

Vivekanand College, Kolhapur (Autonomous)

Department of Electronics

Academic Year: 2018-19

Annual Teaching Plan

Name of the teacher: **Mr. D. M. Panhalkar**

Programme: **B.Sc. III Semester-V**

Subject: **Electronics**

Course Title: **Paper -IX- Linear Integrated circuits**

Month : July 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit 1: Linear IC's and Amplifier GROUP A :(LIC) 1. Adder and Subtractor 2. Integrator and Differentiator. 3. Schmitt Trigger using op-amp. 4. IC 555 as variable duty cycle. 5. Function generator using IC 8038 Project work	Transistor dc amplifier, Differential amplifier, Emitter coupled differential amplifier with its operation, characteristics and parameters(I/O impedances, common mode and differential mode gain, CMRR. Introduction to op-amp
12	80	92		
Month: August 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit 2: Op-amp as Analog System Building Blocks. GROUP A:(PLC) 6. PLC Simulator and implementing Boolean function. 7. Sequential logic RS -FF,JK-FF,T-FF,D-FF 8. Study of PLC timers and Counter 9. Programming for Automatic parking Gate 10. Study and implementation of proportional controller using op-amp	Virtual ground concept, Op-amp as inverting and non- inverting amplifier, summing amplifier (adder and subtractor), V to I and I to V converter, voltage follower, bridge amplifier, Differentiator and integrator, log and antilog amplifier. Op-amp as comparator, regenerative comparator, Peak detector, clipping and clamping circuits.
12	80	92		
Month : September 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit 3: Precision Rectifier and Active filters GROUP B: (Communication) 1. AM modulation and Demodulator. 2. FM modulation and Demodulator 3. Frequency Shift Keying. 4. Pulse Amplitude Modulation 5. ASK Modulator. Project work	Op-amp as precision AC/DC converter, precision rectifier. Advantage of active filters over passive filters. Study of filter response (Butterworth, Chebyshev.) Different types of active filters
12	80	92		
Month : October 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit 4: Phase Locked –Loops (PLL) GROUP B: (Communication) 6. Study of Composite Video Signal 7. RF tuned amplifier 8. Pulse width modulation 9. PSK Modulator Project work	Block diagram of PLL with functioning of each block, calculation of capture range and lock range frequencies, application of PLL
12	80	92		

Mr. D. M. Panhalkar



Mr. D. M. Panhalkar
Head

Department of Electronics
Vivekanand College, Kolhapur.

Vivekanand College, Kolhapur (Autonomous)

Department of Electronics

Academic Year: 2018-19

Annual Teaching Plan

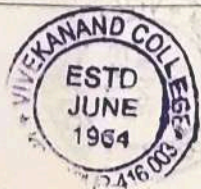
Name of the teacher: **Mr. D. M. Panhalkar**

Programme: **B.Sc. III Semester- VI**

Subject: Electronics Course Title: **Paper (XIII)- Industrial Processes control and PLC programming**

Month : December 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit 1: Introduction to control system GROUP C: (8051 μ C) 1. Stepper / DC motor interfacing 2. Timer programming mode 1 & 2 3. Arithmetic & logical operations. 4. LED ,Thumbwheel switch and 7-segment display interfacing 5. DAC0808/ADC0804 interfacing	Basic elements of control system, open loop control system, closed loop control system, control system terminology, manually controlled closed loop systems, automatic controlled closed loop systems, comparison closed-loop system and open-loop control, PI controller, PD controller and PID control
12	80	92		
Month: January 2019			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit 2: Control System GROUP C: (PIC μ C) 6. Use of MPLAB simulator: 7. I/O port programming 8. PIC Programming in timer1 9. Serial communication 10 Programming of PIC on chip ADC Project work	Opamp as a zero crossing detector, non-inverting comparator, inverting comparator, Two position control using opamp, proportional controller, integral controller using Opamp ,derivative controller, PI controller, PID controller
12	80	92		
Month : February 2019			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit 3: Introduction to PLC Practicals: GROUP D: (Instrumentation) 1. Study of thermocouple (594) 2. Study of characteristics of RTD 3. Instrumentation Amp (LM324) 4. Measurement using Strain Gauge and Bridge Amplifier. 5. Precision Rectifier Op-Amp Project work	Programmable logic controller (PLC) basics:block diagram of PLC, input/output modules, power supplies, isolators, features like scan time, system scale, user interface. Modular PLC and Redundant PLC and Applications, communication protocols: RS485, Profibus Modbus.
12	80	92		
Month : March 2019			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit 4: Ladder Programming basics Practicals: GROUP D: (Power Electronics) 6. Study of AC / DC Timer 7. SCR firing by UJT. 8. AC Voltage controller 9. Phase Shift control of SCR 10. ON/OFF Temp. controller 11. DC Motor Control	Basic components: fuse, pushbutton, selector switches, limit switches, indicators, relay, time delay relays functions and symbols. General PLC programming procedures, programming on-off inputs/ outputs. Auxiliary commands and functions: PLC Basic Functions: Register basics, timer functions, counter functions.
12	80	92		

