---|----------------|
| Enter number of nodes                                                    | = | X              |
| Enter adjacent node for node 1 (Enter 0 to stop inputting)               | = | Y <sub>1</sub> |
| Enter distance of node Y <sub>1</sub> from node 1 = d <sub>1</sub>       | = | Y <sub>2</sub> |
| Enter adjacent node for node 1 (Enter 0 to stop inputting)               | = | 0              |
| Enter distance of node Y <sub>2</sub> from node 1 = d <sub>2</sub> ..... | = | Z <sub>1</sub> |
| Enter adjacent node for node 1 (Enter 0 to stop inputting)               | = |                |
| Enter distance of node 0 from node 1 = 0 .....                           | = |                |
| Enter adjacent node for node 2 (Enter 0 to stop inputting)               | = |                |

Output -

Shortest path between node 1 and node 4 =  
Shortest distance between node 1 and node 4 =



Simulate the following network using Packet tracer and demonstrate end-to-end connectivity. You may implement Routing Information Protocol (RIP) on router interfaces.



Networks to be used are 10.0.0.0, 172.16.0.0, 20.0.0.0, 192.86.0.0, 30.0.0.0 in various LANs. Sample numbering is shown above. R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub> are routers and S<sub>1</sub>, S<sub>2</sub>, S<sub>3</sub> are LAN switches.

Each student is required to simulate and demonstrate the network individually.

What is a Leaky bucket ?

- This mechanism converts an uneven flow of packets from a host computer to a constant flow of packets onto the network, smoothening out bursts and reducing chances of network congestion.
- Each host is connected to the network by an interface containing a Leaky bucket (i.e. finite internal queue).
- This Leaky bucket interface is useful since routers work best at constant data rates, rather than bursty traffic.

How it works ?

- If a packet arrives at FIFO queue, when it is full, it is discarded.
- If a packet arrives at FIFO queue, and if there is room in the queue, it is placed in the queue.
- Host is allowed to put one packet per clock tick onto the network, in case of fixed size packets (e.g. ATM cells); or if variable size packets are used, it is allowed to send fixed number of bytes per clock tick.
- Bucket size may be incremented / decremented depending on the data availability.

### Implementation -

- Consider that the host computer transmits data at variable speeds between 10 to 30 Kbps.
- Output from the host computer needs to be regulated at a speed of 20 Kbps (reception speed).
- Consider maximum bucket size is 1 MB and observe the output for 10 sec.
- Plot graphs of transmission rate, bucket size, regulated output of the bucket.

### Algorithm -

- Initialize the FIFO queue as the Leaky bucket.
- Set clock ticks at the required reception rate.
- Keep checking for input data until clock ticks (increment / decrement bucket size depending on data).
- If input data exists, load it onto the FIFO queue.
- At clock tick, take out data from FIFO queue.
- End the process after required time duration.

Note - Following "C" header files may need to be included in your program.

stdio.h  
stdlib.h

conio.h  
time.h

graphics.h

Group-D [Roll Nos. [TC069-TC087]

Implementation of slow start and AIMD congestion control protocols

Write a program to simulate the behavior of Slow Start and AIMD (Additive Increase and Multiplicative Decrease) congestion control protocols. (Use JAVA/PYTHON)

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**Hope Foundation's**  
**International Institute of Information Technology, Pune**  
**DEPARTMENT OF COMPUTER ENGINEERING**  
**Academic Year : 2018-19 Semester : I**

## PERFORMANCE IMPROVEMENT OF SLOW LEARNERS

**Class: T.E.**

**Subject:** Computer Networks.

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**Hope Foundation's**  
**International Institute of Information Technology**  
**DEPARTMENT OF COMPUTER ENGINEERING**  
**Academic Year : 2018-19 Semester : I**

**CLASS TEST EVALUATION RECORD**

Class: T.E.

