Shri Shivaji Shikshan Prasarak Mandal, Barshi

Shri Shivaji Mahavidyalaya, Barshi.

FINAL TIME-TABLE- 2021-2022

B.A. PART- I

Time	Monday		Tuesday		Wednesday		Thursday		Friday		Saturday	
7.10 to 8.00	Econ. BRS	35	Geog. A MWC	35	Mar. A .RCS	29	Eng.(Com) A. RBP	35	Sank.(Comp.)VDJ	29	Sank(Comp.)VDJ	29
	Sank.(Opt-)VDJ	29	Geog. B	29	Mar. B. JUN	35	Eng.(Com) B. SCM	29	--		--	
	--		Eng(Opt). SVY	50	Psy. SHM	9	Eng.(Com) C. ALA	9	--		--	
8.00 to 8.50	Eng.(Com) A. RBP	35	Econ. BRS	35	Eng.(Com) A. RBP	35	Mar. A. RCS	29	Mar. A. JUN	29	Mar.A. JUN	29
	Eng.(Com) B. SCM	29	Sank(Opt-)VDJ.	29	Eng.(Com) B. SCM	29	Mar.B. JUN	35	Mar. B. RCS	35	Mar.B. RCS	35
	Eng.(Com) C. ALA	9	--		Eng.(Com) C. ALA	9	Psy. SHM	9	Psy. SHM	9	Psy. SHM	9
8.50 to 9.40	Hindi(Opt.) A. NMC	29	Hindi(Opt.) A NMC	29	Hindi(Opt.) A- SHV	29	Hindi(Opt.) A- SHV	29	Phil. SHM	9	Phil. SHM	9
	Hindi(Opt.) B. ASK	50	Hindi(Opt.) B ASK	50	Hindi(Opt.) B- SNJ	50	Hindi(Opt.) B- SNJ	50	Phy.Edu. A. RSN	29	Phy.Edu.A. RSN	29
	History A. BBB	35	History A. BBB	35	History A. BBB	35	History A- BBB	35	Phy.Edu. .B, VSN	35	Phy.Edu.B. VSN	35
		9		9		9		9	--		--	
9.40 to 10.30	Poli.Sci. A. SVL	35	Poli.Sci. A. SVL	35	Poli.Sci. A. SVL	35	Poli.Sci. A. SVL	35	Econ. BRS	35	Econ. BRS	35
		29		29		29		29	Sank.(Opt.) VDJ	29	Sank. (Opt.) VDJ	29
	Music AAS	33	Music AAS	33	Music AAS	33	Music AAS	33	--		--	
10.30 to 11.20	Geog. A MWC	29	Eng.(Com)A. RBP	9	Geog.A MWC	29	Geog.A MWC	29	S.T.D. A. MWC	21	S.T.D. A. MWC	21
	Geog. B	21	Eng.(Com)B. SCM	29	Geog. B	21	Geog. B	21		9		9
			Eng.(Com)C. ALA	21					S.M. SBP	17	S.M. SBP	17
	Eng.(Opt) SVY	17			Eng.(Opt). SVY	17	Eng.(Opt).SVY	17	Mar.(Comp) VVG	16	Mar.(Comp) VVG	16
	--		--		--		--		Hindi(Comp) SGS	15	Hindi(Comp) SGS	15
11.20 to 12.10	S.T.D. A. MWC	21	S.T.D. A. MWC	21	Phil. SHM	20	--					
	S.M. SBP	17	S.M. SBP	17	--		--		--		--	
	Mar.(Comp) VVG	16	Mar.(Comp) VVG	16	--		--		--		--	
	Hindi(Comp) SPK	15	Hindi(Comp) SPK	15	--		--		--		--	
	Sank.(Comp) VDJ	20	Sank.(Comp) VDJ	20	--		--		--		--	
	Phil. SHM	68	--		--		--		--		--	
12 .10 to 1.00	History B. VBW	16	History B. VBW	16	--		--		History B. VBW	16	History B. VBW	16
	Poli.Sci.-B- PML	96	Poli.Sci.-B- PML	96					Poli.Sci.-B- PML	96	Poli.Sci.-B- PML	96

Chairman
Time Table Committee

Shri Shivaji Shikshan Prasarak Mandal, Barshi.