[Signature]
Mr. D. M. Panhalkar



[Signature]
Mr. D. M. Paphalkar

Head

**Department of Electronics
Vivekanand College, Kolhapur,**

Vivekanand College, Kolhapur (Autonomous)

Department of Electronics

Academic Year: 2018-19

Annual Teaching Plan

Name of the teacher: **Mr. P. R. Bagade**

Programme: **B.Sc. I Semester- I**

Subject: Electronics

Course Title: **DSC-1005A** Network Analysis and Analog Electronics

Month : July 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit 1: Bipolar Junction Transistor	Introduction, Structure of BJT, Working of transistor, Transistor configurations: CB, CE and CC, characteristics of transistor in CE and CB configurations, Regions of operation, Current gains α and β . Relations between α and β . dc load line and Q point.
12	32	44		
Month: August 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit 2: Unipolar Devices	JFET. Construction, working and I-V characteristics (output and transfer), Pinchoff voltage. UJT. basic construction, working, equivalent circuit and I-V characteristics.
12	32	44		
Month : September 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit 3: Amplifiers	Transistor biasing and Stabilization circuits- Fixed Bias and Voltage Divider Bias. Thermal runaway, stability. Transistor as a 2- port network, h-parameter equivalent circuit amplifier, Input and Output impedance, Class A, B, AB and C Amplifiers(Comparative Study) Cascaded Amplifiers: Two stage RC Coupled Amplifier and its Frequency Response.
12	32	44		
Month : October 2018			Unit:	Sub-units planned
Lectures	Practical's	Total	Unit 4: Feedback Amplifier and Oscillators:	Concept of feedback, negative and positive feedback, advantages of negative feedback (Qualitative only). Sinusoidal Oscillators: Barkhausen criterion for sustained oscillations. Phase shift, Hartley and Colpitt's oscillator.
12	32	44		

Pr
Mr. P. R. Bagade

Pr
Mr. D. M. Panhalkar



Head
Department of Electronics
Vivekanand College, Kolhapur.

Head
Department of Electronics
Vivekanand College, Kolhapur

Vivekanand College, Kolhapur (Autonomous)

Department of Electronics

Academic Year: 2018-19

Annual Teaching Plan

Name of the teacher: **Mr. P. R. Bagade**

Programme: **B.Sc. I Semester- II**

Subject: Electronics

Course Title: **DSC-1005B** Linear And Digital Integrated Circuits

Month : December 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit 1: Operational Amplifier	Concept of differential amplifier, Characteristics of an Ideal and Practical Op-Amp, study of IC 741, Open and closed loop configuration, Frequency Response .CMRR, Slew Rate and concept of Virtual Ground. Applications of Op-Amps: (1) Inverting and non-inverting amplifiers, (2) Summing and Difference Amplifier, (3) Differentiator, (4) Integrator, (5) Wein bridge oscillator,(6) Comparator and Zero-crossing detector, and (7) Active low pass and high pass. Study of LM 358,TLC 271
12	32	44		
Month: January 2019			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit 2: Clock and Timer	Introduction, Block diagram of IC 555, Monostable, Bistable and Astable multivibrator circuits
12	32	44		
Month : February 2019			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit 3: Combinational circuits:	Mux: - 2:1, 4:1 8:1. De-mux: - 1 to 2,1 to 4, 1 to 8. Encoder: concept of encoder, Decimal to BCD Encoder. Basic Binary decoders: 2 to 4 line, 3 to 8 line and 4 to 16 line ,BCD to decimal decoder, BCD to 7-segment decoder driver, IC 7447
12	32	44		
Month : March 2019			Unit:	Sub-units planned
Lectures	Practical's	Total	Unit 4: DAC and ADC Conversion:	4 bit binary weighted and R-2R D-A converters, circuit and working. Accuracy and Resolution. A-D conversion characteristics, successive approximation ADC, Single slope and dual slope ADC
12	32	44		