Subject: *computer Networks*

| Roll No.                           | Name of the Student           | Class Test - I<br>(Out of 20) | Class Test - II<br>(Out of 20) | Class Test - III<br>(Out of 20) |
|------------------------------------|-------------------------------|-------------------------------|--------------------------------|---------------------------------|
| TC001                              | ALHAT SIDDHARTH SANTOSH       | 15                            | 07                             | 18                              |
| TC002                              | BAGAL AMRUTA POPAT            | 14                            | 13                             | 14                              |
| TC003                              | BAGATE PRATIKSHA SHIVAJI      | 16                            | 14                             | 14                              |
| TC004                              | BHUJBAL ESHWARI DHARMANDRA    | 11                            | 10                             | 18                              |
| TC005                              | EJAGAR SONALI SHIVAJI         | ABS                           | ABS                            | ABS                             |
| TC006                              | GADERAO PRIYA SHIVAJI         | 15                            | 13                             | 13                              |
| TC007                              | GUDE ANGAD BABASAHEB          | 11                            | 07                             | 06                              |
| TC008                              | GUPTA SRISHTI ARUNKUMAR       | 13                            | 13                             | 16                              |
| TC009                              | MINAKSHI HARISHCHANDRA CHILME | 16                            | 11                             | 18                              |
| TC010                              | OMPRAKASH RAJENDRA VARMA      | 8                             | 07                             | 10                              |
| TC011                              | PATIL VARSHA SHEKHAR          | 16                            | 13                             | 19                              |
| TC012                              | PAWAR SHUBHAM CHATING         | 11                            | 06                             | 14                              |
| TC013                              | RADHA UDHAVRAO YELIKAR        | 12                            | 09                             | 18                              |
| TC014                              | RANPISE SHUBHANGI ANIL        | 14                            | 12                             | 17                              |
| TC015                              | RAUT ANITA ANNA               | 13                            | 13                             | 17                              |
| TC016                              | RODGE VERSHA DADASAHEB        | 14                            | 11                             | 13                              |
| TC017                              | SHIRSAT SHUBHAM RAJKUMAR      | 12                            | 09                             | 12                              |
| TC018                              | THEURKAR SUCHITRA GORAKH      | 10                            | 11                             | 08                              |
| TC019                              | ANSARI FARHAN JAMEEL          | 10                            | 06                             | 12                              |
| TC020                              | BHARAMBE SHIVANI SUNIL        | ABS                           | ABS                            | 12                              |
| TC021                              | BHOJANE RUTIKA DATTATRAY      | 10                            | 09                             | 18                              |
| TC022                              | BIBHU KUMAR                   | ABS                           | ABS                            | ABS                             |
| TC023                              | BIRADAR AKSHAY MAHADEV        | ABS                           | ABS                            | 11                              |
| TC024                              | BOCHARE RAVIRAJ BALKRISHNA    | 13                            | 09                             | 13                              |
| TC025                              | CHOPADA YASHASHREE MANOJKUMA  | ABS                           | ABS                            | ABS                             |
| TC026                              | CHOUDHARY SUNNY RAJESH        | ABS                           | ABS                            | ABS                             |
| TC027                              | CRASTO LAWRENCE JAMES         | 10                            | 09                             | 13                              |
| TC028                              | DALVI NISHANT RUPESH          | 9                             | 12                             | ABS                             |
| TC029                              | DANAGE JANHAVI VINAYAK        | ABS                           | ABS                            | 14                              |
| TC030                              | DEEPTI PRASAD                 | ABS                           | ABS                            | 12                              |
| TC031                              | DESALE PRASANNA RAJENDRA      | ABS                           | ABS                            | ABS                             |
| TC032                              | DONGARE AJINKYA ASHOK         | 12                            | 10                             | 12                              |
| TC033                              | FENIL GAURANG MEHTA           | 10                            | 08                             | 16                              |
| TC034                              | GAIWAL RASIKA VILAS           | 13                            | 09                             | 13                              |
| TC035                              | GANDHI ADITYA JITENDRA        | 12                            | 05                             | 13                              |
| TC036                              | GUPTA CHAITRA CHANNABASU      | 11                            | 09                             | 13                              |
| TC037                              | HULASI KHINVASARA             | 10                            | 11                             | 12                              |
| TC038                              | INGALE KETAN VILAS            | 11                            | ABS                            | 10                              |
| TC039                              | JAYAN VINOD                   | 10                            | 02                             | 10                              |
| TC040                              | KAMBLE KAPIL SHRIPATI         | ABS                           | ABS                            | ABS                             |
| TC041                              | KHERATKAR NINAD SUBHASH       | 12                            | 06                             | 16                              |
| TC042                              | KUDALE OMKAR SURESH           | 10                            | 06                             | 12                              |
| TC043                              | KULKARNI AMIT VIJAY           | ABS                           | ABS                            | 11                              |
| Signature of Faculty               |                               | <i>[Signature]</i>            | <i>[Signature]</i>             | <i>[Signature]</i>              |
| Signature of Academic CO-Ordinator |                               | <i>[Signature]</i>            | <i>[Signature]</i>             | <i>[Signature]</i>              |
| Signature of Head of Department    |                               | <i>[Signature]</i>            | <i>[Signature]</i>             | <i>[Signature]</i>              |



International Institute of Information Technology  
DEPARTMENT OF COMPUTER ENGINEERING

Academic Year : 2018-19 Semester : I

CLASS TEST EVALUATION RECORD

Class: T.E.

