SHRI SHIVAJI SHIKSHAN PRASARAK MANDAL, BARSHI'S

SHRI SHIVAJI MAHAVIDYALAYA, BARSHI (STAR COLLEGE BY DBT, MST, INDIA)

ACADEMIC AND ADMINISTRATIVE CALENDER (2022-2023)

JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY
1. ACADEMIC PROCESS START	1. VASANTRAO NAIK JAYANTI & Doctor's Day	1.	1. GRIEVANCE COMMITTEE	1. WILDLIFE WEEK CELEBRATION	1.	1. INTERNATIONAL AIDS DAY	1.	1.	1.	1. BANK HOLIDAY	1. MAHARASHTRA DIN
2.	2.	2. NAGPANCHAMI	2.	2. GANDHI JAYANTI LAL BAHADUR JAYANTI	2.	2. LIBRARY COMMITEE MEETING	2.	2. FLOWER, FOOD & FUN	2. DISCIPLINE COMMITEE	2.	2.
3.	3.	3. KRANTIVIR NANA PATIL JAYANTI, GANESH CHATURTHI	3.	3.	3.	3.	3. SAVITRIBAI PHULE JAYANTI	3.	3.	3. IQAC	3.
4.	4.	4.	4.	4.	4. DISCIPLINE COMMITTEE MEETING	4.	4.	4. KARMVEER JAYANTI	4.	4. MAHAVEER JAYANTI	4.
5. WORLD ENVIRONMENT DAY	5.	5.	5. TEACHER'S DAY	5. DUSSHERA	5.	5.	5.	5. SANT RAVIDAS JAYANTI	5.	5.	5.
6. LIBRARY COMMITTEE MEETING	6.	6.	6.	6.	6.	6. MAHAPARIVAHAN DIN	6.	6.	6. HOLI	6. HANUMAN JAYANTI	6.
7.	7.	7.	7. RAJE UMAJI NAIK JAYANTI	7.	7.	7.	7.	7.	7. DHULIVANDAN	7. GOOD FRIDAY	7.
8.	8.	8.	8. LITERACY DAY	8.	8. GURUNANAK JAYANTI	8. SANT SANTAJI JAGNADE JAYANTI	8.	8. STANDING COMMITTEE MEETING	8. WOMEN'S DAY	8.	8.
9.	9.	9. KRANTI DIN & MOHRAM	9. ANANT CHATURDASHI	9. EID-E-MILAD WALMIKI JAYANTI	9.	9.	9.	9.	9.	9. ESTER SUNDAY	9.
10.	10. ASHADI EKADASHI & BAKARI EID	10. ANTI RAGGING COMMITTEE MEETING	10.	10.	10.	10. IInd TERM START	10.	10.	10.	10. COLLEGE DEVELOPMENT COMMITTEE	10.
11.	11. World Population Day	11. RAKSHA BANDHAN	11.	11.	11.	11.	11.	11.	11.	11. MAHATMA PHULE JAYANTI	11.
12.	12.	12.	12.	12.	12.	12.	12. JIJAU JAYANTI SWAMI VIVEKANAND JAYANTI	12.	12. YESHWANT-RAO CHAVAN JAYANTI	12.	12.
13.	13.	13. IQAC	13.	13.	13.	13.	13.	13.	13.	13.	13.
14.	14. LIBRARY COMMITEE MEATING	14.	14. HINDI DIN	14.	14. PANDIT NEHARU JAYANTI	14.	14.	14.	14.	14. AMBEDKAR JAYANTI	14. SAMBHAJI MAHARAJ JAYANTI
15.	15.	15. INDEPENDENCE DAY	15. ENGINEERING DAY	15. Dr. APJ ABDULKALAM JAYANTI	15. BIRSA MUNDA JAYANTI	15. DISCIPLINE COMMITTEE MEETING	15. MAKAR SANKRANT	15. SANT SEVALAL JAYANTI	15. WORLD CUSTOMER DAY	15.	15.
16.	16. SCIENCE ASSOCIATION MEETITNG	16. PARSI NEW YEAR	16.	16.	16.	16.	16.	16.	16.	16.	16.
17.	17.	17.	17. KESHAV SITARAM URF PRABODHANKAR THACKERAY JAYANTI	17.	17. IQAC	17.	17.	17.	17.	17.	17.
18.	18.	18.	18.	18.	18.	18.	18. COLLEGE DEVELOPMENT	18. MAHASHIVARATRI	18.	18.	18. BUDDHA PURNIMA
19.	19.	19.	19.	19.	19. INDIRA GANDHI JAYANTI	19.	19.	19. SHIV JAYANTI	19.	19.	19.
20.	20.	20. SADBHAVAN DIN	20.	20. COLLEGE DEVELOPMENT MEETING	20.	20.	20.	20. BALSHASTRI JAMBHEKAR JAYANTI	20. COLLEGE DEVELOPMENT COMMITEE	20.	20.
21. INTERNATIONAL YOGA DAY	21. STANDING COMMITTEE	21.	21. WORLD PEACE DAY	21.	21.	21.	21.	21. LIBRARY COMMITTEE	21.	21.	21. DAHASHATWAD ANI DIKSHAPAR VIRODHI DIN
22.	22.	22.	22. PURCHASE COMMITTEE MEETING	22.	22.	22. NATIONAL MATHEMATICS DAY	22.	22. GRIEVANCE COMMITTEE	22. GUDIPADWA	22. RAMJAN ID AKSHAY TRITIYA MAHATMA BASWESHWAR JAYANTI	22. MAHARANA PRATAP JAYANTI
23.	23. LOKMANYA TILAK JAYANTI	23.	23.	23.	23.	23.	23. SUBHASH CHANDRA BOSE JAYANTI BALASAHEB THACKERAY JAYANTI	23. GADGEBABA JAYANTI	23. SHAHEED DIWAS	23.	23.
24.	24.	24. DISCIPLINE COMMITTEE MEETING	24. N.S.S. DAY	24. LAXMI PUJAN	24.	24.	24. IQAC	24.	24.	24.	24.
25.	25.	25.	25. DINDAYAL UPADYAY JAYANTI	25.	25.	25. CHRISTMAS DAY	25.	25.	25.	25.	25.
26. SHAHU MAHARAJ JAYANTI	26.	26. POLA	26. GHATASTHAPANA	26. BALIPRATIPADA	26. Ist TERM END SAVIDHAN DIVAS	26.	26. REPUBLIC DAY	26.	26.	26.	26.
27.	27.	27.	27.	27.	27.	27. PANJABRAO DESHMUKH JAYANTI	27.	27.	27.	27.	27.
28.	28.	28.	28.	28.	28.	28. NATIONAL CONFERENCE BOTANY	28. ZOOLOGY FESTIVAL	28. NATIONAL SCIENCE DAY	28.	28.	28. SWATANTRVEER SAVARKAR JAYANTI
29. Statistic Day	29.	29. NATIONAL SPORTS DAY	29.	29.	29.	29.	29.		29.	29.	29.
30.	30.	30.	30.	30.	30.	30.	30.		30. RAM NAVAMI	30. IInd TERM END RASHTRA SANT TUKDOJI MAHARAJ JAYANTI	30. KARMAVEER MAMASAHEB JAGDALE PUNYATITHI
	31.	31. GANESH CHATURTHI		31. INDIRA GANDHI PUNYATITHI & VALLABHBHAI PATEL JAYANTI		31.	31. PURACHSE COMM. MEETING		31.		31 PUNDYASHLOK AHILYADEVI HOLKAR JAYANTI

VACATION (JUNE)
1st TERM INTERNAL EXAM (SEPTEMBER–OCTOBER)
VACATION (OCTOBER)
VACATION (NOVEMBER)
N.S.S. CAMP (JANUARY)
N.S.S. Camp (DECEMBER)
UNIVERSITY EXAMINATIONS (FEBRUARY–MARCH)
UNIVERSITY EXAMINATIONS (APRIL–MAY)

SHRI SHIVAJI MAHAVIDYALAYA BARSHI
DEPARTMENT OF ZOOLOGY
B. Sc. TIME TABLE 2022-23

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.40.-1.00	B.Sc- II Practical-I SSS/AMF/ AMG (34)	B.Sc -II Practical-II RSC/AMG/ SSS(34)	B.Sc- II Practical-I SSS/AMF (34)	B.Sc- II Practical-II RSC/AMG (34)	B.Sc- II Practical-I TAS (34)	B.Sc- II Practical SSJ/RSC (34)
11.20-2.10					B. Sc. I (29) RSC	B. Sc. I (29) TAS
12.10-1.00	B. Sc. III RSC (8)	B. Sc. III SSJ(8)	B. Sc. III RSC(8)	B. Sc. III TAS (8)	B. Sc. III AMF (8)	B. Sc. III SSS (8)
1.00-1.50	B. Sc. III AMG(8)	B. Sc. III SSS(8)	B. Sc. III TAS(8) B. Sc. I (29) SSJ	B.Sc III SSJ (8)	B. Sc. III TAS (8)	B. Sc. III AMF (8)
1.50-2.40	B. Sc. I AMG(29)	B. Sc. I AMF(29)				
1.50-6.00		B. Sc. III Pract (II) B1/B2 (36) SSS/AMF	B. Sc. III Pract (IV) B1/B2 (36) RSC/TAS	B. Sc. III pra AMG	B. Sc. III Pract (I) B1/B2 (36) AMG/SSS	B. Sc. III Pract (III) B1/B2 (36) TAS/RSC
1.50-2.40	B. Sc. II SSJ (9)			B. Sc. II AMF(9)	B. Sc. II TAS (9)	
2.40-3.30			B.Sc II (35) TAS			
2.40-6.00	B.Sc I Practica(34) RSC	B.Sc I Practical(34) SSJ	B.Sc I Practical(34) AMG	B.Sc I Practical(34) AMF/SSS	B.Sc I Practical(34) TAS/RSC	
3.30-4.20						B. Sc. II (35)AMG
4.20-5.10		B. Sc. II RSC(35)				