PRB
Mr. P. R. Bagade

DM
Mr. D. M. Panhalkar

Head

**Department of Electronics
Vivekanand College, Kolhapur**



Vivekanand College, Kolhapur (Autonomous)

Department of Electronics

Academic Year: 2018-19

Annual Teaching Plan

Name of the teacher: **Mr. P. R. Bagade**

Programme: **B.Sc. II Semester- III**

Subject: Electronics

Course Title: **Paper V (Digital Electronics)**

Month : July 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit 1: .Flip-Flop Practicals Group A: 1. Study of RS flip-flop 2. Study of D, JK flip-flop 3. Study of Multiplexer 4. Study of De-multiplexer	R S flip-flop, Clocked RS flip-flops , D-FF, Positive and negative edge triggered D and JK FF, Race around condition, Pulse triggered(M- S) JK flip-flop, T and RST flip flop, operating characteristics of flip-flop, ICs 7474, 7475 and 7476. Applications of flip-flop
12	32	44		
Month: August 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit 2: Counter Techniques Practicals Group A: 5. Study of shift register (Left, Right Shift, Ring and Johnsons counter) 6. Study of counter (Divided by 2,5,10 using 7490) 7. Study of counter (Divided by 2,6,12 using 7492) 8. Study of single digit counter (using 7490,7447,7- segment display)	classification of counters, Asynchronous Counter: 3Bit Binary counter, Asynchronous, decade counter, 4- bit binary counter. Synchronous: - 3-bit counter, decade counter, Series-parallel combination counter: Mod-3, Mod-5, and Mod-7 counter. IC's 7490, 7492, 74193, 74194.
12	32	44		
Month : September 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit 3: Shift Register, Buffer and Latch Practical's Group B (8085): 1. Arithmetic operations using 8085(addition & Multiplication) 2. Arithmetic operations using 8085(subtraction & Division) 3. Logical instructions using 8085 4. Stack instructions using 8085	Shift registers - SISO, SIPO, PISO and PIPO, Left and right shift registers, Bi-directional shift register. Shift register counters: Ring, Johnson, up- down counter. Digital Clock (block diagram only), Study of IC 7495, 74190. Uni & Bidirectional buffer, Tristate buffer, ICs : 74LS 244,74 LS 245. Latch 74 LS 373
12	32	44		
Month : October 2018			Unit:	Sub-units planned
Lectures	Practicals	Total	Unit 4: Multiplexer, De-multiplexer , Decoder and Encoder Practical's Group B (8085): 5. Study of simulator of 8085 6. Block transfer using 8085 7. Block exchange using 8085 8. Finding out even/ odd numbers using 8085.	Mux: - 2 : 1, 4: 1, 8 to 1 and 16: 1 Demux: - 1: 4, 1: 8 and 1: 16. Study of IC's 74150, 74154. Binary decoders: 2 : 4 line, 3 : 8 line and 4: 16 line, BCD to decimal decoder, BCD to 7-segment decoder, IC 74138, IC 7447.Encoder:Decimal to BCD , Priority Encoder,
12	32	44		

J.P.B.
Mr. P. R. Bagade



J.P.P.
Mr. D. M. Panhalkar
Head
Department of Electronics
Vivekanand College, Kolhapur.

Vivekanand College, Kolhapur (Autonomous)

Department of Electronics

Academic Year: 2018-19

Annual Teaching Plan

Name of the teacher: **Mr. P. R. Bagade**

Programme: **B.Sc. II Semester- IV**

Subject: Electronics Course Title: **Paper VII Linear and Wave shaping circuits**