Subject: Computer Networks

| Roll No.                           | Name of the Student             | Class Test - I<br>(Out of 20) | Class Test - II<br>(Out of 20) | Class Test - III<br>(Out of 20) |
|------------------------------------|---------------------------------|-------------------------------|--------------------------------|---------------------------------|
| TC044                              | KUMBHAR SHREYASH SHASHIKANT     | 9                             | 07                             | 12                              |
| TC045                              | MEHARIYA JAHANVI SANJAY         | 10                            | ABS                            | 09                              |
| TC046                              | MORE SUPRIYA SUDHIR             | 11                            | ABS                            | 13                              |
| TC047                              | NANDGAONKAR AMEYA YATIN         | 10                            | ABS                            | 08                              |
| TC048                              | NERKAR NIKITA CHANDRAKANT       | 8                             | 10                             | 16                              |
| TC049                              | NIKAM PRATIK RAJENDRA           | ABS                           | ABS                            | ABS                             |
| TC050                              | NIKHIL VIJAY YADAV              | 7                             | 06                             | 10                              |
| TC051                              | NILE ATHARVA SANJAY             | 13                            | 07                             | 13                              |
| TC052                              | ONKAR DNYANESHWAR KADLAG        | 13                            | 07                             | ABS                             |
| TC053                              | PAI NIRANJAN BHASKAR            | 11                            | 06                             | 17                              |
| TC054                              | PATHAK ABOLI AVINASH            | 11                            | 10                             | ABS                             |
| TC055                              | PATIL ASHWINKUMAR PRAVIN        | 8                             | 08                             | 12                              |
| TC056                              | PATIL PRITHVIRAJ SHASHIKANT     | ABS                           | ABS                            | ABS                             |
| TC057                              | PRIYANKAN KUMAR                 | 7                             | 11                             | 14                              |
| TC058                              | RAIPURE HRISHIKESH SANJAY       | 7                             | 06                             | 08                              |
| TC059                              | RAO ADITI RAGHAVENDRA           | 11                            | 13                             | 14                              |
| TC060                              | SAGAR KOUL                      | 10                            | 11                             | 14                              |
| TC061                              | SHAIKH UMER ASIF                | 10                            | 10                             | 11                              |
| TC062                              | SHASHANK BHATNAGAR              | 8                             | ABS                            | ABS                             |
| TC063                              | SHEKADE ABHISHEK SANJAY         | 7                             | 06                             | 17                              |
| TC064                              | SHETAGE RUSHIKESH VILAS         | 10                            | 07                             | 11                              |
| TC065                              | SHETTIGAR RAKSHITHA SATISH      | 14                            | 13                             | ABS                             |
| TC066                              | SHIVAM NILKANTH JAGTAP          | 11                            | 08                             | 11                              |
| TC067                              | SHRUTI SINHA                    | 14                            | ABS                            | 17                              |
| TC068                              | SINGH AJIT VIJAYKUMAR           | 8                             | 06                             | 05                              |
| TC069                              | STEMY TOMY                      | ABS                           | ABS                            | ABS                             |
| TC070                              | SULGUDLE AJINKYA KALYAN         | ABS                           | 09                             | 14                              |
| TC071                              | SUSHMITA BHAVANI NOOKA          | 12                            | 10                             | ABS                             |
| TC072                              | SWAMINATHAN PEARL JULIUS        | ABS                           | 10                             | 18                              |
| TC073                              | TINWALA ALI SAHEEB SAFDAR HUSSA | 17                            | 11                             | 12                              |
| TC074                              | UDIT SRIVASTAVA                 | 9                             | 03                             | 10                              |
| TC075                              | VARMA SHUBHAM VIJAY             | 10                            | 10                             | 11                              |
| TC076                              | VISHAL CHAUHAN                  | 7                             | ABS                            | ABS                             |
| TC077                              | AISHWARYA TIWARI                | 10                            | ABS                            | 18                              |
| TC078                              | VILAS DHIMAN                    | ABS                           | ABS                            | 09                              |
| TC079                              | SHANTANU BUDDEKAR               | 11                            | 04                             | 11                              |
| TC080                              | SAURAV FALKE                    | 12                            | 08                             | ABS                             |
| TC081                              | SHUDHANSHU FULKARNI             | ABS                           | 11                             | 13                              |
| TC082                              | VRUSHABH MULK                   | 13                            | ABS                            | ABS                             |
| TC083                              | RITUJA MAHALE                   | ABS                           | 10                             | 17                              |
| TC084                              | RAMAN KHOSHWAH                  | ABS                           | 04                             | ABS                             |
| TC085                              | MOHIT POKHARRAR                 | 15                            | 11                             | 15                              |
| TC086                              | MANJUSHREE SONEMBLE             | ABS                           | 09                             | ABS                             |
| Signature of Faculty               |                                 | <i>[Signature]</i>            | <i>[Signature]</i>             | <i>[Signature]</i>              |
| Signature of Academic CO-Ordinator |                                 | <i>[Signature]</i>            |                                |                                 |
| Signature of Head of Department    |                                 | <i>[Signature]</i>            | <i>[Signature]</i>             | <i>[Signature]</i>              |
| TC087                              | AKSHAY BHOSALE                  | ABS                           | ABS                            | ABS                             |
| Chittaranjan Singh                 |                                 |                               |                                | 07                              |





**Hope Foundation's**  
**International Institute of Information Technology, Pune**  
**DEPARTMENT OF COMPUTER ENGINEERING**