SSS- Prof. Dr. Salunkhe S.S
RSC- Prof. Dr. Chati R.S.
AMG- Dr. Gaikwad A.M
AMF- Dr. Fartade A.M
SSJ-Dr. Jadhav S.S
TAS- Dr. Shaikh T.A

SHRI SHIVAJI MAHAVIDYALAYA BARSHI
DEPARTMENT OF ZOOLOGY (P G)
M. Sc. TIME TABLE 2022-23

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00-12.00	M. Sc. I practical I (31) MBJ M. Sc. II Practical I (36) AMG	M. Sc. I practical III(31) ASK M. Sc. II Practical II (36) RSM	M. Sc. II Practical III(36) ASK	M. Sc. I practical IV(31) RSM M. Sc. II Practical IV (36) MBJ		M. Sc. I practical II (31) RSC
1:00-2:00	M. Sc I (31) ASK M .Sc II (36) MBJ	M. Sc I (31) RSM M. Sc II (36) AMG	M. Sc I (31) MBJ M .Sc II (36) RSM	M. Sc I (31) ASK M .Sc II (36) AMG	M. Sc I (31) MBJ M .Sc II (36) AMG	M. Sc I (31) RSC M. Sc II (36) ASK
2:00-3:00	M. Sc I (31) RSC M. Sc II(8) RSM	M. Sc I (31) MBJ M. Sc II (8) RSM	M. Sc I (31) ASK M. Sc II (8) MBJ	M. Sc I (31) RSM M. Sc II(8) MBJ	M. Sc I (31) RSC M. Sc II (8) RSM	M. Sc I (31) ASK M. Sc II (8) MBJ
3:00-4:00	M. Sc I (31) MBJ M. Sc II(8) ASK	M.Sc. I (31) ASK M. Sc II (8) MBJ	M. Sc I (31) RSM M. Sc II (8) ASK	M. Sc I (31) MBJ M. Sc II (8) RSM	Project Work M. Sc II (8) ASK	Project Work M. Sc II (8) RSM

RSC- Prof. Dr. Chati R.S.
AMG- Dr. Gaikwad A.M
RSM –Asst. Prof. Mane R.S
MBJ-Asst. Prof . Jagtap M.B
ASK-Asst. Prof . Kamble A.S

Shri Shivaji Mahavidyalaya Barshi
Department of Electronics
Annual Planning Report (2022-2023)

Name of Teacher : Khardekar K.S. **Class : B.Sc.-I Sem: I & II**

Sr.No.	Month	Name of the Topic	Remarks
1	Sept	**Unit 1. Circuit Elements and AC-DC Fundamentals** Active and passive elements, Resistors, Capacitors, Inductors, Transformers, Relays and Fuses (Classification, Specifications and Applications only)	
2	Oct	DC sources, Constant voltage and current sources, AC sources, Sinusoidal and non-sinusoidal sources, RMS current and voltage, Phase relationship of current and voltage with pure resistor, capacitor and inductor. (Numerical examples are expected) Series and Parallel RLC circuits, Phase diagram, Impedance, Admittance, Series and Parallel resonance, Response curve, Band width, Quality factor (Numerical Examples are expected	
3	Nov	**Unit 2. Network Analysis** Kirchhoff's Laws, Mesh and Nodal analysis [Only DC resistive circuits], Thevenin's Theorem, Norton's Theorem, Superposition Theorem, Millman's Theorem, Maximum power transfer theorem (Numerical examples are expected	
4	Dec	Black box theory, Concept of equivalent network, Z, Y, H & Transmission (ABCD) parameters, T-network, π-network and their inter-conversion expressions only (Numerical examples are expected)	
5	Jan	**Theory Exam**	
6	Feb	**Unit 1. Semiconductors, Junction Diodes and BJT** Intrinsic and extrinsic semiconductors, Formation of p-n junction, Barrier potential, I-V characteristics, Diode equation, Static and dynamic resistance, Junction capacitance	
7	Mar	Zener diode, Breakdown mechanism (Zener & avalanche), I-V characteristics, LED, Photo diode, Varactor Diode, Tunnel Diode (Construction, working and applications only) BJT construction and operation, Transistor configurations, I/P and O/P characteristics of CE and CB configurations, Graphical determination of α and β, (Numerical examples are expected)	
8	April	**Unit 2. Field Effect Transistor and Power Devices** FET, Comparison between BJT and FET, Structure and operation of n-channel JFET, I-V characteristics, Parameters, Applications (Numerical examples are expected)	
9	May	Depletion and Enhancement MOSFET, Structure and operation, I-V characteristics Construction, working and characteristics of SCR, DIAC, TRIAC and UJT	

Shri Shivaji Mahavidyalaya Barshi

Department of Electronics

Annual Planning Report (2022-2023)

Name of Teacher : Dr. K.P.Deshmukh **Class : B.Sc.-I Sem : I & II**

Sr.No.	Month	Name of the Topic	Remarks
1	Sept	**Unit 1. Number Systems, Binary Codes and Logic Gates** Binary, Octal, Decimal, Hexadecimal number systems and their inter-conversions, 1's compliment, 2's compliment, Arithmetic operations, Signed binary numbers 8421 code, Excess-3 code, Gray code, ASCII code, Parity bit	
2	Oct	OR, AND, NOT, NAND, NOR, Ex-OR, Ex-NOR gates, Positive and Negative logic, De Morgan's Theorems, Universality of NAND and NOR gates, Study of IC 7400, 7402, 7404, 7408, 7432, 7486	
3	Nov	**Unit 2. Boolean Algebra and Arithmetic Circuits** Rules and laws of Boolean algebra, Simplification of Boolean expression, K-map, K-maps for 2, 3 and 4 variables, Use of K-map for reduction of Boolean expressions	
4	Dec	Exclusive OR gate as a Binary to Gray converter, Parity checker, Controlled inverter, Half adder, Full adder, Parallel binary adder, Half and Full subtractor, Block diagram of digital computer and its organization	
5	Jan	**Theory Exam**	
6	Feb	**Unit 1. Digital Logic Families and Combinational Logic (15)** Introduction to logic families, TTL NAND gate, Specifications of TTL logic family (Sinking, sourcing current, Input/output voltage limits, Fan-in, Fan-out, Noise margin, Propagation delay, Power dissipation)	
7	Mar	Encoder: Decimal to BCD encoder, Priority encoder (IC 74147) Decoder: 2-4 and 3-8 decoders (IC 74138), BCD-Decimal decoder, BCD-7 segment decoder (IC 7447).Multiplexer: 4-1 and 8-1 multiplexer (IC 74153) De-multiplexer: 1-4 and 1-8 de-multiplexer	
8	April	**Unit 2. Sequential Logic (15)** RS flip flop using NOR gates, Clocked RS flip flop, D-flip flop, Edge triggered D-flip flop, JK-flip flop, Master slave JK flip flop, T flip flop. Study of IC 7476. (Timing diagrams are expected) Shift register, Types of shift registers, SISO, SIPO, PISO and PIPO, Serial and parallel loading, Study of Right shift, Left shift, Ring counter, Johnson counter (IC 7495) (Timing diagrams are expected)	
9	May	Basic counter operation, 4-bit asynchronous and synchronous counters, Combination counter, study of IC 7490 as MOD-2, MOD-5 and Decade counter. (Timing diagrams are expected)	

Shri Shivaji Mahavidyalaya Barshi
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Annual Planning Report (2022-2023)

Name of Teacher : : Khardekar K.S. **Class : B.Sc.-II Sem: III & IV**

Sr.No.	Month	Name of the Topic	Remarks
1	Aug	**1. Wave shaping Circuits :** Need of wave shaping circuit, linear wave shaping circuits: Differentiator and Integrator Non linear wave shaping: Diode Clipping and Clamping circuits. **2. Time base Circuits :** General features of Time base signals, Concept of RC time base circuit, UJT as a relaxation oscillator, Linearity considerations with constant current source, Miller integrator and bootstrap circuit.	
2	Sept	**3. Multi-vibrators using BJT :** Transistor as a switch, switching characteristics, Types of multivibrator **Astable multivibrator (collector coupled):** Operation, Wave forms, Derivation of output frequency. **Monostable multivibrator (collector coupled):** Operation, Triggering methods, Waveforms, Derivation of gate width.	
3	Oct	**Bistable Multivibrator (collector coupled):** Operation, Triggering methods, Wave forms, **Schmitt's Trigger**: Operation, Hysterises curve (UTP, LTP), (Uses and Numerical Examples) **4. Multi-vibrators using Gates :**Astable multivibrator using gates, Monostable Multivibrator using gates and IC74121	
4	Nov	**5. IC 555 Timer :**IC-555 timer- Pin configuration, functional block diagram, Astable multivibrator: Operation, wave forms, Derivation of frequency and duty cycle, Monostable multivibrator: Operation, wave forms, Derivation of gate width, Applications of IC 555 as Sequential Timer, Battery charger, Voltage controlled Oscillator. (Numerical examples)	
5	Dec	**Theory Exam**	
6	Jan	**1. Differential Amplifier :**Need of differential amplifier, Types of differential amplifiers, Emitter coupled differential amplifier, Operation, Common mode gain and Differential mode gain, Derivation of Ad, Ac and CMRR, Constant current bias, Current mirror bias.	
7	Feb	**2. Operational Amplifier :**Introduction, Block diagram, Equivalent circuit of op-amp, Ideal characteristics, open loop and closed loop configuration and its need, Op-amp parameters: Output offset voltage, Input offset voltage, Input bias current, Input offset current, Input impedance, Output impedance, CMRR, Slew rate, Maximum power bandwidth, PSRR, Specifications of IC 741	
8	March	**3. Operational Amplifier Linear Systems :** Concept of virtual ground, Inverting amplifier, Non-inverting amplifier, Voltage follower, summing amplifier (Adder), Op-amp differential amplifier (subtractor), Differentiator, Integrator, Current to Voltage converter and Voltage to Current converter **4. Operational Amplifier Non-linear Systems :**Basic comparator, Zero-crossing detector, Regenerative comparator (Schmitt Trigger), Precision rectifier (Half wave)	
9	April	**5. Wave form Generators :**Oscillators - Phase shift oscillator, Wien Bridge oscillator, (without mathematical treatment) Astable multivibrator, Monostable multivibrator (with mathematical treatment) Triangular wave generator, Saw tooth oscillator,	