Month : December 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit 1: Resonance and Two port Networks:	Series and parallel resonance, variation of impedance, phase and admittance with frequency, Q-factor, bandwidth and selectivity. Numericals. Two port Networks: Z, Y and h parameters and their equivalent circuits. T and π Networks, Bridge – T, Twin – T and Ladder Networks.
12	32	44	Practical's Group C : 1. RC integrator and diffenciator 2. Clipping and clamping circuits 3. Miller integrator 4. UJT as relaxation oscillator	
Month: January 2019			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit 2: Wave shaping and time base circuits	High pass & Low pass RC circuits, Differentiator and integrator, Clipping Circuits: Clamping Circuits: Diode clamper with waveform, Voltage time base generators: General feature, Sweep circuits using transistor and UJT, Miller integrator.
12	32	44	Practical's Group C : 5. Astable multivibrator using BJT 6. Bistable multivibrator using BJT 7. IC 555 as AMV 8. IC 555 as MMV	
Month : February 2019			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit 3: Multivibrators	BJT as a switch a)BMV: Collector coupled, Circuit operation, wave forms, b)MMV :Collector coupled, Circuit operation, wave forms, Expression for gate width, c) AMV: Collector coupled AMV, circuit operation. Waveform, Expression for output frequency. d) Study of IC 555, Astable mode and Monostable mode.
12	32	44	Practical's Group D 1. Interfacing of LED and Relay with 8085 2. Interfacing seven segment display with 8085 3. Interfacing of DAC 0808 to generate square, Triangular wave 4. Study of 8253 for any two modes	
Month : March 2019			Unit:	Sub-units planned
Lectures	Practicals	Total	Unit 4: Fourier series and Laplace Transform	Dirichlet conditions, Fourier spectrum, Fourier series expansion for square, saw tooth waveform, half wave and full wave rectifiers output wave forms. Laplace Transform: Definition, standard functions, Applications of LT to transient response of RL, RC circuit with step Voltage. Concept of poles and zeros and its significance.
12	32	44	Practical's Group D 5. Study of pinnacle 6. Study of arithmetic operation using 8051 kit/simulator 7. Study of logical operation. 8. 8051 programming for LED interfacing	

P.R.B.
Mr. P. R. Bagade

Head
Department of Electronics
Vivekanand College, Kolhapur



D.M.P.
Mr. D. M. Panhalkar

Head
Department of Electronics
Vivekanand College, Kolhapur.

Vivekanand College, Kolhapur (Autonomous)

Department of Electronics

Academic Year: 2018-19

Annual Teaching Plan

Name of the teacher: **Mr. P. R. Bagade**

Programme: **B.Sc. III Semester-V**

Subject: **Electronics**

Course Title: **Paper-X Communication Systems -I**

Month : July 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit 1: Communication Systems GROUP A :(LIC) 1. Adder and Subtractor 2. Integrator and Differentiator. 3. Schmitt Trigger using op-amp. 4. IC 555 as variable duty cycle. 5. Function generator using IC 8038 Project work	Introduction and block diagram, Types of communication systems, Electromagnetic spectrum, concept of bandwidth. Noise in communication: External and internal noise, S/N ratio, noise figure and noise temperature
12	40	52		
Month: August 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit 2: Modulation and Demodulation GROUP A:(PLC) 6. PLC Simulator and implementing Boolean function. 7. Sequential logic RS -FF,JK-FF,T-FF,D-FF 8. Study of PLC timers and Counter 9. Programming for Automatic parking Gate 10. Study and implementation of proportional controller using op-amp	Need modulation and types of modulation, AM: – Principle, mathematical expression, modulation index, frequency spectrum, power distribution. Concepts of DSB, SSB & VSB. DSB generation using FET Balanced Modulator, SSB generation using phase shift method. FM: Principle, mathematical expression, modulation index, side bands. Comparison of AM and FM. Diode detector, Frequency demodulation
12	40	52		
Month : September 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit 3: Antenna and Radio Wave Propagation GROUP B: (Communication) 1. AM modulation and Demodulator. 2. FM modulation and Demodulator 3. Frequency Shift Keying. 4. Pulse Amplitude Modulation 5. ASK Modulator. Project work	Antenna Parameters Types of antennas- half wave dipole, Yagi-uda and dish antennas. Radio wave propagation: Ground wave, Sky wave and Space wave propagation.
12	40	52		
Month : October 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit 4: Radio Receivers and Television GROUP B: (Communication) 6. Study of Composite Video Signal 7. RF tuned amplifier 8. Pulse width modulation 9. PSK Modulator Project work	AM Superhet Receiver FM Receiver – block diagram and working of each block. Television: Scanning, Picture formation, picture tube, picture qualities, TV Broadcasting: Composite video signal, horizontal and vertical sync pulses. Channel bandwidth, VSB transmission
12	40	52		

Y.P.B.
Mr. P. R. Bagade



Y.P.B.
Mr. D. M. Panhalkar
Head

Department of Electronics
Vivekanand College, Kolhapur.