**Academic Year : 2018-19, Semester - I**

**SLOW AND ADVANCED LEARNER IDENTIFICATION**

| SLOW AND ADVANCED LEARNER IDENTIFICATION |                               |                                    |               |                                                  |               |                                          |               |                                |
|------------------------------------------|-------------------------------|------------------------------------|---------------|--------------------------------------------------|---------------|------------------------------------------|---------------|--------------------------------|
| Course Code : 310245                     |                               | Class : TE (Comp)                  |               |                                                  |               |                                          |               |                                |
| Course Name: Computer Networks           |                               | Name of Faculty: Ravindra P. Joshi |               |                                                  |               |                                          |               |                                |
| Roll No.                                 | Name of Student               | Class Test I (Out of 25)           | 50% Weightage | Overall % of Marks In Previous Exam (out of 100) | 25% Weightage | Class Observation (on the Scale of 1-10) | 25% Weightage | Total % Weightage (out of 100) |
| TC001                                    | ALHAT SIDDHARTH SANTOSH       | 19                                 | 38            | 60.07                                            | 15            | 8                                        | 20            | 73                             |
| TC002                                    | BAGAL AMRUTA POPAT            | 18                                 | 36            | 66.14                                            | 17            | 8                                        | 20            | 73                             |
| TC003                                    | BAGATE PRATIKSHA SHIVAJI      | 20                                 | 40            | 73.45                                            | 18            | 9                                        | 23            | 81                             |
| TC004                                    | BHUBAL ESHWARI DHARMANDRA     | 14                                 | 28            | 57.38                                            | 14            | 8                                        | 20            | 62                             |
| TC005                                    | EJAGAR SONALI SHIVAJI         |                                    | 0             |                                                  | 0             | 0                                        | 0             | 0                              |
| TC006                                    | GADERAO PRIYA SHIVAJI         | 19                                 | 38            | 53.31                                            | 13            | 7                                        | 18            | 69                             |
| TC007                                    | GUDE ANGAD BABASAHEB          | 14                                 | 28            | 58.62                                            | 15            | 9                                        | 23            | 65                             |
| TC008                                    | GUPTA SRISHTI ARUNKUMAR       | 16                                 | 32            | 59.38                                            | 15            | 6                                        | 15            | 62                             |
| TC009                                    | MINAKSHI HARISHCHANDRA CHILME | 20                                 | 40            | 63.52                                            | 16            | 8                                        | 20            | 76                             |
| TC010                                    | OMPRAKASH RAJENDRA VARMA      | 10                                 | 20            | 68.34                                            | 17            | 9                                        | 23            | 60                             |
| TC011                                    | PATIL VARSHA SHEKHAR          | 20                                 | 40            | 70.55                                            | 18            | 9                                        | 23            | 80                             |
| TC012                                    | PAWAR SHUBHAM CHATING         | 14                                 | 28            | 60.34                                            | 15            | 8                                        | 20            | 63                             |
| TC013                                    | RADHA UDHAVRAO YELIKAR        | 15                                 | 30            | 69.17                                            | 17            | 8                                        | 20            | 67                             |
| TC014                                    | RANPISE SHUBHANGI ANIL        | 18                                 | 36            | 70.14                                            | 18            | 8                                        | 20            | 74                             |
| TC015                                    | RAUT ANITA ANNA               | 16                                 | 32            | 63.72                                            | 16            | 8                                        | 20            | 68                             |
| TC016                                    | RODGE VERSHA DADASAHEB        | 18                                 | 36            | 66.07                                            | 17            | 7                                        | 18            | 70                             |
| TC017                                    | SHIRSAT SHUBHAM RAJKUMAR      | 15                                 | 30            | 68.28                                            | 17            | 6                                        | 15            | 62                             |
| TC018                                    | THEURKAR SUCHITRA GORAKH      | 13                                 | 26            | 54.83                                            | 14            | 9                                        | 23            | 62                             |
| TC019                                    | ANSARI FARHAN JAMEEL          | 13                                 | 26            | 68.00                                            | 17            | 7                                        | 18            | 61                             |
| TC020                                    | BHARAMBE SHIVANI SUNIL        |                                    | 0             | 65.79                                            | 16            | 7                                        | 18            | 34                             |
| TC021                                    | BHOJANE RUTIKA DATTATRAY      | 13                                 | 26            | 48.21                                            | 12            | 6                                        | 15            | 53                             |
| TC022                                    | BIBHU KUMAR                   |                                    | 0             | 47.66                                            | 12            | 0                                        | 0             | 12                             |
| TC023                                    | BIRADAR AKSHAY MAHADEV        |                                    | 0             | 84.14                                            | 21            | 8                                        | 20            | 41                             |
| TC024                                    | BOCHARE RAVIRAJ BALKRISHNA    | 16                                 | 32            | 72.14                                            | 18            | 8                                        | 20            | 70                             |
| TC025                                    | MANOJKUMAR                    |                                    | 0             | 63.38                                            | 16            | 7                                        | 18            | 33                             |
| TC026                                    | CHOUDHARY SUNNY RAJESH        |                                    | 0             | 51.03                                            | 13            | 0                                        | 0             | 13                             |
| TC027                                    | CRASTO LAWRENCE JAMES         | 13                                 | 26            | 59.31                                            | 15            | 8                                        | 20            | 61                             |
| TC028                                    | DALVI NISHANT RUPESH          | 11                                 | 22            | 73.31                                            | 18            | 6                                        | 15            | 55                             |
| TC029                                    | DANAGE JANHAVI VINAYAK        |                                    | 0             | 54.28                                            | 14            | 7                                        | 18            | 31                             |
| TC030                                    | DEEPTI PRASAD                 |                                    | 0             | 76.62                                            | 19            | 6                                        | 15            | 34                             |