Shri Shivaji Mahavidyalaya, Barshi.

FINAL TIME-TABLE-2021-2022 (B.A.PART-II)

Time	Monday		Tuesday		Wednesday		Thursday		Friday		Saturday	
07.10 to 08.00	Poli.Sci. (PML)	50	Poli.Sci. (PML)	50	Poli.Sci.(PML)	50	Hindi (SPK)	50	Hindi (SPK)	50	Hindi (SPK)	50
	Music (AAS)	33	Music (AAS)	33	Music(AAS)	33	History (VBW)	P1	History (VBW)	9	History (VBW)	9
08.00 to 08.50	Hindi (SGS)	50	Hindi (SGS)	50	Hindi (SGS)	50	Poli.Sci. (SVL)	50	Poli.Sci. (SVL)	50	Poli.Sci. (SVL)	50
	History (BBB)	9	History (BBB)	9	History (BBB)	P1	Music(AAS)	33	Music (AAS)	33	Music(AAS)	33
08.50 to 09.40	Marathi (RCS)	68	Marathi (RCS)	68	Marathi (RCS)	68	Geo. (AHN)	68	Geo. (AHN)	68	Geo. (AHN)	68
	Psy. (SHM)	9	Psy. (SHM)	9	Psy. (SHM)	9	Eng.(Opt.) (RBP)	9	Eng.(Opt.) (RBP)	9	Eng.(Opt.) (RBP)	9
09.40 to 10.30	Geo. (SBP)	50	Geo. (SBP)	50	Geo. (SBP)	50	Marathi(VVG)	50	Marathi(VVG)	50	Marathi(VVG)	50
	Eng.(Opt.) (ABK)	9	Eng.(Opt.) (ABK)	9	Eng.(Opt.) (ABK)	9	Psy. (SHM)	9	Psy. (SHM)	9	Psy. (SHM)	9
10.30 to 11.20	Eco. (SBS)	96	Eco. (SBS)	96	Eco. (SBS)	96	Eco. (BRS)	96	Eco. (BRS)	96	Eco. (BRS)	96
	Phy.Edu. (VSN)	69	Phy.Edu. (VSN)	69	Phy.Edu.(RSN)	69	Phy.Edu.(RSN)	69	Sanskrit. (VDJ)	69	Sanskrit. (VDJ)	69
	Sanskrit. (VDJ)	15	Sanskrit. (VDJ)	15	Sanskrit.(VDJ)	15	Sanskrit.(VDJ)	15	--		--	
11.20 to 12.10	Eng.(Com)A. (KKS)	68	Eng.(Com)A.(KKS)	68	Eng.(Com)A.(KKS)	68	Logic. (SHM)	15	Logic. (SHM)	15	Logic. (SHM)	15
	Eng.(Com)B. (RBP)	69	Eng.(Com)B.(RBP)	69	Eng.(Com)B.(RBP)	69	Tour. (MWC)	68	Tour. (MWC)	68	Tour. (MWC)	68
							L.W. (SBS)	96	L.W. (SBS)	96	L.W. (SBS)	96
	--		--		--		Yoga. (VSN)	69	Yoga (VSN)	69	Yoga. (VSN)	69
	--		--		--		HSRM.(BBB)	16	HSRM. (BBB)	16	HSRM. (BBB)	16
	--		--		--		P.A. (PML)	20	P.A. (PML)	20	P.A. (PML)	20
12.10 to 01.00	Geo. (AHN)	68	Hindi (ASK)	68	Poli.Sci.(PML)	68	Marathi (JUN)	68	Eco. (BRS)	68	Geo. (SBP)	68
	Eng.(Opt.) (RBP)	69	History (BBB)	69	Marathi (BDR)	69	Psy. (SHM)	69	Sanks- (VDJ)	69	Eng.(Opt.)(ABK)	69
	--		--		--		--		--		--	
01.00 to 01.50	Envi. A Div. (SSM)	68	Envi .A (SSM)	68	Envi.A (SSM)	68	Envi.A (SSM)	68	--	68	Hindi (ASK)	68
	Envi.B Div. (RSH)	69	Envi.B (RSH)	69	Envi.B (RSH)	69	Envi.B (RSH)	69	--	69	History (VBW)	69
01.50 to 02.40	Psy. (SHM)	68	Eco. (SBS)	96	Phil. (SHM)	69	Phil. (SHM)	69	Eng.(Com)A. (KKS)	68	Poli.Sci. (SVL)	68
			Sanskrit- (VDJ)	69	Music (AAS)	33	Music (AAS)	33	Eng.(Com)B. (RBP)	69		
			Phil. (SHM)	68	--		--				--	
			--		--		--				--	
02.40 to 03.30	Logic. (SHM)	15	Phil. (SHM)	68	Phil. (SHM)	68	Phil. (SHM)	68	Phil. (SHM)	68	Phil. (SHM)	68
	Tour. (MWC)	68	--		--		--		--		--	
	L.W. (SBS)	96	--		--		--		--		--	
	Yoga. (VSN)	9	--		--		--		--		--	
	HSRM. (BBB)	16	--		--		--		--		--	
	P.A. (PML)	20	--		--		--		--		--	

