

## PLANNED SYLLABUS COVERAGE(Theory)

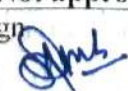
|                   |             |                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                              |                              |         |
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| G P Kangra        |             | Department: <u>Computu Engg</u> Subject <u>DC CN</u>  |                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                              |                              |         |
| SYLLABUS COVERAGE |             | Course <u>Program Core</u> Duration <u>6 months</u>   |                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                              |                              |         |
|                   |             | Total Periods <u>04/week</u> Theory <u>56</u>         |                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                              |                              |         |
| Sr. No.           | Period Nos. | Topic                                                 | Details                                                                                                                                                                                                                                                                                                                                                                                                                                      | Instruction Reference                        | Additional Study Recommended | Remarks |
| 1                 | 1-12        | Unit 1<br>Coverview<br>of data<br>Comm <sup>n</sup> ) | Data Comm <sup>n</sup> , data comm <sup>n</sup> characteristics- Delivery, Accuracy, Timeliness, Jitter, Components of comm <sup>n</sup> System, data flow- Simplex, Half-duplex, full-duplex, Analog & digital signals, Peer to peer & client-server N/w, Char. of Analog signals- frequency, amplitude, Wavelength, Composite signal, phase, bandwidth, low pass & band pass Channels, baseband & broadband Transmission, data rate limit. | Computer N/w's<br>Andrew S. Tanenbaum<br>PH1 | DC CN by Behrouz Forouzan.   |         |
| 2                 | 13-24       | Unit 2<br>(Computer<br>Networks)                      | Objectives of Comp N/w, Appl <sup>n</sup> , N/w protocols, Packet switching, Circuit switching, N/w Topologies, Types of Comp N/w- PAN, LAN, MAN, WAN, Internetworks, Internet History, Internet Infrastructure, DNS, Internet Routing Hierarchy                                                                                                                                                                                             | — do —                                       |                              |         |

To be approved from concerned HOD within seven days from beginning of semester & will be kept with the concerned teacher in his file.

| Sr. No. | Period Nos. | Topic                                               | Details                                                                                                                                                                                                                                      | Instruction Reference | Additional Study Recommended | Remarks |
|---------|-------------|-----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------|---------|
| 3       | 25-37       | Unit-3<br>(ISO OSI Reference Model)                 | Adv. of layered n/w Arch., ISO OSI ref. model, Principles of OSI ref. model, fun's of OSI layers, overview of basic protocols at physical, data link n/w & Transport layers.                                                                 |                       | do                           |         |
| 4       | 38-47       | Unit-4<br>(Transmission media & Networking devices) | Wired media-Coaxial, UTP, STP, optical fibre cables, wireless Media-Infrared, Radio Waves, Microwaves, Terrestrial & Satellite wireless Comm; Transmission Impairments, N/wing Devices-Repeater, hub, bridge, Switch, Router, Gateway, Modem |                       | do                           |         |

Extra Topics to be covered beyond the scope of the syllabus (as required by industry/ as recommended by Teacher which he/ she finds necessary)

| Sr. No. | Period No. | Topic Covered | Instruction Reference | Additional Study recommended | Remarks |
|---------|------------|---------------|-----------------------|------------------------------|---------|
|         |            |               |                       |                              |         |

| Approved / Not approved |                                                                                                    |
|-------------------------|----------------------------------------------------------------------------------------------------|
| Date 03/08/20           | HOD Sign        |
| Date                    | Principal Sign  |

# Use additional sheets (if required).

# PLANNED SYLLABUS COVERAGE(Theory)

| G P<br>Kangra |             | Department: <u>Computer Engg</u> Subject <u>DCCN</u>            |                                                                                                                                                                                                                                                                                                    |                                            |                              |         |
|---------------|-------------|-----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|------------------------------|---------|
|               |             | Course <u>Program Core</u> Duration <u>6 months</u>             |                                                                                                                                                                                                                                                                                                    |                                            |                              |         |
|               |             | SYLLABUS COVERAGE Total Periods <u>04/week</u> Theory <u>56</u> |                                                                                                                                                                                                                                                                                                    |                                            |                              |         |
| Sr. No.       | Period Nos. | Topic                                                           | Details                                                                                                                                                                                                                                                                                            | Instruction Reference                      | Additional Study Recommended | Remarks |
| 5             | 48-56       | Unit-5<br>(TCP/IP Protocol Suite)                               | Layers in TCP/IP protocol Suite, TCP/IP Protocol data units, IPv4 & IPv6 addresses, IPv4 CIDR Notation, Netmasks & subnets, IPv4 address classes & reserved ranges, TCP & UDP, ports, well-known ports, Telnet, FTP, SNMP, DHCP & DNS, Overview of Routing - Flooding, distance Vector, link state | Computer N/w's<br>Andrew S. Tanenbaum, PH1 | DCCN by Behrouz Forouzan     |         |