| Roll No. | Name of Student             | Class Test I (Out of 25) | 50% Weightage | Overall % of Marks in Previous Exam (out of 100) | 25% Weightage | Class Observation (on the Scale of 1-10) | 25% Weightage | Total % Weightage (out of 100) |
|----------|-----------------------------|--------------------------|---------------|--------------------------------------------------|---------------|------------------------------------------|---------------|--------------------------------|
| TC031    | DESALE PRASANNA RAJENDRA    |                          | 0             | 52.62                                            | 13            | 6                                        | 15            | 28                             |
| TC032    | EDONGARE AJINKYA ASHOK      | 15                       | 30            | 62.69                                            | 16            | 7                                        | 18            | 63                             |
| TC033    | FENIL GAURANG MEHTA         | 18                       | 36            | 83.52                                            | 21            | 8                                        | 20            | 77                             |
| TC034    | GAIWAL RASIKA VILAS         | 16                       | 32            | 67.86                                            | 17            | 9                                        | 23            | 71                             |
| TC035    | GANDHI ADITYA JITENDRA      | 15                       | 30            | 69.72                                            | 17            | 8                                        | 20            | 67                             |
| TC036    | GUPTA CHAITRA CHANNABASU    | 14                       | 28            | 62.21                                            | 16            | 7                                        | 18            | 61                             |
| TC037    | HULASI KHINVASARA           | 13                       | 26            | 73.79                                            | 18            | 8                                        | 20            | 64                             |
| TC038    | INGALE KETAN VILAS          | 14                       | 28            | 67.31                                            | 17            | 6                                        | 15            | 60                             |
| TC039    | JAYAN VINOD                 | 13                       | 26            | 72.07                                            | 18            | 5                                        | 13            | 57                             |
| TC040    | NAMBLE KAPIL SHRIPATI       |                          | 0             | 50.34                                            | 13            | 4                                        | 10            | 23                             |
| TC041    | NHERATKAR NINAD SUBHASH     | 11                       | 22            | 62.00                                            | 16            | 5                                        | 13            | 50                             |
| TC042    | KUDALE OMKAR SURESH         | 13                       | 26            | 71.24                                            | 18            | 8                                        | 20            | 64                             |
| TC043    | KULKARNI AMIT VIJAY         |                          | 0             | 70.69                                            | 18            | 7                                        | 18            | 35                             |
| TC044    | KUMBHAR SHREYASH SHASHIKANT | 11                       | 22            | 69.66                                            | 17            | 5                                        | 13            | 52                             |
| TC045    | MEHARIYA JAHANVI SANJAY     | 13                       | 26            | 71.31                                            | 18            | 8                                        | 20            | 64                             |
| TC046    | MORE SUPRIYA SUDHIR         | 14                       | 28            |                                                  | 0             | 10                                       | 25            | 53                             |
| TC047    | NANDGAONKAR AMEYA YATIN     | 13                       | 26            | 47.03                                            | 12            | 9                                        | 23            | 60                             |
| TC048    | NERKAR NIKITA CHANDRAKANT   | 10                       | 20            | 72.83                                            | 18            | 9                                        | 23            | 61                             |
| TC049    | NIKAM PRATIK RAJENDRA       |                          | 0             | 43.03                                            | 11            | 0                                        | 0             | 11                             |
| TC050    | NIKHIL VIJAY YADAV          | 11                       | 22            | 78.21                                            | 20            | 8                                        | 20            | 62                             |
| TC051    | NILE ATHARVA SANJAY         | 16                       | 32            | 60.34                                            | 15            | 8                                        | 20            | 67                             |
| TC052    | ONKAR DNYANESHWAR KADLAG    | 16                       | 32            | 61.31                                            | 15            | 10                                       | 25            | 72                             |
| TC053    | PAI NIRANJAN BHASKAR        | 14                       | 28            | 69.79                                            | 17            | 9                                        | 23            | 68                             |
| TC054    | PATHAK ABOLI AVINASH        | 14                       | 28            | 67.79                                            | 17            | 8                                        | 20            | 65                             |
| TC055    | PATIL ASHWINKUMAR PRAVIN    | 10                       | 20            | 64.62                                            | 16            | 9                                        | 23            | 59                             |
| TC056    | PATIL PRITHVIRAJ SHASHIKANT |                          | 0             | 32.76                                            | 8             | 0                                        | 0             | 8                              |
| TC057    | PRJYANKAN KUMAR             | 11                       | 22            | 59.10                                            | 15            | 7                                        | 18            | 54                             |
| TC058    | RAIPURE HRISHIKESH SANJAY   | 9                        | 18            | 65.59                                            | 16            | 8                                        | 20            | 54                             |
| TC059    | RAO ADITI RAGHAVENDRA       | 14                       | 28            | 71.72                                            | 18            | 9                                        | 23            | 68                             |
| TC060    | SAGAR KOUL                  | 13                       | 26            | 73.52                                            | 18            | 9                                        | 23            | 67                             |
| TC061    | SHAIKH UMER ASIF            | 13                       | 26            | 48.48                                            | 12            | 8                                        | 20            | 58                             |
| TC062    | SHASHANK BHATNAGAR          | 10                       | 20            | 67.79                                            | 17            | 8                                        | 20            | 57                             |
| TC063    | SHEKADE ABHISHEK SANJAY     | 9                        | 18            | 76.28                                            | 19            | 7                                        | 18            | 55                             |
| TC064    | SHEETAGE RUSHIKESH VILAS    | 13                       | 26            | 75.45                                            | 19            | 8                                        | 20            | 65                             |
| TC065    | SHEETTIGAR RAKSHITHA SATISH | 18                       | 36            | 82.76                                            | 21            | 10                                       | 25            | 82                             |
| TC066    | SHIVAM NILKANTH JAGTAP      | 14                       | 28            | 63.79                                            | 16            | 8                                        | 20            | 64                             |
| TC067    | SHRUTI SINHA                | 18                       | 36            | 70.48                                            | 18            | 10                                       | 25            | 79                             |
| TC068    | SINGH AJIT VIJAY KUMAR      | 10                       | 20            | 68.21                                            | 17            | 6                                        | 15            | 52                             |



**Hope Foundation's**  
**International Institute of Information Technology, Pune**  
**DEPARTMENT OF COMPUTER ENGINEERING**  
**Academic Year : 2018-19 Semester : I**

### LIST OF SLOW LEARNERS

Class: T.E.

Subject: Computer Networks

[illegible]

Sign of Faculty:



| Roll No. | Name of Student          | Class Test I (Out of 25) | 50% Weightage | Overall % of Marks in Previous Exam (out of 100) | 25% Weightage | Class Observation (on the Scale of 1-10) | 25% Weightage | Total % Weightage (out of 100) |
|----------|--------------------------|--------------------------|---------------|--------------------------------------------------|---------------|------------------------------------------|---------------|--------------------------------|
| TC069    | STEMY TOMY               |                          | 0             | 51.66                                            | 13            | 1                                        | 3             | 15                             |
| TC070    | SULGUDLE AJINKYA KALYAN  |                          | 0             | 68.55                                            | 17            | 4                                        | 10            | 27                             |
| TC071    | SUSHMITA BHAVANI NOOKA   | 15                       | 30            | 67.72                                            | 17            | 9                                        | 22.5          | 69                             |
| TC072    | SWAMINATHAN PEARL JULIUS |                          | 0             | 52.14                                            | 13            | 9                                        | 22.5          | 36                             |
| TC073    | HUSSAIN                  | 21                       | 42            | 81.79                                            | 20            | 10                                       | 25            | 87                             |
| TC074    | UDIT SRIVASTAVA          | 11                       | 22            | 71.45                                            | 18            | 8                                        | 20            | 60                             |
| TC075    | VARMA SHUBHAM VIJAY      | 13                       | 26            | 74.28                                            | 19            | 7                                        | 17.5          | 62                             |
| TC076    | VISHAL CHAUHAN           | 9                        | 18            | 51.1                                             | 13            | 6                                        | 15            | 46                             |
| TC077    | AISHWARYA TIWARI         | 13                       | 26            | 44.53                                            | 11            | 5                                        | 12.5          | 50                             |
| TC078    | VIKAS DHIMAN             |                          | 0             | 53.9                                             | 13            | 4                                        | 10            | 23                             |
| TC079    | SHANTANU BUDDEKAR        | 14                       | 28            | 40.13                                            | 10            | 6                                        | 15            | 53                             |
| TC080    | SAURAV KALE              | 15                       | 30            | 49.66                                            | 12            | 5                                        | 12.5          | 55                             |
| TC081    | SUDHANSHU KULKARNI       |                          | 0             | 64.87                                            | 16            | 6                                        | 15            | 31                             |
| TC082    | VRUSHABH MULIK           | 16                       | 32            | 61.5                                             | 15            | 6                                        | 15            | 62                             |
| TC083    | RITUJA MAHALE            |                          | 0             | 65.9                                             | 16            | 4                                        | 10            | 26                             |
| TC084    | RAMAN KHUSHWAH           |                          | 0             | 43.73                                            | 11            | 4                                        | 10            | 21                             |
| TC085    | MOHIT POKHARKAR          | 19                       | 38            | 57.73                                            | 14            | 6                                        | 15            | 67                             |
| TC086    | MANJUSHREE SONKAMBLE     |                          | 0             | 51.2                                             | 13            | 7                                        | 17.5          | 30                             |