Vivekanand College, Kolhapur (Autonomous)

Department of Electronics

Academic Year: 2018-19

Annual Teaching Plan

Name of the teacher: **Mr. P. R. Bagade**

Programme: **B.Sc. III Semester- VI**

Subject: Electronics

Course Title: **P aper-XIV- Communication Systems -II**

Month : December 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit 1: Telephone Communication System GROUP C: (8051 μ C) 1. Stepper / DC motor interfacing 2. Timer programming mode 1 & 2 3. Arithmetic & logical operations. 4. LED ,Thumbwheel switch and 7-segment display interfacing 5. DAC0808/ADC0804 interfacing	Telephony Principle , telephone hand-set, local loop, Types of exchanges, Electronic exchange – block diagram and working. PSTN Pulse and DTMF dialling, Different tones in telephone, EPABX Concepts of value added services
12	40	52		
Month: January 2019			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit 2: Modern Communication Systems GROUP C: (PIC μ C) 6. Use of MPLAB simulator: 7. I/O port programming 8. PIC Programming in timer1 9. Serial communication 10 Programming of PIC on chip ADC Project work	FAX – Principle , block diagram. Video Conferencing Technique Block diagram and working Concept of ISDN interface Optical Fiber Communication Principle, splices & connectors, transmitter, receiver Block diagram of OFC and its working Satellite Communication – Satellite orbits, Earth Station, transponders, VSAT
12	40	52		
Month : February 2019			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit 3: Digital Communication Practicals: GROUP D: (Instrumentation) 1. Study of thermocouple (594) 2. Study of characteristics of RTD 3. Instrumentation Amp (LM324) 4. Measurement using Strain Gauge and Bridge Amplifier. 5. Precision Rectifier Op-Amp Project work	Pulse Modulation – PAM, PCM Block diagram and working of delta modulation MODEM – Concept of ASK, FSK, BPSK, QPSK, Block diagram of MODEM using FSK. Multiplexing Techniques - Space division multiplexing, TDM, FDM , CDM
12	40	52		
Month : March 2019			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Unit 4: Wireless Communication Practicals: GROUP D: (Power Electronics) 6. Study of AC / DC Timer 7. SCR firing by UJT. 8. AC Voltage controller 9. Phase Shift control of SCR 10. ON/OFF Temp. controller 11. DC Motor Control	Introduction, Need of wireless communication systems. Introduction to mobile communication, Cellular concept, Working of GSM, Hand over, Introduction to GPRS. Introduction to RFID, Zigbee, Bluetooth and Wi-Fi (range, data rate, frequency) 3G, IP Telephony
12	40	52		

Y.P.B.
Mr. P. R. Bagade

J.P.P.
Mr. D. M. Panhalkar

Head

**Department of Electronics
Vivekanand College, Kolhapur.**



Vivekanand College, Kolhapur
Department of Electronics
Head

Vivekanand College, Kolhapur (Autonomous)

Department of Electronics

Academic Year: 2018-19

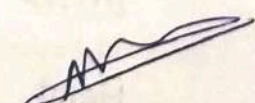
Annual Teaching Plan

Name of the Teacher: **Mr. N. P. Mote**

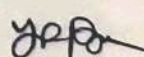
Programme: B.Sc. II Semester- III

Subject: Electronics Course Title: DSC -1005 C Electronics Communication and Microprocessor 8085

Month: July 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	1) Microcomputer Organization:	Basic components of microcomputer (CPU, Program memory, Data memory, input and output ports, idea of RAM (SDRAM, DRAM) Types of ROM Memory Organization & addressing, Memory Interfacing, Memory Map.
12	00	12		
Month : August 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	2) Architecture of 8085 Microprocessor:	Silent features of 8085. Block diagram and Pin description of 8085. Data and address bus, Registers, ALU, Stack pointer, Program counter, Flag register, Clock and reset circuits. Interrupts in 8085. Demultiplexing of AD0-AD7. Tstates, Machine cycle, Instruction cycle. Timing diagram of MOV and MVI instructions.
12	00	12		
Month: September 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	3) Instruction Set of 8085 Microprocessor :	Instruction set, classification of Instruction Set, Instruction format, Addressing modes of Instructions, Instruction set: Data transfer (including stacks), Arithmetic, logical, branch and control instructions).
12	00	12		
Month: October 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	4) Programming with 8085 Microprocessor:	Programs of Addition (8 and 16 bit), Subtraction, Multiplication, Division, Block Transfer and Exchange, Masking, ascending and descending order, Time delay generation using register and register pair, Detection of odd and even numbers.
12	00	12		


Mr. N. P. Mote




Mr. D. M. Panhalkar

Head

Department of Electronics
Vivekanand College, Kolhapur.

