



**CHANDRAKANTI RAMAWATI DEVI ARYA MAHILA P.G. COLLEGE**

**चन्द्रकान्ति रमावती देवी आर्य महिला पी.जी. कालेज**

(Accredited by NAAC)

दीवान बाजार, गोरखपुर (उत्तर प्रदेश)

Mobile No-+91-9076651662 Mail ID- [crdpgcollege.gkp@gmail.com](mailto:crdpgcollege.gkp@gmail.com)

Address: New Colony, Diwan Bazar Gorakhpur -273001

## **Fundamental of Computing**

**Dept:-Computer Department**

Course Code:-VAC2005 Duration:-15 Days

### **Syllabus and programe schedule**

**Name of the programe:-Value Added Course on  
Fundamental Of Computing .**

**Duration of programe—30 hours**





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## **Introduction**

The Value Added Course On Fundamemntal Of Computing Will Be For 30 Hours And Conducted Through Offline Mode.

It Aims To Provide Proper Environment To Th Students With Regards To Fundamental Of Computing ..





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# Syllabus

## Unit-I

**Human Computer Interface Concepts of Hardware and Software;** Data and Information.

**Functional Units of Computer System:** CPU, registers, system bus, main memory unit, cache memory, Inside a computer, SMPS, Motherboard, Ports and Interfaces, expansion cards, ribbon cables, memory chips, processors.

**Devices:** Input and output devices (with connections and practical demo), keyboard, mouse, joystick, scanner, OCR, OMR, bar code reader, web camera, monitor, printer, plotter.

**Memory:** Primary, secondary, auxiliary memory, RAM, ROM, cache memory, hard disks, optical disks.

**Data Representation:** Bit, Byte, Binary, Decimal, Hexadecimal, and Octal Systems, Conversions and Binary Arithmetic (Addition/ Subtraction/ Multiplication) Applications of IT.

## Unit-II

**Concept of Computing, Types of Languages:** Machine, assembly and High level Language; Operating system as user interface, utility programs. Word processing: Editing features, formatting features, saving, printing, 10 BCA 1 –IT www.sbs.ac.in 3 | Page table handling, page settings, spell-checking, macros, mail-merge, equation editors.

## Unit-III

**Spreadsheet:** Workbook, worksheets, data types, operators, cell formats, freeze panes, editing features, formatting features, creating formulas, using.





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## Course Outcome

### **Paper: Introduction to Computer Programming**

Introduction:

CO.1 To know about Digital Computer, Major Components of digital computer, Hardware, Software, Software & Firmware, Computer Application in various fields of science and managements. Data Representation:

CO.2 To learn Decimal and binary number system, Decimal-binary conversion, Octal number system, Hexadecimal, BCD number, Binary arithmetic, Alphanumeric representation, Complements,  $r$  and  $(r-1)$ 's complements, Fixed point and floating point representation.

CO.3 To create algorithm, flowchart, data flow diagram.

CO.4 To solve the concept of programming related to real life problems in 'C' operations.

### **Paper: Digital Circuits & Logic:**

CO.1 To learn about Logic gates, Boolean algebra, Combinational Circuits: Half adder, Full adder, Flipflops – RS flip-flop, D- flip-flop, JK, T flip flop, Edge-triggered flip flop, Encoders, Decoders, multiplexers, Registers – shift register, buffer register counters.

CO.2 To solve the basic problems of Karnaugh Maps.

CO.3 To learn about Instruction code, direct & indirect addresses, Timing and control signals, Instruction cycle, memory reference Instruction, I/O Instructions.

CO.4 To solve the problems based on addition and subtraction with signed magnitude data, multiplication algorithms & Booth algorithm, hardware algorithm.

CO.5 To implement the concept of Time window and slope converters, Tracking A/D and successive approximation converters, Digital to analog converters, LED and LCD display, seven segment display.

### **Paper: Operating System**

CO.1 the students learn the concept of paging, segmentation, demands paged allocation.

Processor Management: State models, Job schedulers, Process scheduling, Job and process synchronization, Race condition, deadlocks, Deadlock detection, recovery & prevention.





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## Programme Outcome

PO1: Apply knowledge of mathematics, science and algorithm in solving complex Computer engineering problems.

PO2: Generate solutions by conducting experiments and applying techniques to analyze and interpret data

PO3: Design component, or processes to meet the needs within realistic constraints.

PO4: Identify, formulate, and solve Software Engineering, Networking. PO5: Comprehend professional and ethical responsibility in computing profession.

PO6: Express effective communication skills.

PO7: Participate in global, economic, environmental, and societal context. PO8: Recognize the need for, and an ability to engage in life-long learning. PO9: Knowledge of contemporary issues and emerging developments in computing profession.

PO10: Function effectively as an individual and as a member or leader in diverse teams and in multidisciplinary settings.





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PO11: Design research problems and conduct research in computing environment.

### **Teachers who attended meeting**

- Dr.Aparna Mishra
- Mrs.Anjali Shukla
- Mr.Shankar Thapa

Place- Computer Lab

Date- 18-08-2020 To 30-08-2020

### **Minutes of Meeting**

The development meeting was held on 10-08-2020 following matters were discussed in the meeting.

- 1-It was decided that the department will be conducting Fundamental Of Computing .
- 2-It was decided that the value added course would be for & 15 days ( 30 hours)