Final  
Ravindra P. Joshi





Hope Foundation's  
International Institute of Information technology, Pune

DEPARTMENT OF COMPUTER ENGINEERING

Academic Year : 2018-19, Semester - I

**SCHEDULE OF SLOW LEARNER ACTIVITIES**

Class : TE

Course : Computer Networks

Name of Faculty: Ravindra P. Joshi

| Lecture No. | Date       | Time          | Activity                                           | Topic/Unit Covered                          |
|-------------|------------|---------------|----------------------------------------------------|---------------------------------------------|
| 1           | 07-09-2018 | 9:30-10:30 AM | Numerical practice                                 | Solving numerical problems on flow control  |
| 2           | 08-09-2018 | 9:30-10:30 AM | Numerical practice                                 | Solving numerical problems on Error control |
| 3           | 14-09-2018 | 9:30-10:30 AM | Numerical practice                                 | Solving numerical problems on IP addressing |
| 4           | 21-09-2018 | 9:30-10:30 AM | Numerical practice                                 | Solving numerical problems on subnets       |
| 5           | 22-09-2018 | 9:30-10:30 AM | Display of on-line videos                          | Disussion on difficult concepts             |
| 6           | 28-09-2018 | 9:30-10:30 AM | Discussion of past year University question papers | Solving questions of all units              |
| 7           | 05-10-2018 | 9:30-10:30 AM | Solving student querries                           | All question papers                         |

  
Signature of Faculty













Innovation & Leadership  
[www.isquareit.edu.in](http://www.isquareit.edu.in)

**P-14, Rajiv Gandhi Info Tech Park, Phase – 1,  
Hinjawadi, Pune – 411057, India**

# **Department of Computer Engineering**

**Academic Year 2018 – 2019  
(SEM-II)**

## **Identification & Activities for Slow**





**INTERNATIONAL  
INSTITUTE OF  
INFORMATION  
TECHNOLOGY**

Innovation & Leadership

**P-14, Rajiv Gandhi Info Tech Park, Phase - 1,  
Hinjawadi, Pune - 411057, India**

**Department of  
Computer Engineering**

**Academic Year 2018 – 2019**

**Class: SE**

**Semester: IV**

**Subject: Advanced Data Structures**

**Identification &  
Activities for Slow  
Learners**





Hope Foundation's  
International Institute of Information Technology, Pune  
DEPARTMENT OF COMPUTER ENGINEERING  
Academic Year : 2018-19, Semester - II

