

Lesson Plan

Name of the Faculty: Ms. Karuna

Discipline: Aeronautical Engineering

Semester: 3rd

Subject: Computer Programming and Network

Work Load (Lecture/Practical) per week (in hours): Lectures- , Practicals-

| Week | Theory | | Practical | |
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| | Lecture day | Topic (including assignment/test) | Practical day | Topic |
| 1 st | 1 st | Computer Hardware and Software-Introduction | 1 st | 1. To identify various parts of the system on the Mother Board. |
| | 2 nd | Architecture of Computer System, different processors upto PIV systems.. | | |
| | 3 rd | Architecture of Computer System, different processors upto PIV systems.. | | |
| | 4 th | Computer Memory and different form of memories, | | |
| 2 nd | 5 th | RAM, Cache, secondary memory. | 2 nd | 2. To observe and study various cables, connections and parts used in computer communication. |
| | 6 th | Input/output devices and their functions. | | |
| | 7 th | Client-server architecture of Operating Systems such as in Linux and Window operating Systems | | |
| | 8 th | Client-server architecture of Operating Systems such as in Linux and Window operating Systems | | |
| 3 rd | 9 th | Revision and Assignments | 3 rd | 3. To study various cards used in a system viz. display card, LAN card etc. |
| | 10 th | Test | | |
| | 11 th | Introduction to Objects | | |
| | 12 th | Object Oriented Programming | | |
| 4 th | 13 th | basic features of C++Language: various instructions, Encapsulation, inheritance, | 4 th | 4. To study laser printer assembly and elementary fault detection. |
| | 14 th | basic features of C++Language: various instructions, Encapsulation, inheritance, | | |
| | 15 th | reusability and polymorphism. | | |
| | 16 th | Introduction to Structures, abstraction, Classes: Const(Constant) Object And Const Member Functions, | | |
| 5 th | 17 th | Introduction to Structures, abstraction, Classes: Const(Constant) Object And Const Member | 5 th | 5. To assemble a PC. |

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| | | Functions, | | |
| | 18 th | Object as Member of Classes | | |
| | 19 th | Friend Function and Friend Classes. | | |
| | 20 th | Initializing Class Objects: Constructors, | | |
| 6 th | 21 st | Using default arguments with Constructors, | 6 th | 6. Simple trouble shooting exercises related to various components of computer like monitor, drives, memory and printers etc |
| | 22 nd | Using Destructors. | | |
| | 23 rd | Revision and Assignments | | |
| | 24 th | Test | | |
| 7 th | 25 th | InheritanceBase Classes and Derived Classes,. | 7 th | 7. Loading of Computer Software |
| | 26 th | Protected Members, | | |
| | 27 th | Casting Base- Class pointers to derived-Class pointers, | | |
| | 28 th | Using Member Functions, | | |
| 8 th | 29 th | Overriding Base –Class members in a Derived Class; | 8 th | 8. Practice of MS-Excel for drawing tables, graphs, bar-chart etc. To prepare the list of marks obtained by students in different subjects and show with the help of chart/graph the average, min and max marks in each subject. |
| | 30 th | Overriding Base –Class members in a Derived Class; | | |
| | 31 st | public, protected and private Inheritance | | |
| | 32 nd | Use of constructors and destructors in derived Classes. | | |
| 9 th | 33 rd | Use of constructors and destructors in derived Classes. | 9 th | 9. Practice of using MS-Access for data storage and databases and use this database in the programs. Create a database of books in the library on a mini scale with respect to Computers and manipulate the database using different forms and reports. |
| | 34 th | Creating sequential access files; Read, write and updating of sequential files | | |
| | 35 th | Creating sequential access files; Read, write and updating of sequential files | | |
| | 36 th | Revision and assignment | | |
| 10 th | 37 th | Test | 10 th | 10.Using MS Power Point prepare a presentation explaining the facilities/infrastructure available in your college/institute. |
| | 38 th | Structure of a C++ program,. | | |
| | 39 th | Structure of a C++ program,. | | |
| | 40 th | Structure of a C++ program,. | | |
| 11 th | 41 st | simple problems of conditional and iterative statements. | 11 th | 1. Using C++ write program for (i) addition of matrices, (ii) multiplication of matrices,(iii) norm of matrices. |
| | 42 nd | simple problems of conditional and iterative statements. | | |
| | 43 rd | Basics of exceptional handling. | | |
| | 44 th | Programs based on inheritance and exception handling | | |
| 12 th | 45 th | Programs based on inheritance and exception handling | 12 th | 1. Using C++ write program for (i) addition of matrices, (ii) multiplication of matrices,(iii) |
| | 46 th | Revision and assignments | | |
| | 47 th | Test | | |

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| | 48th | Introduction to Computer Networks, Example networks ARPANET, Private Networks, | | norm of matrices. |
| 13th | 49th | Network Topologies: Bus-, Star-, Ring-topologies. | 13th | 2. Sort an array of numbers/ names using different sorting methods. |
| | 50th | Types of Networks : Local Area Networks, Metropolitan Area Networks, Wide Area Networks;. | | |
| | 51st | Layering architecture of networks, | | |
| | 52nd | OSI model and functions of each layer; | | |
| 14th | 53rd | Services and Protocols of each layer. | 14th | 3. searching a given number in an array using sequential or binary search or pick different numbers in an array which satisfy given conditions |
| | 54th | Network security: Various Network security threats: Viruses, Worms, Trojan horses, spam emails. | | |
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| 15th | 57th | Security techniques: passwords, cryptography, firewalls, anti-viruses | 15th | 4. Prepare result of an examination and print the marks-sheets develop program for inventory system. |
| | 58th | Security techniques: passwords, cryptography, firewalls, anti-viruses | | |
| | 59th | Revision and Assignments | | |
| | 60th | Test | | |