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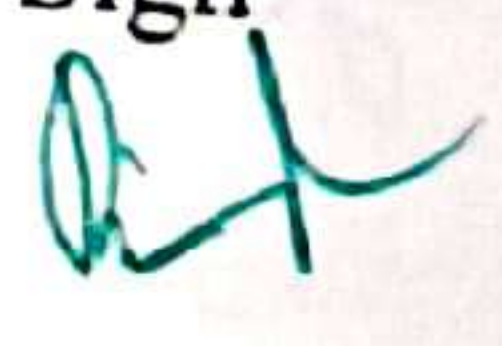
| G P<br>Kangra     |             | Department: <u>Computer Engg</u> Subject: <u>CSA</u>  |                                                                                                                                                                                                                                                                                                                                                                                    |                                 |                                                                   |         |
|-------------------|-------------|-------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-------------------------------------------------------------------|---------|
|                   |             | Course: <u>Program Core</u> Duration: <u>6 months</u> |                                                                                                                                                                                                                                                                                                                                                                                    |                                 |                                                                   |         |
| SYLLABUS COVERAGE |             | Total Periods: <u>42</u> Theory: <u>42(T)</u>         |                                                                                                                                                                                                                                                                                                                                                                                    |                                 |                                                                   |         |
| Sr. No.           | Period Nos. | Topic                                                 | Details                                                                                                                                                                                                                                                                                                                                                                            | Instruction Reference           | Additional Study Recommended                                      | Remarks |
| 1                 | 1-4         | Unit-1: Introduction                                  | functional Units of Digital Computer, Computer Organization, Computer Design, Comp. Architecture, Von-Neumann & Harvard Architecture, Bus Inter-connection, Evolution of Microprocessors, Concept of Microcomputer, Micro-controller & Embedded Systems.                                                                                                                           | Computer system                 | <a href="https://www.w3schools.com">https://www.w3schools.com</a> |         |
| 2.                | 5-13        | Unit-2 - Overview of Digital Electronics              | Number Systems: Decimal, Binary, Octal & Hexadecimal. Conversion from one number system to other number system. Signed binary No. sign Magnitude Representation 1's Complement, 2's Complement. Binary Arithmetic: Addition, subtraction. Binary Arithmetic using 1's & 2's Complement. Fixed & floating point nos. Computer Codes: BCD, EBCDIC, ASCII. Multiplication Algo - H/w. | Archi-ecture by M. Morris Mano. |                                                                   |         |

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|---------|-------------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-------------------------------------------------------------------|---------|
| 3       | 14-21       | Unit-3 : Digital logic & | implementation for signed Magnitude data Booth Multiplication Algo.<br>Logic Gates: Symbols Truth table, Boolean Algebra, Logic Diagram, De-Morgan's Theorem, Combinational Circuits: Block Diagram, Half Adder, full Adder flip flop, SR, JK, D flip flop. Example of a Sequential Circuit, Decoder & Encoder - 3 to 8 | -do-                  | <a href="https://www.w3schools.com">https://www.w3schools.com</a> |         |

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| Approved / Not approved |                                                                                                        |
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| Date<br>03/08/26        | HOD Sign<br>        |
| Date                    | Principal Sign<br> |