Chairman

Time Table Committee

Shri Shivaji Shikshan Prasarak Mandal, Barshi's
Shri Shivaji Mahavidyalaya, Barshi.
FINAL TIME-TABLE-2021-2022 (B.A.PART-III)

Time	Monday		Tuesday		Wednesday		Thursday		Friday		Saturday	
	Hindi (SPK)	15	Hindi (SPK)	15	Hindi (SHV)	15	Hindi (SHV)	15	Hindi (NMC)	15	Hindi (NMC)	15
07.10	Histroy (BBB)	16	Histroy (BBB)	16	Histroy (BBB)	16	Histroy (BBB)	16	Histroy (BBB)	16	Histroy (BBB)	16
	Marathi (JUN)	17	Marathi (JUN)	17	Marathi (VVG)	17	Marathi (RCS)	17	Marathi (RCS)	17	Marathi (VVG)	17
to	Poli.Sci. (SVL)	20	Poli.Sci. (SVL)	20	Poli.Sci. (SVL)	20	Poli.Sci. (SVL)	20	Poli.Sci. (SVL)	20	Poli.Sci. (SVL)	20
	Eng. (ABK)	21	Eng. (ABK)	21	Eng. (SCM)	21	Eng. (KKS)	21	Eng. (SDP)	21	Eng. (SDP)	21
08.00	Eco. (SBS)	96	Eco. (BRS)	96	Eco. (BRS)	96	Eco. (BRS)	96	Eco. (BRS)	96	Eco. (BRS)	96
	Geo. (SBP)	L1	Geo. (SBP)	L1	Geo. (MWC)	L1	Geo. (MWC)	L1	Geo. (MWC)	L1	Geo. (MWC)	L1
							Music (AAS)	33	Music (AAS)	33		
	Hindi- (SNJ)	15	Hindi- (SNJ)	15	Hindi- (SPK)	15	Hindi (SGS)	15	Hindi (SNJ)	15	Hindi (SNG)	15
08.00	Histroy (VBW)	16	Histroy (VBW)	16	Histroy (VBW)	16	Histroy (VBW)	16	Histroy (VBW)	16	Histroy (VBW)	16
	Marathi (BDP)	17	Marathi (BDP)	17	Marathi (BDP)	17	Marathi (BDP)	17	Marathi (JUN)	17	Marathi (JUN)	17
to	Poli.Sci. (SVL)	20	Poli.Sci. (SVL)	20	Poli.Sci. (SVL)	20	Poli.Sci. (PML)	20	Poli.Sci. (PML)	20	Poli.Sci. (PML)	20
	Eng. (SDP)	21	Eng. (SDP)	21	Eng. (SVY)	21	Eng. (SVY)	21	Eng. (ABK)	21	Eng. (ABK)	21
08.50	Eco. (BRS)	96	Eco. (SBS)	96	Eco. (SBS)	96	Eco. (SBS)	96	Eco. (SBS)	96	Eco. (SBS)	96
	Geo. (AHN)	L1	Geo. (AHN)	L1	Geo. (AHN)	L1	Geo. (AHN)	L1	Geo. (SBP)	L1	Geo. (SBP)	L1
	Hindi (SGS)	15	Hindi (SGS)	15	Hindi (SGS)	15	Hindi (SPK)	15	Hindi (SPK)	15	Hindi (SPK)	15
	Histroy (VBW)	16	Histroy (VBW)	16	Histroy (VBW)	16	Histroy (VBW)	16	Histroy (VBW)	16	Histroy (VBW)	16
08.50	Marathi (JUN)	17	Mar- (VVG)	17	Marathi (JUN)	17	Marathi (VVG)	17	Marathi (JUN)	17	Marathi (JUN)	17