Shri Shivaji Mahavidyalaya Barshi
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Name of Teacher : Dr. K.P.Deshmukh **Class : B.Sc.-II Sem: III & IV**

Sr.No.	Month	Name of the Topic	Remarks
1	Aug	**1. Rectifiers, Filters and Regulators :** Diode rectifiers: Half wave, full wave and bridge rectifier, derivation of Ripple factor, Efficiency and PIV of half wave and full wave rectifier (center tapped), Capacitor filter, Zener regulator **2. Transistor Biasing :**Transistor biasing, DC load line, Operating point, Stability factor, Methods of transistor biasing: Fixed Bias, Emitter Bias, Voltage divider bias with mathematical treatment	
2	Sept	**3. Transistor Amplifiers :**Basic action of transistor amplifier, DC (Thevenin's) and AC analysis of CB, CE, CC configurations, comparison of CB, CE, CC configuration, FET as CS amplifier (Analysis and its applications) **Multistage Transistor Amplifier:** RC Coupled, Transformer Coupled, Direct Coupled amplifier, Darlington pair amplifier **Power Amplifiers:** Types of power amplifiers - Class A, Class B and Class C amplifiers by Graphical Method, Class A and Class B push pull amplifier, cross over distortion, Class AB amplifier, complementary-symmetry amplifier, harmonic distortion in power amplifiers	
3	Oct	**4. Feedback Amplifiers :** Theory of feedback amplifier, positive and negative feedback, Effect of negative feedback on Gain, Bandwidth, Distortion, Noise, Input impedance and Output impedance, Types of negative feedback, Analysis of current series feedback circuit (Numerical Examples)	
4	Nov	**5. Transistor Oscillators :** Barkhausen criterion, **RC oscillators:** Wien bridge oscillator, Phase shift oscillator, **LC oscillators:** Hartley oscillator, Colpitt's oscillator (Without mathematical treatment), Piezoelectric crystal and its equivalent circuit, Pierce Crystal oscillator (Circuit description, condition for oscillation and Numerical Examples)	
5	Dec	**Theory Exam**	
6	Jan	**1. Semiconductor Memories:** Memory cell (Static and Dynamic), Memory organization, memory parameters (type, size), Classification of memory (volatile and non volatile) and their comparison, Concept of flash memory ,Study of memory chips: 2764, 6264 (Features & Pin description) **2. Data Converters:** Basic concepts of Digital to analog conversion (DAC) and Analog to digital conversion (ADC), specifications Digital to analog conversion: Binary weighted and R - 2 R ladder networks Analog to digital conversion: Comparative (Flash), Successive approximation, dual slope ADC techniques, Study of DAC (IC 0808) & ADC (IC 0804) (Features & functional description)	
7	Feb	**3. Fundamentals of Microprocessor**: Introduction to microprocessor, Basic system with Bus Architecture The microprocessor Intel 8085: Salient Features, Block diagram, pin descriptions, Address/data bus, Data bus, control signals, ALU, Accumulator, Flags, Registers, Interrupts, Clock & reset circuit, concepts of T-state, Machine cycle, Instruction cycle.	
8	March	**4. Programming with Microprocessor:** The Instruction, Instruction set of 8085, Instruction format, Addressing modes, Classification of instruction set, as per function, Algorithm, Flowchart, Assembly language programming of Data transfer (Block transfer & exchange), Arithmetic operation (addition, subtraction, multiplication, division), logical operation (AND, OR, NOT, XOR), ALP on Branch operation.	
9	April	**5. Interfacing techniques:** Concept of Tristate logic, Study of IC 74244, 74245, 74373 (Features and Pin diagram) De-multiplexing of Address/data bus using IC74373 Generation of control signal (using gates and IC 74138) , MEMRMEMWIORIOW Need of Interfacing, Interfacing techniques, I/O mapped I/O, Memory mapped I/O and their comparison Address decoding (absolute and linear), Interfacing of memory chips 2764 and 6264 to the 8085 microprocessor	

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Department of Electronics
Annual Planning Report (2022-2023)

Name of Teacher : K.S.Khardekar **Class : B.Sc.-III Sem: V & VI**

Sr.No.	Month	Name of the Topic	Remarks
1	Aug	**Unit 1. Fabrication of Integrated Circuits :**Advantages of IC's, Epitaxial process, Diffusion process: Constant source and Limited source, Oxidation (SiO2 layer), Photolithography, Metallization, Fabrication of monolithic components: NPN and PNP, transistors, diodes, resistors and capacitors. **Unit 2.Non linear Application of Op- amp** : Precision full wave rectifier, Active peak detector, Sample and hold circuit, Clipper and Clamper, Log and Antilog Amplifier. **Unit 3.Active Filters** : Introduction to filters (Passive and Active), Advantage of active filters over passive filters, Classification (low pass, high pass, band pass, band stop and all pass filters), Types of filters (Butterworth and Chebyshev) and their comparison, Second order Butterworth Low pass and High pass filters, Band pass, Band stop filters (narrow and wide).	
2	Sept	**Unit 4. Regulated Power Supply** : Series Op-Amp regulator, Basic block diagram of IC regulator, Protection circuits for IC regulators (over current, over voltage, thermal shutdown) Voltage regulators using IC78XX, 79XX, LM 317 and LM337.Designing of regulated power supply for 5Volt. **Unit 5. Phase Locked Loop** : VCO, Block diagram of PLL, Principle and working of PLL, Transfer characteristics, Derivation of lock range and capture range, Features of IC 565,Application of PLL as Frequency multiplier, FM demodulator, FSK demodulator using IC 565.V to F converter and F to V converter (LM 331)	
3	Oct	**Unit 1. Fundamentals of Sensors and Transducers :** The measurand, basic needs of measurements, Block diagram of measure mentsystem, Characteristics of measurement Systems, static characteristics, dynamic characteristics and responses, Need of system calibration. Definition: Sensor and Transducer, Principle of transduction, Basic difference between sensor and transducer, Types of sensor, Static and Dynamic characteristics ,Classification of transducers, Basic requirement of transducers, Selection criteria for transducer.Concept of Active and Passive Sensors. **Unit 2. Resistive Transducers** :Principle of operation, Potentiometer, Resistance pressure transducer, Resistiveposition transducer, Strain gauge, Temperature transducer: RTD, Thermistors.	
4	Nov	**Unit 3. Inductive Transducer** :Principle of operation, Variable reluctance type transducer, Differential transducer: Linear Variable Differential Transducer (LVDT) and Rotary Variable Differential Transducer (RVDT) **Unit 4. Capacitive Transducer** :Principle of operation, Variable Area Type, Variable Air Gap type,VariablePermittivity type, Capacitor microphone. **Unit 5. Electronic Transducers and Actuators** :Transducers: Thermocouple, Piezoelectric transducer, Hall Effect transducers, Photoelectric transducer: LDR, Photo-voltaic cell, Photo diode, Phototransistor. Pyrometers. Smart Sensors: Temperature sensor (LM35), LPG sensor(N26), PIR sensor. Actuators : Electromagnetic Relay, Solenoid, Opto-couplers.	

