

# BALASORE SCHOOL OF ENGINEERING

## LESSON PLAN FOR 3RD SEMESTER

SESSION - 2022-23

| Branch:-COMPUTER SCIENCE & ENGG. |   |           |            |  | SEMESTER: - 3rd                          |                                      |
|----------------------------------|---|-----------|------------|--|--|--------------------------------------|
| SUBJECT:- DATA STRUCTURE         |   |           |            |  | THEORY - 02                              |                                      |
| Name of the Teacher:- S.DAS      |   |           |            |  | SEC-                                     |                                      |
| Sl. No                           | Ch. No  | MONTH     | DATE       | Name of the Chapter/ Objectives  | No. of periods available as per syllabus | No. of periods available as per plan |
| 1                                | 1,2,3(half)   | SEPTEMBER |            | <b>1.0 INTRODUCTION:</b>   | 12                                       | 12                                   |
|                                  |   |           | 15/09/22   | 1.1 Explain Data, Information, data types                                  |  |                                      |
|                                  |   |           | 16/09/22   | 1.2 Define data structure & Explain different operations                   |  |                                      |
|                                  |   |           | 19/09/22   | 1.3 Explain Abstract data types  |  |                                      |
|                                  |   |           | 20/09/22   | 1.4 Discuss Algorithm & its complexity                                     |  |                                      |
|                                  |   |           | 22/09/22   | 1.5 Explain Time, space tradeoff   |  |                                      |
|                                  |   |           |            | <b>2.0 STRING PROCESSING</b>   |  |                                      |
|                                  |   |           | 23/09/22   | 2.1 Explain Basic Terminology, Storing Strings                             |  |                                      |
|                                  |   |           | 26/09/22   | 2.2 State Character Data Type  |  |                                      |
|                                  |   |           | 27/09/22   | 2.3 Discuss String Operations  |  |                                      |
|                                  |   |           |            | <b>3.0 ARRAYS</b>  |  |                                      |
|                                  |   |           | 28/09/22   | 3.1 Give Introduction about array,   |  |                                      |
|                                  |   |           | 29/09/22   | 3.2 Discuss Linear arrays, representation of linear array<br>In memory     |  |                                      |
|                                  |   |           | 30/09/22   | 3.3 Explain traversing linear arrays, inserting & deleting elements        |  |                                      |
| 30/09/22                         | 3.4 Discuss multidimensional arrays, representation of two dimensional arrays in memory (row major order & column major order), and pointers) |           |            |  |  |                                      |
| 2                                | 3(REST),4,5(HALF)   | OCTOBER   | 10/10/2022 | 3.5 Explain sparse matrices.   | 14                                       | 14                                   |
|                                  |   |           |            | <b>4.0 STACKS &amp; QUEUES</b>   |  |                                      |
|                                  |   |           | 11/10/2022 | 4.1 Give fundamental idea about Stacks and queues                          |  |                                      |
|                                  |   |           | 12/10/2022 | 4.2 Explain array representation of Stack                                  |  |                                      |
|                                  |   |           |            | 4.2 Explain array representation of Stack(REST PART)                       |  |                                      |
|                                  |   |           | 13/10/22   | 4.3 Explain arithmetic expression ,polish notation & Conversion            |  |                                      |
|                                  |   |           | 14/10/22   | 4.3 Explain arithmetic expression ,polish notation & Conversion(REMAINING) |  |                                      |
|                                  |   |           | 17/10/22   | 4.4 Discuss application of stack, recursion                                |  |                                      |
| 18/10/22                         | 4.4 Discuss application of stack, recursion(REMAING)  |           |            |  |  |                                      |
| 19/10/22                         | 4.5 Discuss queues, circular queue, priority queues.  |           |            |  |  |                                      |