	Poli.Sci. (PML)	20	Poli.Sci. (PML)	20	Poli.Sci. (PML)	20	Poli.Sci. (SVL)	20	Poli.Sci. (SVL)	20	Poli.Sci. (SVL)	20
to	Eng. (SVY)	21	Eng. (SVY)	21	Eng. (KKS)	21	Eng. (SCM)	21	Eng. (ABK)	21	Eng. (ABK)	21
	Eco. (SBS)	96	Eco. (SBS)	96	Eco. (BRS)	96	Eco. (BRS)	96	Eco. (BRS)	96	Eco. (BRS)	96
09.40	Music (AAS)	33	Music (AAS)	33	Music (AAS)	33	Music (AAS)	33	Music (AAS)	33	Music (AAS)	33
	Geo. A.(AHN)	Lab1	Geo .A. (AHN)	Lab1	Geo .A. (SBP)	Lab1	Geo .A. (SBP)	Lab1	Geo .A. (MWC)	Lab1	Geo .A. (SBP)	Lab1
	Geo. B.	Lab2	Geo .B.	Lab2	Geo. B.	Lab2	Geo .B.	Lab2	Geo. B.	Lab2	Geo .B.	Lab2
	Hindi (SNJ)	15	Hindi (SNJ)	15	Eng.(Com) A. (SVY)	21	Eng.(Com) A.(SVY)	21	Eng.(Com) A. (SVY)	21	Eng.(Com) A.(SVY)	21
09.40	Histroy (BBB)	16	Histroy (BBB)	16	Eng.(Com) B. (ALA)	16	Eng.(Com)B. (ALA)	16	Eng.(Com) B. (ALA)	16	Eng.(Com) B.(ALA)	16
	Marathi (RCS)	17	Marathi (RCS)	17	Eng.(Com) C.	17	Eng.(Com) C.	17	Eng.(Com) C.	17	Eng.(Com) C.	17
	Poli.Sci. (PML)	20	Poli.Sci. (PML)	20	--		--		--		--	
to	Eng. (SCM)	21	Eng. (SCM)	21			--		--		--	
	Eco. (BRS)	96	Eco. (BRS)	96	--		--		--		--	
10.30	Geo. A (MWC)	Lab1	Geo. A (MWC)	Lab1	--		--		--		--	
	Geo. B.	Lab2	Geo. B.	Lab2	--		--		--		--	
10.30	Geo. A. (AHN)	Lab1	Geo. A. (AHN)	Lab1	Geo. A.(SBP)	Lab1	Geo. A.(SBP)	Lab1	Geo. A. (AHN)	Lab1	Geo. A. (AHN)	Lab1
	Geo. B.	Lab2	Geo. B.	Lab2	Geo. B.	Lab2	Geo. B.	Lab2	Geo. B.	Lab2	Geo. B.	Lab2
to	Phy.Edu. (VSN)	47			Phy.Edu. (VSN)	47	Phy.Edu. (VSN)	47	Phy.Edu. (RSN)	47	Phy.Edu. (RSN)	47
	--		Phy.Edu. (RSN)	47	--		--		--		--	
11.20	Music (AAS)	33	Music (AAS)	33	Music (AAS)	33	Music (AAS)	33	Music (AAS)	33	Music (AAS)	33
11.20	Geo. A. (AHN)	Lab1	Geo .A. (AHN)	Lab1	Geo .A. (MWC)	Lab1	Geo.A.(SBP)	Lab1	Geo.A.(SBP)	Lab1	Geo.A.(SBP)	Lab1
	Geo. B.	Lab2	Geo. B.	Lab2	Geo. B.	Lab2	Geo. B.	Lab2	Geo. B.	Lab2	Geo. B.	Lab2
to	Phy.Edu. (VSN)	47	Phy.Edu. (RSN)	47			Phy.Edu. (RSN)	47	Phy.Edu. (VSN)	47	Phy.Edu. (VSN)	47
	Music (AAS)	33	Music (AAS)	33	Music (AAS)	33	Music (AAS)	33	Music (AAS)	33	Music (AAS)	33
12.10	--		--		Phy.Edu. (RSN)	47	--		--		--	