5	Dec	Theory Exam	
6	Jan	**Unit 1. Power Devices** :Power diode: Construction, switching characteristics and applications Effect of reverse and forward recovery time. Power BJT and MOSFET: Construction, switching characteristics and applications),IGBT and SIT: Construction, working, applications, Thermal considerations and heat sinks for power devices **Unit 2. Thyristor** :SCR: operating principle with two transistor analogy, V-I characteristics, Latching Current (IL) and Holding Current (IH), advantages, disadvantages, and applications. GTO and PUT: Construction, working, V-I characteristics, and applications. Concept of turn on mechanism of SCR: Forward break-over triggering (HighVoltage triggering), dv/dt triggering, thermal triggering, illumination triggering,gate triggering. Triggering circuits: R, RC, UJT and PUT (operation with waveforms), Concept of turn off mechanism of SCR, Turn OFF methods: Class A, Class B,Class C and Class D, (Working with waveforms), Concept of di/dt, dv/dt and its protection circuits.	
7	Feb	**Unit 3. Controlled Rectifier** :Concept of Phase control (Firing and conduction angle),Single phase half wave controlled rectifier with resistive and inductive load,Effect of free-wheeling diode, Single phase full wave controlled rectifier with resistive load and inductive load, Three phase full wave controlled rectifier with resistive load (without mathematical treatment). **Unit 4. Invertors and Choppers** :Classification of inverters, Transistor inverter, Series and Parallel Inverter using SCR, Basic principle of single phase half and full bridge inverter, Concept of Chopper Basic chopper circuit, Step down and step up chopper using SCR ,Jones chopper **Unit 5. Applications of Power devices** :Applications of SCR: Speed control of dc Motor, flasher circuit, battery charger circuit, emergency lighting system, block diagram and concept of UPS, block diagram and concept of SMPS.	
8	March	**Unit 1. Fundamental of Signal Conditioning** :General block diagram for electronics instrument design for measurement. Minimum requirements, Block diagram of dc and ac signal conditioning techniques, Excitation, Grounding and electromagnetic and electrostatic shielding. Signal conditioners, Bridge amplifier ,Pre-amplifiers, Instrumentation amplifier, Isolation amplifiers and chopper Amplifiers, Display unit. **Unit 2. Programmable instrumentation amplifiers** :Need of Programmable instrumentation amplifier, Salient features of Programmable Instrumentation amplifiers. Salient features, Block diagram and Pin description of Instrumentation amplifiers AD620, Salient features, Block diagram and Pin description of Precision amplifiers AD594/595.	
9	April	**Unit 3. Signal transformation and Data Acquisition System(DAS)** :Offset compensation, 4-20mA current transmission, Ratiometric and logarithmic conversion. Need of DAS, Single channel DAS, Multi-channel DAS, Data loggers:Basic Operation of data loggers, compact data loggers. Computer based DAS. **Unit 4. Measuring Instruments and Display and Recording Devices** 13 Digital multimeter (DMM), Signal and Function generator, Analog CRO, DigitalStorage Oscilloscope, LCR Q Meter(Principle, Block diagram and working)X-Y Recorder, Magnetic recorder, Digital data recorder. **Unit 5. Case Study:** Study of (Principle, Block diagram and working) PH Meter, Conductivity meter and Temperature meter.	

Shri Shivaji Mahavidyalaya Barshi
Department of Electronics
Annual Planning Report (2022-2023)

Name of Teacher : Dr. K.P.Deshmukh **Class : B.Sc.-III Sem: V & VI**

Sr.No.	Month	Name of the Topic	Remarks
1	Aug	**Unit 1. Architecture of Microcontroller** : Comparison of Microprocessor and Microcontroller, Requirement ofMicrocontrollers, Overview and features of MCS 51 Family, Block Diagram andPin description of 8051, Memory organization, GPRS, and SFRs, Flags, I/OPorts, study of Timer/Counter, study of Interrupts, study of Serialcommunication port, Clock and Reset circuit. **Unit 2. Instruction Set of 8051** ; Addressing Modes, Instruction Set, Execution of Instruction, Classification ofInstruction Set - Data transfer group, Arithmetic group, Logical group, branchcontrol group, Boolean/Single Bit Instructions, Concept of Stack and Subroutine. **Unit 3. Assembly Language Programming with 8051** :Assembly Language Programming for Data Transfer, Arithmetic and Logicaloperations.Branching and Looping,I/O Port Programming and Bit manipulation,Time Delay Subroutine.	
2	Sept	**Unit 4. Timer and Interrupt Programming in 8051** :Configuration of timers as a timers in various modes, Configuration of Timer asa Counter, Time delay generation, square wave generation. Programming of theinterrupts: ALP for interrupt (external and internal) execution. **Unit 5. Serial Port Programming in 8051** :Basics of serial communication, Serial port of 8051, RS-232 standard and ICMAX–232, Baud rate in 8051, Baud rate doubling using crystal frequency andPCON register, SBUF, SCON registers, Importance of TI and RI flags,Assembly Language Programming for serial data transmission and reception.	
3	Oct	**Unit 1. Introduction to Communication System** 10 Introduction, Need, importance, Elements of electronic communication system,Typesof communication system, analog communication system, digitalcommunication system, concept of simplex and duplex communication, Noiseincommunication (S/N ratio and noise figure). **Unit 2. Modulation and Demodulation Techniques :**Need, Types of modulation-Analog and digital modulation.Analog Modulation: Amplitude modulation: Principle, mathematicalexpression, modulation index, Power distribution, frequency spectrum, Conceptof DSB, SSB, VSB. Frequency modulation: Principle, mathematicalexpression, modulation index, frequency spectrum, side bands. Demodulation ofAM and FM (Envelop detector & ratio detector) Digital Modulation: Introduction to PAM, PWM, PPM, PCM, ASK, FSK,FDM & TDM	
4	Nov	**Unit 3. Antenna and Radio Wave Propagation** :Principle of antenna, Concept of radiation pattern, Antennaparameters,Evaluation of ($\lambda/2$) antenna (without mathematical treatment), Typesof antenna: Yagi and Parabolic antennas (radiation pattern, frequency range,applications).Radio Wave propagation: Principle, types of radio wave propagation: Ground waves, Space waves, Sky waves, Concept of skip distanceand Virtual height. **Unit 4. Radio Receiver and Television** : Radio receiver: Characteristics of receiver, Superheterodyne principle, Blockdiagram of AM, FM receivers, Television: Concept and block diagram of Blackand White television transmission and reception, TV interlace scanning,Television standards, Band requirement, VSB, Composite video signal,Introduction to colour TV **Unit 5. Telephone System** :Principle, telephone handset, subscriber local loop, Need of telephone exchange,Electronic telephone exchange, Different tones in telephone, DTMF dialer.	
5	Dec	**Theory Exam**	

6	Jan	**Unit 1. Fundamentals of Embedded Systems design** :Definition of an embedded system, Basic architecture of embedded system, characteristics of embedded systems, Applications of embedded systems.Minimum 89s51 based hardware for general embedded system. **Unit 2. Programming with the C** : Introduction to C programming: Basic Structure of C program, character set, keywords and identifiers, constants and variables, concept of global declaration and local declaration, data types and data ranges, expressions and operators. Study of IO statements, Control Statements, Arrays, Loops, User`s defined functions. Simple examples. **Unit 3. Fundamentals of Embedded C** 13 Basic Structure of Embedded C program, Need of Operating System, Concept ofSuper loop. An embedded C programs for1. Generation of Time delay with and without use of timers. 2. Square wave generation, 3. Programming of I/O port and Serial Port 4. Interrupts.	
7	Feb	**Unit 4. Interfacing of devices: The Hardware and Software** : Development of both Hardware and software for interfacing of Switches, Thumbwheel switch, Relays, LEDs, Transistor, Opto-coupler, Seven Segment Display, 16 X 2 LCD, Stepper Motor, ADC 0804/0809 and DAC 0808, DAC by using PWM technique. **Unit 5. Designing of an Embedded System** :1. Designing of microcontroller 89s51 based embedded system for Measurement of Temperature of an environment 2. Designing of microcontroller 89s51 based embedded system for Measurement of humidity of an environment. 3. Designing of microcontroller 89s51 based embedded system for DC motor control using PWM technique. (Flowchart of the necessary embedded software is expected only)	
8	March	**Unit 1. Fiber Optic Communication** :Need of light wave communication, working principle of fiber optic cable, Definition and terminologies: bit rate, baud rate, bandwidth, channel capacity, power calculation Block diagram of Optical Fiber Communication System, Fiber optic cables, types, Splicer and Connectors. Sources and Detectors; Transmitter and receivers, Applications **Unit 2. Satellite Communication** : Satellite Orbits, Satellite Communication System, Earth Station, and Transponders, Application of Satellite communication system (TV distribution, surveillance and satellite phones) **Unit 3. Mobile Communication** :Concept of cell, basic cellular system and its operational procedure, Hand off, power requirements, Block diagram Transmitter, receiver, Frequency synthesizer, logic unit, control unit	
9	April	**Unit 4. Microwave and Radar Communication** 13 Basics of microwave communication, advantages, Transmission lines, Waveguides and cavity resonators, Microwave semiconductor devices (Gunn diode), microwave tubes (Klystron). RADAR: Concept of radar, Pulsed Radar System. **Unit 5. Computer Communication** 13 Digital Data Communications Concepts, Modems: Block diagrams of QPSK and QAM Protocols., Computer Networks: LAN, MAN, WAN. Network Topologies(Star, Ring, and Bus) Concept of Internet, Bluetooth and Wi-Fi and their standards.	

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चक्र साहेब
माने मॅडम

Shree Shivaji Mahavidyalaya, Barshi
Department of Physics
Internal Examination -2022-23

Class : B.sc I Sem :II

Date : 2/5/2023 Time :12:10-1:00 Mark : 5 (each paper)

Paper : III (Heat and Thermodynamics)

Que.1.Multiple Choice Questions. (02)

i) Viscosity of a gas due to transport of .....
a) Momentum b) Energy c) Mass d) Viscosity

ii) Transport of.....gives to the phenomenon of thermal conductivity of a gas
a) Mass b) Energy c) Momentum d) Electrons

Que.2.Solve any three (03)

i) Define coefficient of viscosity
ii) What is the effect of temperature on coefficient of viscosity?
iii) Obtain Claussius expression for mean free path.
iv) Define coefficient of thermal conductivity and obtain an expression for it.

Home Assignment **(05)**

1. What is the liquefaction of gas?
2. State Joule-Thomson effect.
3. What are the properties of liquid helium?
4. Describe Linde's air liquefier with neat diagram.
5. Describe Liquefaction of gas by Joule-Thomson effect.