Vivekanand College, Kolhapur (Autonomous)

Department of Electronics

Academic Year: 2018-19

Annual Teaching Plan

Name of the Teacher: **Mr. N. P. Mote**

Programme: B.Sc. II Semester- IV

Subject: Electronics Course Title: DSC -1005 D Advance Communication and Microcontroller 8051

Month: December 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	1) Introduction to 8051 microcontroller:	Comparison between microprocessor and microcontroller. Silent feature of 8051 family, , Block diagram of 8051, Pin description of 8051 microcontroller, , RAM structure of 8051, SFR's and GPR's in 8051,PSW register ,Clock and reset circuit, Memory organization ,I/O Ports.
12	00	12		
Month : January 2019			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	2) Instruction Set of 8051:	Classification of instruction sets, Addressing modes . Instruction set of 8051: data transfer, arithmetic, Logical, Jump, call, Boolean instructions
12	00	12		
Month: February 2019			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	3) Timers, Serial port and Interrupts(Assembly)programming of 8051:	A. Timer: Timers in 8051,Timer Registers, modes and Programming of timers B. Serial ports: Serial port of 8051, modes, Registers Serial port, Serial port programming. C. Interrupt: Interrupt in 8051, Interrupt registers, Programming with interrupt.
12	00	12		
Month: March 2019			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	4) Interfacing of Devices with 8051:	Introduction to embedded C, comparison of C and assembly, Data types in C, SFR accessing , I/O programming, logical operations in C. C language programming: Program to generate square wave on port pin, Interfacing of LED , Opto-coupler, Switch, Relay, DC motor and Stepper motor.
12	00	12		

Mr. N. P. Mote



Mr. D. M. Panhalkar

Head
Department of Electronics
Vivekanand College, Kolhapur.

Vivekanand College, Kolhapur (Autonomous)

Department of Electronics

Academic Year: 2018-19

Annual Teaching Plan

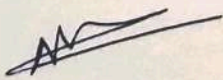
Name of the Teacher: **Mr. N. P. Mote**

Programme: B.Sc. II Semester- III and IV

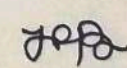
Subject: Electronics

Course Title: **Practicals**

Month : July 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Practicals:	
0	48	48	Group A : 1. Amplitude Modulator using Transistor 2. To study FM - Generator 3. To study Pulse Amplitude Modulation (PAM)	
Month: August 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Practicals:	
0	48	48	Group A : 4. To study Pulse Width Modulation (PWM) 5. To study Pulse Position Modulation (PPM) 6. To study ASK modulator 7. To study PSK modulator 8. To study FSK modulator	
Month : September 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Practicals:	
0	48	48	Group B : 1. Addition and subtraction of numbers using direct addressing mode 2. Addition and subtraction of numbers using indirect addressing mode 3. Multiplication by repeated addition. 4. Division by repeated subtraction	
Month : October 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Practicals:	
0	48	48	1. Arithmetic operation using 8051 2. Logical operations using 8051. 3. Study of timers of 8051 in mode 1 and mode 4. Study of interfacing of LED to 8051 microcontroller. 5. Study of interfacing of LED array.	


Mr N. P. Mote




Mr. D. M. Panhalkar

Head
Department of Electronics
Vivekanand College, Kolhapur.

Vivekanand College, Kolhapur (Autonomous)

Department of Electronics

Academic Year: 2018-19

Annual Teaching Plan

Name of the Teacher: **Mr. N. P. Mote**

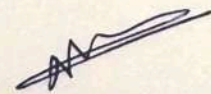
Programme: B.Sc. III Semester- V and VI

Subject: Electronics

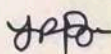
Course Title: **Practicals**

Month : July 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Practicals: Group A : 1. Instrumentation amplifier using OPAMP 2. Precision rectifier using OPAMP 3. Log amplifier using OPAMP 4. Study of active filter : Low and High pass 5. Study of active filter : band pass	
0	40	40		
Month: August 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Practicals: Group B : 1. Study of simple dipole $\lambda/2$ antenna 2. Study of folded dipole $\lambda/2$ antenna 3. Study of simple dipole $\lambda/4$ antenna 4. Study of Yagi-Uda with 3 and 5 element simple dipole antenna	
0	40	40		
Month : September 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Practicals: Group C : 1. Arithmetic and logical operations using 8051 microcontroller. 2. Switch and Relay interfacing to 8051 microcontroller. 3. DC motor interfacing to 8051 microcontroller. 4. Study of Timers in 8051 Microcontroller. 5. Stepper Motor interfacing to 8051 microcontroller.	
0	40	40		
Month : October 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	Practicals: Group D : 1. Interfacing of Switches and LED with Arduino/AVR microcontroller. 2. LCD Interfacing with Arduino/AVR microcontroller. 3. Stepper Motor Interfacing with Arduino/AVR microcontroller. 4. Interface temperature sensor LM35 with Arduino board and display temperature on LCD. 5. Interface temperature sensor Humidity Sensor (DHT11) with Arduino/AVR board and display temperature and humidity values on LCD	
0	40	40		