CHAIRMAN
TIME-TABLE COMMITTEE

Shri Shivaji Mahavidyalaya Barshi

Department of Electronics

Completion of Work (2020-2021)

Class and Semester	Name of Teacher	Paper Number and related Practical's Completed	Paper Title and related Practical's Completed	Signature
B.Sc. I-Sem I	Dr.U.R.Ghodake	I	Basic Circuit Theory and Network Analysis	
	Dr.K.P. Deshmukh	II	Digital Fundamentals	
B.Sc. I-Sem II	Dr.U.R.Ghodake	III	Semiconductor Devices	
	Dr.K.P. Deshmukh	IV	Digital Electronics	
B.Sc. II - Sem III	Dr.K.P. Deshmukh	V	Electronic Circuits	
	Dr.U.R.Ghodake	VI	Pulse and Switching Circuits	
B.Sc. II - Sem IV	Dr.U.R.Ghodake	VII	Operational Amplifier and Applications	
	Dr.K.P. Deshmukh	VIII	Digital Techniques and Microprocessor	
B.Sc. III - Sem V	Dr.U.R.Ghodake	IX	Linear Integrated Circuits and Applications	
	Dr.K.P. Deshmukh	X	Fundamentals of Microcontruller	
	Dr.K.P. Deshmukh	XI	Sensors and Transducers	
	Dr.U.R.Ghodake	XII	Electronics Communication	
B.Sc. HI - Sem VI	Dr.U.R.Ghodake	XIII	Power Electronics	
	Dr.K.P. Deshmukh	XIV	Embedded System Design	
	Dr.K.P. Deshmukh	XV	Electronics Instrumentation	
	Dr.U.R.Ghodake .	XVI	Modern Communication systems	

Head
Department of Electronics
Shri Shivaji Mahavidyalaya, Barshi.
Dist.-Solapur.

Shri Shivaji Mahavidyalaya Barshi

Department of Electronics

Distribution of Work (2021-2022)

Class and Semester	Name of Teacher	Paper Number and related Practical's Completed	Paper Title and related Practical's Completed	Signature
B.Sc. I- Sem I	Dr.U.R.Ghodake	I	Basic Circuit Theory and Network Analysis	
	Dr.K.P. Deshmukh	II	Digital Fundamentals	
B.Sc. I- Sem II	Dr.U.R.Ghodake	III	Semiconductor Devices	
	Dr.K.P. Deshmukh	IV	Digital Electronics	
B.Sc. II - Sem III	Dr.K.P. Deshmukh	V	Electronic Circuits	
	Dr.U.R.Ghodake	VI	Pulse and Switching Circuits	
B.Sc. II - Sem IV	Dr.U.R.Ghodake	VII	Operational Amplifier and Applications	
	Dr.K.P. Deshmukh	VIII	Digital Techniques and Microprocessor	
B.Sc. III - Sem V	Dr.U.R.Ghodake	IX	Linear Integrated Circuits and Applications	
	Dr.K.P. Deshmukh	X	Fundamentals of Microcontruller	
	Dr.K.P. Deshmukh	XI	Sensors and Transducers	
	Dr.U.R.Ghodake	XII	Electronics Communication	
B.Sc. HI - Sem VI	Dr.U.R.Ghodake	XIII	Power Electronics	
	Dr.K.P. Deshmukh	XIV	Embedded System Design	
	Dr.K.P. Deshmukh	XV	Electronics Instrumentation	
	Dr.U.R.Ghodake .	XVI	Modern Communication systems	