Paper : IV (Electricity, Magnetism and Basic Electronics)

Que.1.Multiple Choice Questions. (02)

i) .....is an active component
a) Resistor b) Capacitor c) Inductor d) Transistor

ii) In a bridge rectifier circuit ..... Diodes are used
b) One b) Two c) Three d) Four

Que.2. Solve any three (03)

v) Write a short note on positive clipper.
vi) Write a short note on Negative clamper.
vii) Explain the working of Zener diode as a voltage regulator
viii) State the advantages of bridge rectifier.

Home Assignment **(05)**

1. Write an expression for the current in LCR series circuit.
2. Write a note on series resonating AC circuit.
3. Write the equation for the magnetic induction at a point on the axis of current carrying coil of n turns.
4. Define Voltage sensitivity
5. Define Charge Sensitivity

1

Shri Shivaji Shikshan Prasarak Mandal, Barshi's

Shri Shivaji Mahavidyalaya, Barshi.

College of Internal Examination 20 -20

Date : 02 / 05 / 2023 Time : 12:10 - 1:00

Class :: B.Sc I Subject : Physics

Paper No. : III (Electricity, magnetism & Basic electronics) Semester : II

Sr.No.	Roll Number	Full Name of the Student	Signature
1	1261	Bhakare Priti Laxman	
2	1229	Chaudhari Diksha Ramling	
3	1224	Dhobale Tatvata sunil	
4	1243	shingare samruddhi Balaji	
5	1241	Deshpande kshitija Prakash	kshitija
6	1213	Mundhe Priyadarshani S.	P.S.mundhe
7	1231	Waykar Akanksha Dattatraya	
8	1227	khavale Apeksha Rameshwar	
9	1291	Jadhav Rohini Dattatray	R.D.J
10	1296	Agalave Vaishnavi Jayram	V.Agalave
11	1184	Shaikh Eram Afsar	
12	1215	Deshmukh Rajkanya Ramchandra	
13	1258	Magar vaishnavi vijay	V.V.Magar
14	1226	Khanewale Ashwini Dhaneram	
15	1219	Burgute Durga Machhindra	D.M.Burgute
16	1225	Ghalke Pratiksha Tarichand	
17	1298	Asmita Bapurao Gavhane	A.B.Gavhane
18	1263	Nimbalkar Aishwarya Kishor	
19	1274	khatal Tejasvi Tejas	
20	1259	Pol sonika Mahesh	
21	1208	Jamdar Shraddha Suresh	S.S.Jamdar
22	1271	chavan Rutuja Bhima	Rutuja
23	1279	Jamdade Sachita Hanumant	S.H.Jamdade
24	1221	Chaudhari Rutuja Bapu	Rutuja..B.C
25	1294	Gaikwade vaishnavi sudhir	V.S.G.

No. of Student present :.....44.....

No.of Student absent :.....

Total No.of Student :.....

Name of the Supervisor :.....

Signature of the Supervisor/s

Shri Shivaji Shikshan Prasarak Mandal, Barshi's

Shri Shivaji Mahavidyalaya, Barshi.

College of Internal Examination 2022-2023

Date : 08 / 05 / 2023 Time : 12:10 - 1:00

Class :: B.Sc I Subject : Physics

Paper No. : III (Heat & Thermodynamics) Semester : II

Sr.No.	Roll Number	Full Name of the Student	Signature
1	1222	Chopade Kartik Bharat	Chopade.
2	1278	Jadhav onkar Abhay	O.A.Jadhav
3	1242	Kadam Rohit Rajendra	R.R.Kadam
4	1246	Nalawade Pramod Bharat	Pramod
5	1247	Shahapure Sumit Sunil	Sumit
6	1216	Naikwadi Swapnil Balasaheb	Swapnil
7	1218	Almale Chaitanya Keshinath	chaitanya
8	1256	Jadhav Abhijit Appasao	A.A.Jadhav
9	1250	Dake Rohan Jivan	Rohan
10	1275	Mangire Santhosh chandan	Santhosh
11	1276	Mirgane Suraj Shesherao	Suraj
12	1283	upase sahadev kalidas	SUTH
13	1295	Jadhavar onkar shahu	O.S.Jadhavar
14	1273	kharawane Dattatray sunil	
15	1272	Kale Onkar Anil	
16	1220	Chandane Vijay Navanath	Vijay
17	1297	Atkar shrikant Hanumant	Shri.
18	1181	Gavali shubham Appa	Gavali
19	1211	Nere kunal Somanath	Kunal
20	1214	Sangade Avinash Tatya	A.T.Sangade
21			
22			
23			
24			
25			

No. of Student present :.....44.....

No.of Student absent :.....

Total No.of Student :.....

Name of the Supervisor :.....

Signature of the Supervisor/s

Shri Shivaji Mahavidyalaya, Barshi
College Code - SMB(082)

Welcome Mahadik S.D. Login at: 10-07-23 / 04:39:43pm

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Add Marks

Select Academic year

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Select Course

Select Course Part

Select Part term

Select Paper

Get Students

Bachelor of Science (Hons)-I

B.Sc(Hons) (with Credits) - Regular - CBCS Pattern 2022 - B.Sc(Hons)-I Sem-II

Paper Name: **Physics-III (22221205)**

Download In Excel (https://43.231.124.89/~pahsus/documents/SMB_503_1005_22221205_100723043943.csv)

Sr No	Student Name	PRN No	Seat No	Assessment Method / Type	Marks Range	Present/Absent	Assessment Marks
1	AGALAVE VAISHNAVI JAYRAM	202201082027032	2956	Theory / CA	0 - 10	Present	6
2	ALMALE CHAITANYA KASHINATH	202201082027058	2957	Theory / CA	0 - 10	Present	6
3	ATKAR SHRIKANT HANUMANT	202201082025736	2961	Theory / CA	0 - 10	Present	5
4	BHAKARE PRITI LAXMAN	202201082036202	2970	Theory / CA	0 - 10	Present	6
5	BURGUTE DURGA MACHHINDRA	202201082027604	2981	Theory / CA	0 - 10	Present	9
6	CHAUDHARI RUTUJA BAPU	202201082024553	2984	Theory / CA	0 - 10	Present	6
7	CHAVAN RUTUJA BHIMA	202201082025751	2989	Theory / CA	0 - 10	Present	7
8	CHOPADE KARTIK BHARAT	202201082026187	2990	Theory / CA	0 - 10	Present	8
9	CHOUDHARI DIKSHA RAMLING	202201082038260	2991	Theory / CA	0 - 10	Present	6
10	DAKE ROHAN JIVAN	202201082036198	2994	Theory / CA	0 - 10	Present	9
11	DESHMUKH RAJKANYA RAMCHANDRA	202201082037224	3000	Theory / CA	0 - 10	Present	7
12	DESHPANDE KSHITIJA PRAKASH	202201082038299	3001	Theory / CA	0 - 10	Present	6
13	DHOBALE TATVATA SUNIL	202201082024346	3007	Theory / CA	0 - 10	Present	7
14	GAVALI SHUBHAM APPA	202201082024217	3019	Theory / CA	0 - 10	Present	10
15	GAVHANE ASMITA BAPURAO	202201082027678	3020	Theory / CA	0 - 10	Present	10
16	GAWALE VAISHNAVI SUDHIR	202201082038965	3023	Theory / CA	0 - 10	Present	8
17	GHALKE PRATIKSHA JARICHAND	202201082027404	3026	Theory / CA	0 - 10	Present	8
18	JADHAV ABHIJIT APPARAO	202201082026992	3040	Theory / CA	0 - 10	Present	6
19	JADHAV JAYDEEP ANNASAHEB	202201082038291	3042	Theory / CA	0 - 10	Present	0
20	JADHAV ONKAR ABHAY	202201082027051	3044	Theory / CA	0 - 10	Present	7
21	JADHAV ROHINI DATTATRAYA	202201082027487	3045	Theory / CA	0 - 10	Present	7

No	Student Name	PRN No	Seat No	Assessment Method / Type	Marks Range	Present/Absent	Assessment Marks
22	JADHAVAR ONKAR SHAHU	202201082027620	3048	Theory / CA	0 - 10	Present	7
23	JAMDADE SACHITA HANUMANT	202201082038254	3056	Theory / CA	0 - 10	Present	6
24	JAMDAR SHRADDHA SURESH	202201082024391	3057	Theory / CA	0 - 10	Present	7
25	KADAM ROHIT RAJENDRA	202201082027442	3060	Theory / CA	0 - 10	Present	6
26	KALE ONKAR ANIL	202201082027518	3066	Theory / CA	0 - 10	Present	7
27	KHANEWALE ASHWINI DHANERAM	202201082026326	3091	Theory / CA	0 - 10	Present	6
28	KHARAVANE DATTATRAYA SUNIL	202201082027512	3093	Theory / CA	0 - 10	Present	7
29	KHATAL TEJASVI TEJAS	202201082027495	3094	Theory / CA	0 - 10	Present	8
30	KHAVALE APEKSHA RAMESHWAR	202201082027597	3096	Theory / CA	0 - 10	Present	8
31	KUMBHAR ANJALI RAMESH	202201082025026	3104	Theory / CA	0 - 10	Present	8
32	MAGAR VAISHNAVI VIJAY	202201082026261	3110	Theory / CA	0 - 10	Present	8
33	MANGIRE SARTHAK CHANDAN	202201082027063	3114	Theory / CA	0 - 10	Present	8
34	MIRGANE SURAJ SHESHERAO	202201082026997	3119	Theory / CA	0 - 10	Present	8
35	MUNDHE PRIYADARSHANI SHASHIKANT	202201082037219	3126	Theory / CA	0 - 10	Present	8
36	NAIKWADI SWAPNIL BALASAHEB	202201082038243	3127	Theory / CA	0 - 10	Present	7
37	NALAWADE PRAMOD BHARAT	202201082027007	3128	Theory / CA	0 - 10	Present	7
38	NERE KUNAL SOMANATH	202201082028176	3133	Theory / CA	0 - 10	Present	6
39	NIMBALKAR AISHWARYA KISHOR	202201082037522	3135	Theory / CA	0 - 10	Present	7
40	PAWAR PRASAD PRADIP	202201082026534	3145	Theory / CA	0 - 10	Present	0
41	POL SANIKA MAHESH	202201082035345	3152	Theory / CA	0 - 10	Present	8