# PLANNED SYLLABUS COVERAGE(Theory)

| G P Kangra        |             | Department: <u>Computer Engg</u> Subject <u>C&amp;A</u> |                                                                                                                                                                                                                                                                                                          | Course <u>Program Core</u> Duration <u>6 months</u> |                                                                   | Remarks |
|-------------------|-------------|---------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|-------------------------------------------------------------------|---------|
| SYLLABUS COVERAGE |             | Total Periods <u>42</u> Theory <u>42 (T)</u>            |                                                                                                                                                                                                                                                                                                          |                                                     |                                                                   |         |
| Sr. No.           | Period Nos. | Topic                                                   | Details                                                                                                                                                                                                                                                                                                  | Instruction Reference                               | Additional Study Recommended                                      |         |
| 4                 | 22-28       | Unit-4: Basic Architecture of Microprocessor 8085       | MUX and DEMUX - 4 to 1 & 1 to 4.<br>Basic features of 8085 Microprocessor, Block Diagram of 8085 Microprocessor, Functions of various block<br>Concept of Buses, Bus Multiplexing & Demultiplexing, Status flags, Addressing Modes & Interrupts.                                                         | Computer System Architecture by                     | <a href="https://www.w3schools.com">https://www.w3schools.com</a> |         |
| 5                 | 29-35       | Unit-5: Control & Addressing Unit                       | Major Components of CPU, General Register Organization, Control Word, Stack Organization - Register and Memory stack. Reverse Polish Notation & Evaluate of Arithmetic Exp <sup>n</sup> , Inst <sup>n</sup> formats - 3, 2, 1, 0 Address Inst <sup>n</sup> & RISC & CISC processors. Parallel Processing | M. Morris Mano.                                     |                                                                   |         |

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|---------|-------------|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------|---------|
| 6.      | 36-42       | Unit-6-<br>Memory Organisation | & Pipelining<br>Components of Memory<br>Main memory, Cache memory, Auxiliary memory, Associative memory. Hit ratio: write through & write back in cache - do-<br>I/O interface - I/O devices versus memory bus, Isolated I/O memory mapped I/O. |                       |                              |         |

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| Date                    | Principal Sign<br> |

# PLANNED SYLLABUS COVERAGE(Theory)

G P  
Kangra

Department: Computer Engg. Subject Computer Programming Using C

Course Program Core Duration 6 months

Total Periods 56 Theory 56

## SYLLABUS COVERAGE

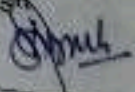
| Sr. No. | Period Nos. | Topic                       | Details                                                                                                                                                                                                                            | Instruction Reference                          | Additional Study Recommended                                           | Remarks |
|---------|-------------|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|------------------------------------------------------------------------|---------|
|         | 1-6         | Introduction to programming | Program design tools - algorithms, flowchart, pseudocode, evolution of programming languages, programming terminology - program, compiler, interpreter, linker, source code, libraries, syntax & semantic errors, Bugs.            | Programming in ANSI C, by E. Balagurusamy, TMH | Problem Solving & Programming in C by R.S. Selvan, Khanna Publications |         |
|         | 7-15        | Introduction to C language  | Brief history of C language, Features of C language, Character sets, identifiers, keywords, literals, variables, constants, Structure of a C program, comments, preprocessor directives, data types, type casting, Storage classes |                                                |                                                                        |         |
|         | 16-23       | Input/Output                | Standard input, standard output, standard error, file redirection, Unformatted file functions - getch(), putch(), gets(), puts(), formatted file functions - printf(), scanf(), format specifier                                   |                                                |                                                                        |         |

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| Sr. No. | Period Nos. | Topic                              | Details                                                                                                                                                                                                                                                                                                                                                                                    | Instruction Reference | Additional Study Recommendation |
|---------|-------------|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------------------|
|         | 24-32       | Operators                          | Arithmetic Op, Relational Op, Logical Op, Bitwise Op, Assignment Op, Conditional Op, Special Op, Expressions, Associativity & order of precedence of operators.                                                                                                                                                                                                                            |                       |                                 |
|         | 33-43       | Flow Control Statements            | Selection statements: if, if-else, nested if, if else if ladder, switch case, loops- while, do, for. Statement- goto, break, continue, return, nested loop, infinite loop.                                                                                                                                                                                                                 |                       |                                 |
|         | 44-50       | Arrays, Structure, Union & Pointer | Array, memory representation, 1-D array, 2-D array, declaration & initialization. Enum, string, string constants, string functions: strlen(), strcpy(), strcmp(), strtok(), strcat(), strchr(), strstr(), strcmpi(), strcmps(), strtok_s(), strtok_r(). Structures, unions, pointers- declaration, initialization, & also, pointer to dynamic memory allocated malloc(), calloc(), free(). |                       |                                 |
|         | 51-56       | Functions                          | Definition of function, prototype, formal & actual parameters, function call, call by value, reference, arrays as function arguments, recursion.                                                                                                                                                                                                                                           |                       |                                 |

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| Date<br>01/08/2025      | HOD Sign<br>       |
| Date                    | Principal Sign<br> |

Additional sheets (if required).