Department of Electronics
Vivekanand College, Kolhapur


Mr N. P. Mote




Mr. D. M. Panhalkar
Head
Department of Electronics
Vivekanand College, Kolhapur.

Vivekanand College, Kolhapur (Autonomous)

Department of Electronics

Academic Year: 2018-19

Annual Teaching Plan

Name of the teacher: **Miss. S. B. Demanna**

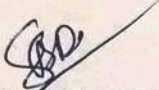
Programme: B.Sc. I Semester- I

Subject: Electronics Course Title: **ELECTRONICS LAB**

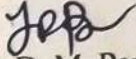
Month : June 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	1. To familiarize with basic electronic components (R, C, L, diodes, transistors), Digital Multimeter, Function Generator, power supplies and Oscilloscope etc. 2. Measurement of Amplitude, Frequency & Phase difference using Oscilloscope. 3. Study of the I-V Characteristics of (a) p-n junction Diode, and (b) Zener diode.	
	32	32		
Month : July 2018			Module/Unit:	Sub-units planned
0	32	32	1. Study of Full wave rectifier. 2. To verify the Thevenin and Superposition Theorems 3. Study of Logic Gates. 4. Study of Universal Gates	
Month: August 2018			Module/Unit:	Sub-units planned
0	32	32	1. Half Adder and Subtractor 2. Full Adder and Subtractor (using 7483 & 7404) 3. Study of Encoder & seven segment Decoder. 4. Study of Multiplexer (4 :1) and Demultiplexer (1 :4)	
Month: September 2018			Module/Unit:	Sub-units planned
0	32	32	1. Arithmetic operation using 8051 2. Logical operations using 8051. 3. Study of timers of 8051 in mode 1 and mode 2. 4. Study of interfacing of LED to 8051 microcontroller.	
Month: October 2018			Module/Unit:	Sub-units planned



0	32	32	<ol style="list-style-type: none"> 1. Study the effect of (a) C- filter and (b) Zener regulator on the output of FWR 2. To verify the Norton and Maximum power Transfer Theorems. 3. Design and analyze the series and parallel LCR circuits 4. Study any Boolean expression using K-map. 	
---	----	----	---	--


 Miss. S. B. Demanna




 Mr. D. M. Panhalkar

Head
Department of Electronics
Vivekanand College, Kolhapur,

Vivekanand College, Kolhapur (Autonomous)

Department of Electronics

Academic Year: 2018-19

Annual Teaching Plan

Name of the teacher: Miss. S. B. Demanna

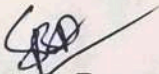
Programme: B.Sc. I Semester- II

Subject: Electronics Course Title: **ELECTRONICS LAB**

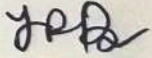
Month : November 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	1. To build and test Flip-Flop (RS, Clocked RS, D). 2. To make a Shift Register (serial-in and serial-out) using D-type/JK Flip-Flop ICs 3. Op-Amp as adder and Subtractor	
0	32	32		
Month : December 2018			Module/Unit:	Sub-units planned
0	32	32	1. Design the inverting and non-inverting amplifier using an Op-Amp of given gain. 2. To investigate the use of an op-amp as an Integrator & Differentiator. 3. To design a Wien bridge oscillator for given frequency using an op-amp.	
Month : January 2019			Module/Unit:	Sub-units planned
0	32	32	1. Design a digital to analog converter (DAC) of given specifications. 2. To design an Astable Multivibrator of given specification using IC 555 Timer. 3. To design a Monostable Multivibrator of given specification using IC 555 Timer.	
Month: February 2019			Module/Unit:	Sub-units planned
0	32	32	1. Design a Colpitt's oscillator of given frequency. 2. Study of the output and transfer I-V characteristics of common source JFET 3. Design of a Single Stage CE	



			amplifier of given gain & study frequency response.	
Month: March 2019			Module/Unit:	Sub-units planned
0	32	32	<ol style="list-style-type: none"> 1. Study the effect of (a) C- filter and (b) Zener regulator on the output of FWR 2. To verify the Norton and Maximum power Transfer Theorems. 3. Design and analyze the series and parallel LCR circuits 	
Month: April 2019			Module/Unit:	Sub-units planned
0	32	32	<ol style="list-style-type: none"> 1. To study the zero-crossing detector and comparator. 2. Design clocked SR and JK Flip-Flop's using Gates. 3. Design 4-bit asynchronous counter using Flip-Flop ICs. 4. Study any Boolean expression using K-map. 5. Design a SAR type ADC of given specifications 	