SLOW AND ADVANCED LEARNER IDENTIFICATION

Course Code : 210252

Course Name: Advanced Data Structures

Class : SE

Name of Faculty: Shitole Ajitkumar Suresh Rao

| Roll No. | Name of Student             | Class Test I (Out of 20) | 50% Weightage | Overall % of Marks in Previous Exam (out of 100) | 25% Weightage | Class Observation (on the Scale of 1-10) | 25% Weightage | Total % Weightage (out of 100) |
|----------|-----------------------------|--------------------------|---------------|--------------------------------------------------|---------------|------------------------------------------|---------------|--------------------------------|
| SC001    | AASTHA SINHA                | 9                        | 22.5          | 80                                               | 20            | 10                                       | 25            | 68                             |
| SC002    | ABHISHEK BORHADE            | 9                        | 22.5          | 21                                               | 5             | 7                                        | 18            | 45                             |
| SC003    | AGRAWAL NAKUL DIPAK         | 11                       | 27.5          | 50                                               | 13            | 7                                        | 18            | 58                             |
| SC004    | AGRAWAL SANIKA SHAILESH     | 10                       | 25            | 67                                               | 17            | 7                                        | 18            | 59                             |
| SC005    | AJAY RAJESH AGRAWAL         | AB                       | 0             | 77                                               | 19            | 8                                        | 20            | 39                             |
| SC006    | AMAN GUPTA                  | 0                        | 0             | 25                                               | 6             | 5                                        | 13            | 19                             |
| SC007    | ANCHARWADKAR MANDAR         | 2                        | 5             | 45                                               | 11            | 7                                        | 18            | 34                             |
| SC008    | ANUBHAV MATTOO              | 11                       | 27.5          | 69                                               | 17            | 9                                        | 23            | 67                             |
| SC009    | APOORVA RAY CHAUDHURI       | 3                        | 7.5           | 37                                               | 9             | 6                                        | 15            | 32                             |
| SC010    | ASHEESH BALOTRA             | 5                        | 12.5          | 72                                               | 18            | 6                                        | 15            | 46                             |
| SC011    | AYESHA MULLA                | 17                       | 42.5          | 77                                               | 19            | 8                                        | 20            | 82                             |
| SC012    | BAGUL NISHA BAPU            | 9                        | 22.5          | 68                                               | 17            | 7                                        | 18            | 57                             |
| SC013    | BELWATE PARTH ASHOK         | 5                        | 12.5          | 75                                               | 19            | 8                                        | 20            | 51                             |
| SC014    | BHOSALE MANASI MAHESH       | 10                       | 25            | 69                                               | 17            | 8                                        | 20            | 62                             |
| SC015    | CHORE SWAPNIL RAJARAM       | 13                       | 32.5          | 75                                               | 19            | 9                                        | 23            | 74                             |
| SC016    | DESAI SAURABH VIJAY         | 12                       | 30            | 75                                               | 19            | 9                                        | 23            | 71                             |
| SC017    | DHOKRAT SIDDHANT PRAKASH    | 15                       | 37.5          | 71                                               | 18            | 9                                        | 23            | 78                             |
| SC018    | GAJARMAL PRANAV VISHWAS     | 4                        | 10            | 59                                               | 15            | 7                                        | 18            | 42                             |
| SC019    | GHODSE SWAPNIL ASHOK        | 7                        | 17.5          | 62                                               | 16            | 7                                        | 18            | 51                             |
| SC020    | HARIP NEEL SUYOG            | AB                       | 0             | 67                                               | 17            | 7.5                                      | 19            | 36                             |
| SC021    | HATTIAMBIRE SNEHAL ABHIJEET | 6                        | 15            | 59                                               | 15            | 6                                        | 15            | 45                             |
| SC022    | HIMANSHU NAKKANWAR          | AB                       | 0             | 47                                               | 12            | 5                                        | 13            | 24                             |
| SC023    | JAGTAP SHRUSHTI SANTOSH     | 11                       | 27.5          | 83                                               | 21            | 8                                        | 20            | 68                             |
| SC024    | JOSHI MECHANA VIVEK         | 15                       | 37.5          | 80                                               | 20            | 10                                       | 25            | 83                             |
| SC025    | KADAM AJIT SHESHRAO         | 13                       | 32.5          | 35                                               | 9             | 9                                        | 23            | 64                             |
| SC027    | KANCHAN KUMAWAT             | 7                        | 17.5          | 45                                               | 11            | 7                                        | 18            | 46                             |
| SC028    | KASIMAHANTHI VINAY          | 0                        | 0             | 3                                                | 1             | 6                                        | 15            | 16                             |