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|  |              | 20/10/22   | 4.5 Discuss queues, circular queue, priority queues (REMAINING)  |    |    |
|  |              | 21/10/22   | 4.5 Discuss queues, circular queue, priority queues (CONCLUSION)   |    |    |
|  |              | 25/10/2022 | 4.5 Discuss queues, circular queue, priority queues  |    |    |
|  |              | 26/10/22   | 4.5 Discuss queues, circular queue, priority queues (REMAINING)  |    |    |
|  |              |            | <b>5.0 LINKED LIST</b>   |    |    |
|  |              | 27/10/2022 | 5.1 Give Introduction about linked list  |    |    |
|  |              | 28/10/2022 | 5.2 Explain representation of linked list in memory  |    |    |
|  |              | 1/11/2022  | 5.3 Discuss traversing a linked list, searching, 5.4 Discuss garbage collection.                           |    |    |
|  |              | 2/11/2022  | 5.5 Explain Insertion into a linked list, Deletion from a linked list, header linked list                  |    |    |
|  |              | 3/11/2022  | 5.5 Explain Insertion into a linked list (REMAINING PART), Deletion from a linked list, header linked list |    |    |
|  |              |            | <b>6.0 TREE</b>  |    |    |
|  |              | 4/11/2022  | 6.1 Explain Basic terminology of Tree  |    |    |
|  |              | 7/11/2022  | 6.2 Discuss Binary tree, its representation and traversal, binary search tree, searching,                  |    |    |
|  |              | 9/11/2022  | 6.2 Discuss Binary tree, its representation and traversal, binary search tree, searching,                  |    |    |
|  |              | 10/11/2022 | 6.3 Explain insertion & deletion in a binary search trees  |    |    |
|  |              | 11/11/2022 | 6.3 Explain insertion & deletion in a binary search trees  |    |    |
|  |              |            | <b>7.0 GRAPHS</b>  |    |    |
|  |              | 21/11/2022 | 7.1 Explain graph terminology & its representation,  |    |    |
|  |              | 22/11/2022 | 7.1 Explain graph terminology & its representation,  |    |    |
|  |              | 23/11/2022 | 7.2 Explain Adjacency Matrix, Path Matrix  |    |    |
|  |              | 24/11/2022 | 7.2 Explain Adjacency Matrix, Path Matrix  |    |    |
|  |              | 25/11/2022 | 7.2 Explain Adjacency Matrix, Path Matrix  |    |    |
|  |              |            | <b>8.0 SORTING SEARCHING &amp; MERGING</b>   |    |    |
|  |              | 28/11/22   | 8.1 Discuss Algorithms for Bubble sort, Quick sort,  |    |    |
|  |              | 29/11/22   | 8.1 Discuss Algorithms for Bubble sort, Quick sort,  |    |    |
|  |              | 30/11/22   | 8.1 Discuss Algorithms for Bubble sort, Quick sort,  |    |    |
|  |              | 1/12/2022  | 8.2 Merging  |    |    |
|  |              | 2/12/2022  | 8.2 Merging  |    |    |
|  |              | 5/12/2022  | 8.2 Merging  |    |    |
|  |              | 6/12/2022  | 8.3 Linear searching, Binary searching   |    |    |
|  |              | 7/12/2022  | 8.3 Linear searching, Binary searching   |    |    |
|  |              |            | <b>9.0 FILE ORGANIZATION</b>   |    |    |
|  |              | 8/12/2022  | 9.1 Discuss Different types of files organization and their access method,                                 |    |    |
|  |              | 9/12/2022  | 9.1 Discuss Different types of files organization and their access method,                                 |    |    |
| 5(R<br>EST<br>,6,<br>7,8(<br>HA<br>LF) | NOVEM<br>BER |            |  | 20 | 16 |
| 8(R<br>EST<br>1,9                      | DECEM<br>BER |            |  | 14 | 8  |

|  |  |            |  |    |    |
|--|--|------------|--|----|----|
|  |  | 12/12/2022 | 9.1 Discuss Different types of files organization and their access method,         |    |    |
|  |  | 13/12/22   | 9.2 Introduction to Hashing, Hash function, collision resolution, open addressing. |    |    |
|  |  | 14/12/22   | REVISION   |    |    |
|  |  | 15/12/22   | REVISION   |    |    |
|  |  | 16/12/22   | REVISION   |    |    |
|  |  |            |  | 60 | 50 |

| month | chapter               | REMARKS |
|-------|-----------------------|---------|
| SEPT  | 1,2,3(HALF)           |         |
| OCT   | 3(REST),4,5(HALF)     |         |
| NOV   | 5(REST),6,7,8((HALF)) |         |
| DEC   | 8(REST),9             |         |

  
 Signature  
 13/9/22  
 Lecturer

  
 HOD  
 13.9.22

Principal,  
 B.S.E,BLS