



Lesson Plan

Name : Mr. Jitendra Mistry

Department: Computer Science



VCA – 301 Programming in C++

| Month | No. Of Lectures | Areas covered | Other Activities |
|--------|-----------------|--|--|
| July | 16 | <ul style="list-style-type: none"> • Introduction to various programming languages and programming styles <ul style="list-style-type: none"> ○ Monolithic programming ○ Functional programming ○ OOPs programming ○ Visual Programming • Algorithms • Flowcharts • Pseudocode • Operators • Keywords • Operators • Input output stream • variables | Assignments based on If condition Loops Nesting of loops Functions structures |
| August | 18 | <ul style="list-style-type: none"> • Decision control • If else block • Nesting of if else block • Loops • Types of loops • Nesting of loops | Practical class tests. Assignments on if else block, loops, nesting of loops |

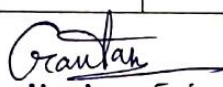
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| | | <ul style="list-style-type: none">arrays | |
| September | 18 | <ul style="list-style-type: none">FunctionsCall by valueCall by referencePointersStorage classesPointers | Conducted test Assignments based on functions, call by value and call by reference |
| October | 18 | <ul style="list-style-type: none">Character arrayString handlingString handling functionsStructureUnion | Assignment On predefined string functions like strlen, strcmp, structure and Union. |
| November | 04 | | Revision |


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VCA – 302 Data Communication and Networking


| Month | No. Of Lectures | Areas covered | Other Activities |
|-----------|-----------------|---|------------------------------|
| July | 16 | <ul style="list-style-type: none"> • Introduction to digital communication • Introduction to networks and types of networks like LAN, WAN , MAN, VPN, CAN • Introduction to Topology and discussion on types of Topology Ring, Mesh, Star, Bus, Tree, Hybrid etc • Signals and their types • Analog signals • Digital signals | MCQ CLASS TEST |
| August | 18 | <ul style="list-style-type: none"> • Terminology of signalling • Amplitude • Frequency • Phase • Bit rate • Baud rate • Band width • Modulation • Amplitude Modulation • Frequency Modulation • Phase Modulation • Introduction to Transmission Media | QUIZ |
| September | 18 | <ul style="list-style-type: none"> • Discussion on Guided media • TPC Cables • Co axial Cables | GROUP DISCUSSION MCQ TEST |

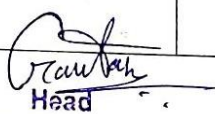
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|----------|----|---|-----------------------|
| | | <ul style="list-style-type: none">• Fiber Optic Cables• Unguided Medi• Radio Waves• Micro Waves• Transmission and its types: Parallel Transmission and Serial Transmission• Multiplexing• TDMA• FDMA• WDMA• Attenuation• Delay• Noise• Distortion | |
| October | 18 | <ul style="list-style-type: none">• Protocol Architecture• OSI MODEL• TCP/IP MODEL• SMTP• FTP• TELNET• NETOWORKING DEVICES• ROUTER• HUB• SWITCH | QUIZ TEST MCQ TEST |
| November | 04 | | Revision |


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VCA – 401 Programming in C++

| Month | No. Of Lectures | Areas covered | Other Activities |
|----------|-----------------|--|------------------------------|
| December | 16 | <ul style="list-style-type: none">• Evolution of OOPS concept and languages• Comparison between functional and OOPS languages• Intro to different terminology of oops like inheritance, polymorphism, data abstraction etc• Classes• Objects | MCQ CLASS TEST |
| January | 18 | <ul style="list-style-type: none">• Class data member• Member functions• Objects• Array of objects• Pointers and classes• Constructor• Destructor• Polymorphism• Function over loading | QUIZ |
| February | 18 | <ul style="list-style-type: none">• Function over riding• Static class member• Friend functions• Dynamic memory allocation | GROUP DISCUSSION MCQ TEST |
| March | 18 | <ul style="list-style-type: none">• Inheritance• Types of inheritance• Member access control• Function over loading | QUIZ TEST MCQ TEST |

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| | | <ul style="list-style-type: none">• Operator over loading• Virtual Functions | |
| April | 04 | | Revision |


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VCA – 402 Data Structure and Algorithm

| Month | No. Of Lectures | Areas covered | Other Activities |
|----------|-----------------|---|------------------------------|
| December | 16 | <ul style="list-style-type: none">• Introduction and definition of algorithm• Characteristics of good algorithm• Data types: Primitive and Composite• Arrays : Two and three dimensional• Memory representation of arrays | MCQ CLASS TEST |
| January | 18 | <ul style="list-style-type: none">• Sorting concepts and algorithms• External and Internal sorting• Selection and Merge sort• Searching concepts and algorithms• Binary Search and Linear Search• Linked Lists – Introduction• Types of linked list• Algorithms to search , sort and traverse linked lists | QUIZ |
| February | 18 | <ul style="list-style-type: none">• Introduction to stacks• Representation of stacks• Implementation of stacks• Introduction to queue• Representation of queue• Implementation of queue | GROUP DISCUSSION MCQ TEST |
| March | 18 | <ul style="list-style-type: none">• Introduction to trees• Traversing a tree• Pre Order, Post Order and In Order• Introduction to graph | QUIZ TEST MCQ TEST |

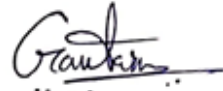
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| | | <ul style="list-style-type: none">Types of graphsBreadth first searchDepth first search | |
| April | 04 | | Revision |


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