| Roll No. | Name of Student             | Class Test V (Out of 20) | 60% Weightage | Overall % of Marks in Previous Exam (out of 100) | 25% Weightage | Class Rank (on the State of 100) | 25% Weightage | Total % Weightage (out of 100) |
|----------|-----------------------------|--------------------------|---------------|--------------------------------------------------|---------------|----------------------------------|---------------|--------------------------------|
| SC030    | KARWA MANALI MANOJI         | 19                       | 47.5          | 80                                               | 20            | 10                               | 25            | 33                             |
| SC031    | RAWADE ATHARVA SANJAY       | 10                       | 25            | 27                                               | 7             | 8                                | 20            | 22                             |
| SC032    | LETAN VAGDA RAUT            | AB                       | 0             | 29                                               | 7             | 9                                | 15            | 22                             |
| SC033    | CHABE RUTU KULDEEP          | 8                        | 20            | 70                                               | 18            | 9                                | 23            | 60                             |
| SC034    | KUMBHAR AJAY ARUN           | 13                       | 33.5          | 71                                               | 18            | 8                                | 20            | 10                             |
| SC035    | LOTHIA GAURILALIT           | 15                       | 37.5          | 76                                               | 19            | 10                               | 25            | 32                             |
| SC036    | MUGDHA                      | 14                       | 35            | 54                                               | 14            | 10                               | 25            | 74                             |
| SC037    | SABARHEDE ISHA JAYANT       | 9                        | 22.5          | 52                                               | 13            | 7                                | 18            | 53                             |
| SC038    | NEGURIA PREMESH             | 5                        | 12.5          | 52                                               | 13            | 8                                | 20            | 16                             |
| SC039    | NEGI YASH BALWANT SINGH     | 7                        | 17.5          | 57                                               | 14            | 7                                | 18            | 19                             |
| SC040    | PATHAK ISHAAN LALITMOHAN    | AB                       | 0             | 68                                               | 17            | 8                                | 20            | 59                             |
| SC041    | SHEL GANDHI                 | 8                        | 20            | 76                                               | 19            | 8                                | 20            | 75                             |
| SC042    | PAWAR SUPHANSHU DATTATRAY   | 14                       | 35            | 70                                               | 18            | 9                                | 23            | 80                             |
| SC043    | PILLAI MANU RAJENDRAN       | 16                       | 40            | 68                                               | 17            | 9                                | 23            | 90                             |
| SC044    | CHAITRA BHAT                | 18                       | 45            | 80                                               | 20            | 10                               | 25            | 37                             |
| SC045    | RAHUL CHAKRABORTY           | 2                        | 5             | 66                                               | 17            | 6                                | 15            | 17                             |
| SC046    | RAJIV RAMESH                | AB                       | 0             | 77                                               | 19            | 7                                | 18            | 21                             |
| SC047    | RATHOD PRATIKSHA            | AB                       | 0             | 35                                               | 9             | 5                                | 13            | 31                             |
| SC048    | NAHASRABUDE SARVESH         | 7                        | 17.5          | 62                                               | 16            | 7                                | 18            | 30                             |
| SC049    | NAMLE TI NIKHIL KRUSHNAHARI | 14                       | 35            | 61                                               | 15            | 8                                | 20            | 59                             |
| SC050    | SHARAD KAVI GADIWAN         | 8                        | 20            | 76                                               | 19            | 8                                | 20            | 63                             |
| SC051    | SHINDE AMAN KUNDEK          | 12                       | 30            | 52                                               | 13            | 8                                | 20            | 58                             |
| SC052    | SHIVANI DESHMUKH            | 9                        | 22.5          | 72                                               | 18            | 7                                | 15            | 26                             |
| SC053    | SINGH SIDDHANT NAVIN KUMAR  | 0                        | 0             | 45                                               | 11            | 6                                | 10            | 65                             |
| SC054    | SINGH ANKIT ANIL            | 12                       | 30            | 59                                               | 15            | 8                                | 20            | 71                             |
| SC055    | THOMAS ALLEN JOHN           | 12                       | 30            | 74                                               | 19            | 9                                | 23            | 58                             |
| SC056    | VANARSE AMIT RAMESH         | 11                       | 27.5          | 41                                               | 10            | 8                                | 20            | 69                             |
| SC057    | VIKRAMJIT BAINIRJE          | 10                       | 25            | 74                                               | 19            | 8                                | 20            | 65                             |
| SC058    | WALLUNIKAR ADITYA SUDHIR    | 12                       | 30            | 61                                               | 13            | 8                                | 20            | 55                             |
| SC059    | AISHWARYA BIDKAR            | 9                        | 22.5          | 48                                               | 12            | 8                                | 20            | 27                             |
| SC060    | SKADHIA JAGTAP              | AB                       | 0             | 39                                               | 10            | 7                                | 15            | 17                             |
| SC061    | SANT ALE SHANKY             | AB                       | 0             | 9                                                | 2             | 6                                | 10            | 80                             |
| SC062    | AVANI PATHAK                | 18                       | 45            | 81                                               | 20            | 10                               | 25            | 60                             |
| SC063    | ASHANSH KUMAR JAISWAL       | 9                        | 22.5          | 68                                               | 17            | 8                                | 20            | 26                             |
| SC064    | KAJUL SHENDE                | AB                       | 0             | 45                                               | 11            | 6                                | 10            | 36                             |
| SC065    | PUJA KAILAS AHER            | 18                       | 45            | 63                                               | 16            | 8                                | 20            | 37                             |
| SC066    | SATYAJI SHIVAJI GARKAL      | 8                        | 20            | 68                                               | 17            | 8                                | 20            | 32                             |
| SC067    | MA YURI MADHU KAR MORE      | 0                        | 0             | 46                                               | 12            | 4                                | 10            | 24                             |
| SC068    | DEEPAK VIJAY GHODKE         | AB                       | 0             | 37                                               | 9             | 6                                | 15            | 82                             |
| SC069    | SAJID MUKHTAR SHAIKH        | 17                       | 42.5          | 68                                               | 17            | 9                                | 23            | 48                             |
| SC070    | PRATIKSHA NAINASAHEB TOLE   | 10                       | 25            | 79                                               | 0             | 9                                | 23            | 42                             |
| SC071    | PRAJATA VINAY YADAV         | AB                       | 0             | 62                                               | 16            | 7                                | 18            | 51                             |
| SC072    | SHUBHAM SANGITA PATIL       | 7                        | 17.5          | 68                                               | 17            | 8                                | 20            | 60                             |
| SC073    | HARSHADA BABAN GARJLE       | 9                        | 22.5          | 68                                               | 16            | 7                                | 18            | 43                             |
| SC074    | ANCHAL SANJAY PATHAK        | 4                        | 10            | 61                                               | 6             | 8                                | 20            | 35                             |
| SC075    | KUNAL GAJANAN SADANSHIV     | AB                       | 0             | 40                                               | 10            | 7                                | 18            | 68                             |
| SC076    | TANISHQ DATTATRAY ICE       | 16                       | 40            | 40                                               | 10            | 7                                | 18            | 70                             |
| SC077    | SHUBHANGI RAVINDRA MISAL    | 13                       | 32.5          | 60                                               | 15            | 9                                | 23            | 30                             |

Signature of Faculty



# Hope Foundation's INTERNATIONAL INSTITUTE OF INFORMATION TECHNOLOGY

Department of Computer Engineering

Academic Year 2018-2019

Identification of Slow Learner

Class :- SE COMP

SEM:- IV

Subject: Advanced Data Structures

## List of Slow Learner

| Roll No. | Name of Student            | Total % Weightage<br>Based on Parameter<br>(out of 100) |
|----------|----------------------------|---------------------------------------------------------|
| SC006    | AMAN GUPTA                 | 19                                                      |
| SC007    | ANCHARWADKAR MANDAR MAHESH | 34                                                      |
| SC009    | APOORVA RAY CHAUDHURI      | 32                                                      |
| SC022    | HIMANSHU NAKKANWAR         | 24                                                      |
| SC029    | KASIMAHANATHI VINAY        | 16                                                      |
| SC032    | KETAN KAGDA RAUT           | 22                                                      |
| SC047    | RATHOD PRATIKSHA           | 21                                                      |
| SC055    | SINGH SIDDHANT NAVIN KUMAR | 26                                                      |
| SC062    | SRADHAA JAGTAP             | 27                                                      |
| SC063    | SONTAKKE SHANKY            | 17                                                      |
| SC067    | RAHUL SHENDE               | 26                                                      |
| SC070    | MAYURI MADHUKAR MORE       | 22                                                      |
| SC071    | DEEPAK VIJAY GHODKE        | 24                                                      |

*Dr. Ashwini*  
Name and Signature of Subject Teacher



### ATTENDANCE RECORD OF SLOW LEARNERS

Class: S.E.

Scanned with CamScanner