Sr No	Student Name	PRN No	Seat No	Assessment Method / Type	Marks Range	Present/Absent	Assessment Marks
42	SANGADE AVINASH TATYA	202201082037227	3159	Theory / CA	0 - 10	Present	6
43	SHAHAPURE SUMIT SUNIL	202201082026227	3166	Theory / CA	0 - 10	Present	6
44	SHAIKH ERAM AFSAR	202201082040114	3167	Theory / CA	0 - 10	Present	6
45	SURYAVANSHI MAYURI RAJENDRA	202201082024032	3196	Theory / CA	0 - 10	Present	10
46	UPASE SAHADEV KALIDAS	202201082027485	3212	Theory / CA	0 - 10	Present	7
47	WAYKAR AKANKSHA DATTATRAYA	202201082025111	3217	Theory / CA	0 - 10	Present	7

Save Marks

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Shri Shivaji Mahavidhyalaya, Barshi.
Department of Physics
Internal examination 2022-23
B.Sc. II Sem IV
Paper VII Optics

Date: 2/5/2023
Time: 25 min.

Time : 3.30 PM
Max. Marks : 5

Q1. Select the correct alternative and rewrite the following **2**

1. In double refraction doubly refracted rays are _ _ _ _ _.
   A) both are plane polarised
   B) both are plane unpolarised
   C) only ordinary ray is plane polarised
   D) only extraordinary ray is plane polarised
2. The pane of vibration and plane of polarisation are _ _ _ _ _ _ _ _
   A) Mutually perpendicular
   B) parallel to each other
   C) inclined to each other by 45^0
   D) anti parallel to each other

Q2. Attempt any One of the following **3**

1. Write a note on Liquid Crystal Display (LCD).
2. With neat diagram the working of Nicol's prism

Shri Shivaji Shikshan Prasarak Mandal, Barshi's

Shri Shivaji Mahavidyalaya, Barshi.

College of Internal Examination 20 -20

Date : 02/05/2023 Time : 3.30 - 4.20

Class :: B.Sc.-II Subject : Physics

Paper No. : XIII Semester : IV

Sr.No.	Roll Number	Full Name of the Student	Signature
1	2040	Pandit Siddharth Bhagawat	Pandit SB.
2	2051	Gaikwad Dnyaneshwara sharad	
3	2047	Chandane Pratik Shamrao	chandane P.S
4	2037	Kondhare Prasad Prashant	
5	2045	Waghmare Ganesh Shankar	Ganesh..
6	2035	Deshmukh Krishna Dhirodatta	
7	2049	Aher Amol Vaman	
8	2066	Khaire Sarthak Balaji	
9	2053	Kusalkar Akash Nanasaheb	
10	2042	Satpute pradumn Pandurang	
11	2039	Mundhe Ashish Shamrao	Amundhe
12	2029	Pathan sujan sadik	S.S.Pathan
13	2034	Dalvale Asiya Nasir	Dalvale
14	2027	Khaire Aishwarya Bhausaheb	A.B.Khaire
15	2033	Andhare Rohini Machhindra	Rohini
16	2041	Patil Ishwari Sudhir	I.S.Patil
17	2031	Gavali Vaibhavi Datta	
18	2032	Sutar Shruti Sanjay	
19	2036	Dhavale Rohini Balaji	Rohini
20	2024	Manjare Shweta Ravindra	Manjare
21	2030	Mali Alisha Bharat	
22	2044	Waghmare- Ankita Nanasaheb	Waghmare
23	2052	Chemad Divya Laxman	D.L.Chemad
24	2026	Doifode Shweta Sambhaji	S.S.Doifode
25	2046	Yadav Priti Umesh	Yadav P.U

No. of Student present :.....

No.of Student absent :.....

Total No.of Student :.....

Name of the Supervisor :.....

Signature of the Supervisor/s

Shri Shivaji Shikshan Prasarak Mandal, Barshi's

Shri Shivaji Mahavidyalaya, Barshi.

College of Internal Examination 20 -20

Date : 02/05/2023 Time : 3.30 - 4.20

Class :: B.Sc II Subject : physics

Paper No. : V.T. (optics) Semester : IV

Sr.No.	Roll Number	Full Name of the Student	Signature
1	2043	shelke sujata jambuvant	
2	2088	Karhade Ravidas Pamling	
3			
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No. of Student present :.....

No.of Student absent :.....

Total No.of Student :.....

Name of the Supervisor :.....

Signature of the Supervisor/s

Shri Shivaji Mahavidyalaya, Barshi

College Code - SMB(082)

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Select Part term

Select Paper

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Bachelor of Science (Hons)-II

B.Sc(Hons) (with Credits) - Regular - CBCS Pattern 2019 - B.Sc(Hons)-II Sem-IV

Paper Name: **Physics-VII (19201434)**

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Sr No	Student Name	PRN No	Seat No	Assessment Method / Type	Marks Range	Present/Absent	Assessment Marks
1	AHER AMAL VAMAN	202101082003817	3224	Theory / CA	0 - 10	Present	7
2	ANDHARE ROHINI MACHHINDRA	202101082003727	3226	Theory / CA	0 - 10	Present	6
3	CHANDANE PRATIK SHAMRAO	202101082003714	3245	Theory / CA	0 - 10	Present	6
4	DALWALE ASIYA NASIR	202101089018203	3249	Theory / CA	0 - 10	Present	10
5	DESHMUKH KRISHNA DHIRODATTA	202101082003666	3252	Theory / CA	0 - 10	Present	7
6	DHAVALE ROHINI BALAJI	202101082003644	3255	Theory / CA	0 - 10	Present	7
7	DOIFODE SHWETA SAMBHAJI	202101082003673	3257	Theory / CA	0 - 10	Present	7
8	GAIKWAD DNYANESHWAR SHARAD	202101082003755	3261	Theory / CA	0 - 10	Present	9
9	GAWALI VAIBHAVI DATTA	202101082005014	3271	Theory / CA	0 - 10	Present	8
10	GHEMAD DIVYA LAXMAN	202101082003902	3274	Theory / CA	0 - 10	Present	7
11	KHAIRE AISHWARYA BHAUSAHEB	202101082005386	3300	Theory / CA	0 - 10	Present	8
12	KHAIRE SARTHAK BALAJI	202101082003952	3301	Theory / CA	0 - 10	Present	6
13	KONDHARE PRASAD PRASHANT	202101082003719	3309	Theory / CA	0 - 10	Present	7
14	Kurhade Rohidas Ramling	202101082004017	3313	Theory / CA	0 - 10	Present	7
15	KUSALKAR AKASH NANASAHEB	202101082003869	3314	Theory / CA	0 - 10	Present	5
16	LOKARE KIRTI SURESH	202101082003690	3319	Theory / CA	0 - 10	Present	5
17	Mali Alisha Bharat	202101082003944	3323	Theory / CA	0 - 10	Present	6
18	MANJARE SHWETA RAVINDRA	202101082005073	3330	Theory / CA	0 - 10	Present	7
19	MUNDHE ASHISH SHAMRAO	202101082003976	3343	Theory / CA	0 - 10	Present	7
20	PANDIT SIDDHRATH BHAGWAT	202101082003810	3353	Theory / CA	0 - 10	Present	6

	Student Name	PRN No	Seat No	Assessment Method / Type	Marks Range	Present/Absent	Assessment Marks
21	PATHAN SUJAN SADIK	202101082003730	3356	Theory / CA	0 - 10	Present	10
22	PATIL ISHWARI SUDHIR	202101082004708	3358	Theory / CA	0 - 10	Present	6
23	SATPUTE PRADUMN PANDURANG	202101082003688	3376	Theory / CA	0 - 10	Present	6
24	SHELKE SUJATA JAMBUVANT	202101082003802	3381	Theory / CA	0 - 10	Present	7
25	SHINDE AISHWARYA VILAS	202101082005241	3382	Theory / CA	0 - 10	Present	0
26	SURWASE VAISHNAVI RAJENDRA	202101082003823	3388	Theory / CA	0 - 10	Present	0
27	SUTAR SHRUTI SANJAY	202101082004077	3389	Theory / CA	0 - 10	Present	7
28	WAGHMARE ANKITA NANASAHEB	202101082005376	3399	Theory / CA	0 - 10	Present	7
29	WAGHMARE GANESH SHANKAR	202101082003765	3401	Theory / CA	0 - 10	Present	6
30	YADAV PRITI UMESH	202101082003716	3406	Theory / CA	0 - 10	Present	7

Save Marks

Shree Shivaji Mahavidyalaya, Barshi
Department of Physics
Internal Examination -2022-23

Class : B.sc III Sem :V

Date : 2/5/2023 Time :12:10-1:00 Mark : 10

Paper : (ELECTRODYNAMICS)

Que.1.Multiple Choice Questions. (04)

1. If there are no free charges on the boundary of two dielectrics then normal component of electric displacement vector at boundary is .....
   a) zero b) discontinuous c) continuous d) Unity
2. The tangential component of electric field at the interface is .....
   a) continuous b) discontinuous c) always continuous d) unity
3. Incident and transmitted waves are .....
   a) out of phase b) always in phase
   c) depends upon value of V1/V2 d) depends upon value of n1/n2
4. The normal component of magnetic induction at interface of two media is .....
   a) continuous b) discontinuous c) always continuous d) never continuous

Que.2.Solve any two (06)

i) Give an account of total internal reflection.
ii) Discuss reflection at the surface of a conductive medium.
iii) Explain reflection by a perfect conductor.