Miss. S. B. Demanna




Mr. D.M. Panhalkar

Head
Department of Electronics
Vivekanand College, Kolhapur.

Vivekanand College, Kolhapur (Autonomous)

Department of Electronics

Academic Year: 2018-19

Annual Teaching Plan

Name of the teacher: Miss. S. B. Demanna

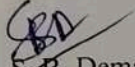
Programme: B.Sc. II Semester- III

Subject: Electronics Course Title: **ELECTRONICS LAB (II) : DSC -1005D(pr)**

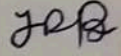
Month: June 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	1. To design an Amplitude Modulator using Transistor/ Op-amp 2. To study envelope detector for demodulation of AM signal 3. To study FM - Generator / Detector circuit 4. To study AM Transmitter / Receiver	
0	32	32		
Month : July 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	1. To study Pulse Amplitude Modulation (PAM) 2. To study Pulse Width Modulation (PWM) 3. To study Pulse Position Modulation (PPM) 4. To study ASK modulator	
0	32	32		
Month: August 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	1. Addition and subtraction of numbers using direct addressing mode 2. Addition and subtraction of numbers using indirect addressing mode 3. Multiplication by repeated addition. 4. Division by repeated subtraction.	
0	32	32		
Month: September 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	1. Arithmetic operation using 8051 2. Logical operations using 8051. 3. Study of timers of 8051 in mode 1 and	



0	32	32	mode 2. 4. Study of interfacing of LED to 8051 microcontroller. 5. Block data handling 6. Use of CALL and RETURN Instruction.	
Month: October 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	1. To study FM Transmitter /Receiver 2. To study Time Division Multiplexing (TDM) 3. To study PSK modulator 4. To study FSK modulator 5. Addition of 16-bit Numbers.	
0	32	32		


 Miss. S. B. Demanna




 Mr. D. M. Panhalkar

Head
Department of Electronics
Vivekanand College, Kolhapur.

Vivekanand College, Kolhapur (Autonomous)

Department of Electronics

Academic Year: 2018-2019

Annual Teaching Plan

Name of the teacher: Miss. S. B. Demanna

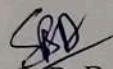
Programme: B.Sc. II Semester- IV

Subject: Electronics Course Title: **ELECTRONICS LAB (II): DSC -1005D (PR)**

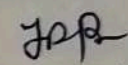
Month: November 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	1. Logical operations using 8051. 2. Study of timers of 8051 in mode 1 and mode 2. 3. Study of interfacing of LED to 8051 microcontroller.	
0	32	32		
Month : December 2018			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	1. Study of interfacing of 7-segment display. 2. Study of interfacing multiplexed 7-segment display. 3. Study of interfacing of stepper motor. Study of interfacing of D.C motor.	
0	32	32		
Month: January 2019			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	1. Designing of Printed circuit board (PCB) using Software 2. Development of Printed circuit board (PCB) 3. Soldering techniques: Assemble electronic circuit	
0	32	32		
Month: February 2019			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	1. Build Regulated Power Supply using IC 7805 2. Build Dual Power Supply using IC 7809 and IC 7909 3. Assemble Electric Board with switches, sockets and Miniature circuit Breaker(MCB) and measure Voltage, Current and Power for given device	
0	32	32		
Month: March 2019			Module/Unit:	Sub-units planned



Lectures	Practicals	Total	1. Study of interfacing of LED array 2. Temperature Controller using IC 741 /Microcontroller8051. 3. Designing of Variable Power Supply using LM 317.	
0	32	32		
Month: April 2019			Module/Unit:	Sub-units planned
Lectures	Practicals	Total	1. Study and fault finding of: Fan /Iron/ Mixer/Cell phone Charger 2. Build Lighting system using LED, Solar Panel and Chargeable Battery	
0	32	32		


Miss. S. B. Demanna




Mr. D. M. Panhalkar

Head
Department of Electronics
Vivekanand College, Kolhapur.