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Shri Shivaji Mahavidyalaya Barshi

Department of Electronics

Completion of Work (2021-2022)

Class and Semester	Name of Teacher	Paper Number and related Practical's Completed	Paper Title and related Practical's Completed	Signature
B.Sc. I- Sem I	Dr.U.R.Ghodake	I	Basic Circuit Theory and Network Analysis	
	Dr.K.P. Deshmukh	II	Digital Fundamentals	
B.Sc. I- Sem II	Dr.U.R.Ghodake	III	Semiconductor Devices	
	Dr.K.P. Deshmukh	IV	Digital Electronics	
B.Sc. II - Sem III	Dr.K.P. Deshmukh	V	Electronic Circuits	
	Dr.U.R.Ghodake	VI	Pulse and Switching Circuits	
B.Sc. II - Sem IV	Dr.U.R.Ghodake	VII	Operational Amplifier and Applications	
	Dr.K.P. Deshmukh	VIII	Digital Techniques and Microprocessor	
B.Sc. III - Sem V	Dr.U.R.Ghodake	IX	Linear Integrated Circuits and Applications	
	Dr.K.P. Deshmukh	X	Fundamentals of Microcontruller	
	Dr.K.P. Deshmukh	XI	Sensors and Transducers	
	Dr.U.R.Ghodake	XII	Electronics Communication	
B.Sc. HI - Sem VI	Dr.U.R.Ghodake	XIII	Power Electronics	
	Dr.K.P. Deshmukh	XIV	Embedded System Design	
	Dr.K.P. Deshmukh	XV	Electronics Instrumentation	
	Dr.U.R.Ghodake .	XVI	Modern Communication systems	

Head
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Shri Shivaji Mahavidyalaya, Barshi.
Dist.-Solapur.

Shri Shivaji Mahavidyalaya Barshi

Department of Electronics

Distribution of Work (2022-2023)

Class and Semester	Name of Teacher	Paper Number and related Practical's Completed	Paper Title and related Practical's Completed	Signature
B.Sc. I- Sem I	Khardekar K.S.	I	Basic Circuit Theory and Network Analysis	
	Dr.K.P. Deshmukh	II	Digital Fundamentals	
B.Sc. I- Sem II	Khardekar K.S.	III	Semiconductor Devices	
	Dr.K.P. Deshmukh	IV	Digital Electronics	
B.Sc. II - Sem III	Dr.K.P. Deshmukh	V	Electronic Circuits	
	Khardekar K.S.	VI	Pulse and Switching Circuits	
B.Sc. II - Sem IV	Khardekar K.S.	VII	Operational Amplifier and Applications	
	Dr.K.P. Deshmukh	VIII	Digital Techniques and Microprocessor	
B.Sc. III - Sem V	Khardekar K.S.	IX	Linear Integrated Circuits and Applications	
	Dr.K.P. Deshmukh	X	Fundamentals of Microcontruller	
	Khardekar K.S.	XI	Sensors and Transducers	
	Dr.K.P. Deshmukh	XII	Electronics Communication	
B.Sc. HI - Sem VI	Khardekar K.S.	XIII	Power Electronics	
	Dr.K.P. Deshmukh	XIV	Embedded System Design	
	Khardekar K.S.	XV	Electronics Instrumentation	
	Dr.K.P. Deshmukh	XVI	Modern Communication systems	

Head
Department of Electronics
Shri Shivaji Mahavidyalaya, Barshi.
Dist.-Solapur.