Shri Shivaji Shikshan Prasarak Mandal, Barshi's

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College of Internal Examination 20 -20

SDW

Date : 02 / 05 / 2023 Time : 12:10-1:00

Class :: B.Sc III Subject : Physics Gen.

Paper No. : XIV (Electrodynamics) Semester : II

Sr.No.	Roll Number	Full Name of the Student	Signature
1	3115	Patil Gajanan Balasaheb	Patil
2	3118	Takbhate Prithviraj Laxman	Prithviraj.
3	3117	Sawalaji. yash. Appasaheb	
4	3110	Bankar Sagar Santosh	S.S. Bankar
5	~~5248~~	Raut Rohan Ramchandra	
6	~~5251~~	Padage Akash shrinivas	~~A~~Padage.
7		Gaikwad Akanksha Mahadev	A.M. Gaikwad
8		Bhosale Kishori Kalidas	Kishori
9		Andhare Ashlesha Anil	Ash
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Marksheet Locked Successfully

Paper Name: **Physics Paper-XIV(19201619)** Theory CA (Max Mark: 20 Min Mark: 8) Count of Student:9

Sr. No.	Seat No.	PRN No.	Student Name	Attendance	Obtained Marks
1	166787	2018032500189583	ANDHARE ASHLESHA ANIL	Present	12
2	221679	2020032500051315	BANKAR SAGAR SANTOSH	Present	14
3	221713	2020032500051675	PATIL GAJANAN BALASAHEB	Present	17
4	221768	2020032500052736	BHOSALE KISHORI KALIDAS	Present	17
5	221792	2020032500052423	TAKBHATE PRITHVIRAJ LAXMAN	Present	17
6	221795	2020032500052485	RAUT ROHAN RAMCHANDRA	Present	13
7	221799	2020032500052512	PADAGE AKASH SHRINIVAS	Present	13
8	222476	2020032500058814	GAIKWAD AKANKSHA MAHADEV	Present	15
9	222493	2020032500059091	SAWALGI YASH APPASAHEB	Present	17

Shri Shivaji Mahavidyalaya, Barshi

Department of Physics

Internal Examination -2022-23

M.Sc.-I. SEM: II

HCT2.2 Electrodynamics

Date: 09/05/2023 10 **Max.Marks:10**

Q.1 Multiple Choice Questions. **(04)**

1) The electric field due the positive charge at distance r is

a) kq/r^2 b) $q/4\pi r^2$ c) kq/r^3 d) kq/r

2) Which of the following relation is correction for boundary condition at interface of two dielectric media

a) $E_{t1}=E_{t2}$ b) $E_{n1}=E_{n2}$ c)) $B_{n1}=B_{n2}$ d) $B_{t1}=B_{t2}$

3) If current(I) is flowing clockwise through two current loops placed nearby, they will interact-----

a) force of attraction b) force of repulsion

c) both force of attraction and repulsion d) nothing

4) poynting's vector S is

a) parallel to electric field $\vec{E}$ b) parallel to magnetic field $\vec{B}$

c) parallel to propagation vector $\vec{k}$ d)Perpendicular to propagation vector $\vec{k}$

Q.2 Solve any two. **(06)**

1. State and prove poynting theorem.
2. Explain boundary conditions for $\vec{E}$ and $\vec{B}$ at interface of two dielectric media.
3. Derive an expression for multipole expansion for a localized charge distribution in free space

Shri S... ...shan Prasarak Mandal, Barshi's

Shri Shivaji Mahavidyalaya, Barshi.

College of Internal Examination 20 -20

Date : 10 / 5 /2023 Time : 10:00 Am to 1:00 Pm

Class :: M.SC - I Subject : H C T 2.2 ~~Practical~~ ED

Paper No. : H.S.T. 2.2 Semester : II

Sr.No.	Roll Number	Full Name of the Student	Signature
1		Shinde onkar Vijaykumar	O.V.Shinde
2		Raut Lakhan Ramesh	Lakhan
3		Masalkar Mahesh Tukaram	M Masalkar
4		Jadhav prajakta Anna	P.A.Jadhav
5		Dhavale Radha Appaso	Dhavale.
6		Atkar Ashwini somnath	Ashwini
7		swati Premchand Gonje	Swati.
8		Dhavale Vaishnavi balasaheb	Vaishnavi
9		Zombade Ambrish A	Zombade
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No. of Student present :.....

No.of Student absent :.....

Total No.of Student :.....

Name of the Supervisor :.. Lunday S.I

Signature of the Supervisor/s

Shri Shivaji Mahavidyalaya, Barshi
College Code - SMB(082)

Welcome Mahadik S.D.

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Master of Science (With Credit)-[Physics (Nano Physics)]-I Physics (Nano Physics)
M.Sc. (with Credits) - Regular - CBCS Pattern 2020 - Physics (Nano Physics) - M.Sc.-I Sem-II
Paper Name: **Electrodynamics (MSC09202)**

Download In Excel (https://43.231.124.89/~pahsus/documents/SMB_408_815_MSC09202_150723104535.csv)

Sr No	Student Name	PRN No	Seat No	Assessment Method / Type	Marks Range	Present/Absent	Assessment Marks
1	ATKAR ASHWINI SOMNATH	202201082038213	3864	Theory / CA	0 - 20	Present	13

Sr No	Student Name	PRN No	Seat No	Assessment Method / Type	Marks Range	Present/Absent	Assessment Marks
2	DHAVALE RADHA APPARAO	202201082038071	3867	Theory / CA	0 - 20	Present	15
3	DHAVALE VAUSHAVI BALASAHEB	202201082038070	3868	Theory / CA	0 - 20	Present	14
4	GONGE SWATI PREMCHAND	202201082038237	3869	Theory / CA	0 - 20	Present	16
5	JADHAV PRAJAKTA ANNA	202201082040608	3870	Theory / CA	0 - 20	Present	13
6	MASALKAR MAHESH TUKARAM	202201082038211	3872	Theory / CA	0 - 20	Present	17
7	RAUT LAKHAN RAMESH	202201082038069	3874	Theory / CA	0 - 20	Present	19
8	SHINDE ONKAR VIJAYKUMAR	202201082038072	3875	Theory / CA	0 - 20	Present	16
9	ZOMBADE AMBARISH AEIJINATH	202201082038216	3878	Theory / CA	0 - 20	Present	11

Save Marks

Shri Shivaji Mahavidyalaya, Barshi

Department of Physics

Internal Examination -2022-23

M.Sc.II **SEM- IV** **HCT4.2 NUCLEAR AND PARTICLE PHYSICS**

Date: 10/05/2023 **Max.Marks:10**

Q.1 Multiple Choice Questions **04**

1.The splitting of a nucleus into smaller nuclei is

a) Fusion b) Fission c) Half-life d) gamma –radiation

2. Which particle is bombarded on heavy nucleus of nuclear fuel?

a) Electron b) Proton c) Neutron d) Photon

3. What is the mass of the products of a nuclear fission reaction compared to themass of the original products?

a) greater b) less c) the same d) varies according to the reaction

4 .The sun gets its energy from which of the following ?

a) Nuclear fission b) Photoelectric effect c) Chemical reaction d) Nuclear fusion

Q.2) Answer the following (any 3) **06**

1. Explain in detail pick-up reaction & stripping reaction
2. Write a note on nuclear fusion &fission
3. Explain conservation laws in detail.
4. Write a note on direct reaction.

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Shri Shivaji Mahavidyalaya, Barshi.

College of Internal Examination 20 -20

Date : 10/05/2023 Time : 2-3

Class :: M.Sc-II Subject : HCT.4.2 & Nuclear & Particle Phy

Paper No. : HCT.4.2 Semester : IV

Sr.No.	Roll Number	Full Name of the Student	Signature
1		Dahibhate Ameeta Hanumant	A.H.
2		Narute Poonam Annasaheb	Narute P.A
3		Lamgunde Tejashri kailas	Lamgunde
4		Gore Rutuja Devidas	RGore
5		Khandale Sagar Mohan	Sagar.
6		Jadhav Abbay Vikas	Jadhav
7		Andhare Priya sudam	Andhare
8		Dhokale Dipali sambhaji	Dhokale
9		Gaead peepita Adesh	Gaead
10		Bokade Shrawani Vitthal	Bokade
11		kant maske narhari	kant
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Shri Shivaji Mahavidyalaya, Barshi
College Code - SMB(082)

Welcome Mahadik S.D.

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laster of Science (With Credit)-[Physics (Nano Physics)]-II Physics (Nano Physics)
1.Sc. (with Credits) - Regular - CBCS Pattern 2020 - Physics (Nano Physics) - M.Sc.-II Sem-IV
aper Name: **Nuclear and Particle Physics (MSC09402)**

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Sr No	Student Name	PRN No	Seat No	Assessment Method / Type	Marks Range	Present/Absent	Assessment Marks
1	ANDHARE PRIYA SUDAM	202101082018102	3879	Theory / CA	0 - 20	Present	18

Sr No	Student Name	PRN No	Seat No	Assessment Method / Type	Marks Range	Present/Absent	Assessment Marks
2	BOKADE SHRAWANI VITTHAL	202101082017793	3880	Theory / CA	0 - 20	Present	14
3	DHOKALE DIPALI SAMBHAJI	202101082017824	3882	Theory / CA	0 - 20	Present	19
4	GARAD PRANITA ADESH	202101082017825	3883	Theory / CA	0 - 20	Present	15
5	GORE RUTUJA DEVIDAS	202101082018121	3884	Theory / CA	0 - 20	Present	15
6	JADHAV ABHAY VIKAS	202101082018101	3885	Theory / CA	0 - 20	Present	14
7	KHANDALE SAGAR MOHAN	202101082017829	3888	Theory / CA	0 - 20	Present	15
8	LAMGUNDE TEJASHRI KAILAS	202101082018100	3889	Theory / CA	0 - 20	Present	17

Save Marks

SHRI SHIVAJI MAHAVIDYALAYA, BARSHI

DEPARTMENT OF HISTORY

Faculty Name:-Prof. Dr. V.B. Waghmare
Designation:- Professor and Head.
Date:- 30/04/2023.

To,

Principal,
ShriShivajiMahavidyalaya,
Barshi.

Subject: - Syllabus completion report

Respected Sir,
For the academic year 2022-2023 ,semester-I & II was allotted the following workload.

Sr. No.	Class	Title of the Paper	Lectures per week
1	B.A.-I	Chh. Shivaji Maharaj & his Times	04
2	B.A.-II	History of Modern Europe (1750-1870)	04
3	B.A.-III	Ancient India (upto 650 A.D.)	04
4	B.A.-III	Modern World (1871-1945)	04
5	B.A.-III	Historical Sources, Research and Pleces	04

I have completed the above assigned work in time successfully.
Thanking You.

Yours Faithfully,

(Dr.V.B. Waghmare)
Head, Dept.Of History
Shri Shivaji Mahavidyalaya. Barshi

SHRI SHIVAJI MAHAVIDYALAYA, BARSHI

DEPARTMENT OF HISTORY

Faculty Name:- Dr. B.B. Bichitkar
Designation:- Assistant Professor
Date:- 30/04/2023.

To,

Principal,
ShriShivajiMahavidyalaya,
Barshi.

Subject: - Syllabus completion report

Respected Sir,
For the academic year 2022-2023 ,semester-I & II was allotted the following workload.

Sr. No.	Class	Title of the Paper	Lectures per week
1	B.A.-I	Chh. Shivaji Maharaj & his Times	04
2	B.A.-II	History of Freedom Movement in India (1857-1950)	04
3	B.A.-II IDS	History of Reforms in Maharashtra (1818-1970)	04
4	B.A.-III	Mughal India (1526-1707)	04
5	B.A.-III	Expansion and Downfall of the Maratha Pawar (1707-1818)	04

I have completed the above assigned work in time successfully.
Thanking You.

Yours Faithfully,
B.B.Bichitkar
(Dr.B.B. Bichitkar)

Head, Dept. Of History
Shri Shivaji Mahavidyalaya, Barshi

Shri Shivaji Mahavidyalaya, Barshi

Department of Chemistry

Work Completion Report (2022-23)

Chemistry (Sem-I, III, V)

Class & Semester	Paper No.	Name of Teacher	Topics Allotted	Signature
B.Sc I Sem-I	Paper I (Physical Chemistry)	Dr. V. M. Gurame (B Division)	1. Gaseous State 2.Thermodynamics 3. Chemical Kinetics 4. Mathematical Concepts	
		Mrs.R.S. Jangale (A Division)	1. Gaseous State 2.Thermodynamics 3. Chemical Kinetics 4. Mathematical Concepts	
	Paper II (Inorganic Chemistry)	Dr. S. H. Gaikwad (A Division)	1. Atomic structure and periodic properties 2. Chemical bonding & Ionic solids 3. Co-valent Bonding-VBT 4. Co-valent Bonding-MOT	
		Dr. A.B.Shaikh (B Division)	1 Atomic structure and periodic properties 2 Chemical bonding & Ionic solids 3 Co-valent Bonding-VBT 4 Co-valent Bonding-MOT	
B.Sc. II Sem-III	PaperV (Organic Chemistry)	Mr. S. H.Patil	1. Ultra-Violet (UV) absorption 2. Ethers and Epoxides Carboxylic acids Diazonium salts	
		Mr. D. K. Jamale	1. Alcohols and Phenols 2. Aldehydes and Ketones 3Stereochemistry	
	Paper-VI (Inorganic Chemistry)	Dr. A.B. Shaikh	1. Co-ordination Chemistry 2. Acids and Bases	
		Dr. S. H. Gaikwad	1. Chelation	

		Dr. A. B. Shaikh	1. Chemistry of d block elements	
B.Sc. III Sem-V	PaperIX (Physical Chemistry)	Mrs Jangale R.S.	1. Phase Equilibria 2. Electromotive Force	
		Mr. J.P.Vidhate	1. Photochemistry	
	Paper X (Inorganic Chemistry)	Dr. S.H.Gaikwad	1. Metal ligand bonding in transition metal complexes	
		Dr.A.B.Shaikh	1 Nuclear Chemistry 2 Fertilizers	
		Dr. S. H. Gaikwad	1. Bio-inorganic chemistry 2 Catalysis	
	Paper XI (Organic Chemistry)	Mr. S. H. Patil	1. NMR Spectroscopy 2. Mass spectroscopy IR Spectroscopy	
		Mr. D. K. Jamale	1. Name reactions 2. Organic synthesis via Enolates Stereochemistry	
	Paper-XII (Analytical and Industrial Physical Chemistry	Dr. V. M. Gurame	1.Electroplating 2. Flame photometry	
		Smt.R.S.Jangale	1 Potentiometry 2-colorimetry	
		Mr. J. P. Vidhate	~~1. Colorimetry~~ 2. Conductometry	

Shri Shivaji Mahavidyalaya, Barshi

Department of Chemistry

Distribution of Work (2022-23)

Chemistry (Sem-II, IV, VI)

Class & Semester	Paper No.	Name of Teacher	Topics Allotted	Signature
B.Sc I Sem-II	Paper III (Organic Chemistry)	Mr. S. H. Patil	1. Fundamentals of organic reaction mechanism 2. Stereochemistry of organic compounds 3. Alkanes and Cycloalkanes 4. Aromaticity and Benzene 5. Alkenes, Dienes and Alkynes 6 Structure and Bonding	SPatil
		Mr. D.K. Jamale	1. Fundamentals of organic reaction mechanism 2. Stereochemistry of organic compounds 3. Alkanes and Cycloalkanes 4. Aromaticity and Benzene 5. Alkenes, Dienes and Alkynes 6 Structure and Bonding	
	Paper IV (Analytical Chemistry)	Dr. S. H. Gaikwad	1. Environmental Chemistry Air pollution	
		Dr. A. B. Shaikh	1. Environmental Chemistry Water pollution	
		Dr. V. M. Gurame (Div - B)	1. Physical properties of liquids	
		Mrs. R.S.Jangale (Div. 17)	1. Physical properties of liquids	
		Mr.S.H.Patil	1. Qualitative and Quantitative elemental analysis 2. Petroleum and Petrochemicals	SPatil
B.Sc. II Sem-IV	Paper-VII (Physical Chemistry)	Smt-R-S Jangale	1. Thermodynamics	
		Dr. V. M. Gurame	1. Electrochemistry 2. The Solid State	
		Mrs.R.S.Jangale	1 Distribution Law	
	Paper-VIII (Industrial & analytical Inorganic Chemistry)		1. Iron And Steel	
		Mr. A. B. Shaikh	1. Theory of Gravimetric Analysis 2 Metallurgy	
		Dr. S. H. Gaikwad	1. Voluumetric Analysis 2. Industrial Heavy Chemicals	
B.Sc. III Sem-VI	Paper XIII (Physical Chemistry)		~~1. Thermodynamics~~	
		Dr. V. M. Gurame	1. Solutions	
		Mrs.R.S.Jangale	1 Chemical Kinetics 2- Thermodynamics	

		Mr. P. R. Kate	1. Spectroscopy	
	Paper XIV (Inorganic Chemistry)		1. Study of F-block Elements	
		Mr. A. B. Shaikh	1. Metals and Semiconductors 2. Structural Chemistry	
		Dr. S. H. Gaikwad	1. Corrosion and Passivity	
		Mr. P. R. Kate	1. Organometallic Chemistry	
	Paper-XV (Organic Chemistry)		1. Vitamins and Hormones 2. Agrochemicals.	
		Mr. S.H. Patil	1. Carbohydrates 2. Synthetic dyes	
		Mr. D.K. Jamale	1. Pharmaceuticals	
	PaperXVI Analytical and Industrial Organic Chemistry			
		Mr. D.K. Jamale	1. Chromatography 2. Green Chemistry	
			1. Soaps and Detergents 2. Sugar and Alcohol Industry	
		Mr. J.P.Vidhate	1. Synthetic polymers 2. Synthetic Polymer	