Shri Shivaji Mahavidyalaya Barshi
Department of Electronics
Completion of Work (2022-2023)

Class and Semester	Name of Teacher	Paper Number and related Practical's Completed	Paper Title and related Practical's Completed	Signature
B.Sc. I-Sem I	Khardekar K.S.	I	Basic Circuit Theory and Network Analysis	
	Dr.K.P. Deshmukh	II	Digital Fundamentals	
B.Sc. I-Sem II	Khardekar K.S.	III	Semiconductor Devices	
	Dr.K.P. Deshmukh	IV	Digital Electronics	
B.Sc. II - Sem III	Dr.K.P. Deshmukh	V	Electronic Circuits	
	Khardekar K.S.	VI	Pulse and Switching Circuits	
B.Sc. II - Sem IV	Khardekar K.S.	VII	Operational Amplifier and Applications	
	Dr.K.P. Deshmukh	VIII	Digital Techniques and Microprocessor	
B.Sc. III - Sem V	Khardekar K.S.	IX	Linear Integrated Circuits and Applications	
	Dr.K.P. Deshmukh	X	Fundamentals of Microcontruller	
	Khardekar K.S.	XI	Sensors and Transducers	
	Dr.K.P. Deshmukh	XII	Electronics Communication	
B.Sc. HI - Sem VI	Khardekar K.S.	XIII	Power Electronics	
	Dr.K.P. Deshmukh	XIV	Embedded System Design	
	Khardekar K.S.	XV	Electronics Instrumentation	
	Dr.K.P. Deshmukh	XVI	Modern Communication systems	

Head
Department of Electronics
Shri Shivaji Mahavidyalaya, Barshi,
Dist.-Solapur.

Shri Shivaji Mahavidyalaya Barshi

Department of Electronics

Distribution of Work (2020-2021)

Class and Semester	Name of Teacher	Paper Number and related Practical's Completed	Paper Title and related Practical's Completed	Signature
B.Sc. I- Sem I	Dr.U.R.Ghodake	I	Basic Circuit Theory and Network Analysis	
	Dr.K.P. Deshmukh	II	Digital Fundamentals	
B.Sc. I- Sem II	Dr.U.R.Ghodake	III	Semiconductor Devices	
	Dr.K.P. Deshmukh	IV	Digital Electronics	
B.Sc. II - Sem III	Dr.K.P. Deshmukh	V	Electronic Circuits	
	Dr.U.R.Ghodake	VI	Pulse and Switching Circuits	
B.Sc. II - Sem IV	Dr.U.R.Ghodake	VII	Operational Amplifier and Applications	
	Dr.K.P. Deshmukh	VIII	Digital Techniques and Microprocessor	
B.Sc. III - Sem V	Dr.U.R.Ghodake	IX	Linear Integrated Circuits and Applications	
	Dr.K.P. Deshmukh	X	Fundamentals of Microcontruller	
	Dr.K.P. Deshmukh	XI	Sensors and Transducers	
	Dr.U.R.Ghodake	XII	Electronics Communication	
B.Sc. HI - Sem VI	Dr.U.R.Ghodake	XIII	Power Electronics	
	Dr.K.P. Deshmukh	XIV	Embedded System Design	
	Dr.K.P. Deshmukh	XV	Electronics Instrumentation	
	Dr.U.R.Ghodake .	XVI	Modern Communication systems	

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Annual Planning Report (2020-2021)

Name of Teacher : Dr. U.R. Ghodake

Class : B.Sc.-I Sem: I & II

Sr.No.	Month	Name of the Topic	Remarks
1	Aug	**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	Sept	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	Oct	**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	Nov	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	Dec	Theory Exam	
6	Jan	**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	Feb	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	March	**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	April	Depletion and Enhancement MOSFET, Structure and operation, I-V characteristics Construction, working and characteristics of SCR, DIAC, TRIAC and UJT	

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Name of Teacher : Dr. K.P.Deshmukh

Class : B.Sc.-I Sem: I & II

Sr.No.	Month	Name of the Topic	Remarks
1	Aug	**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	Sept	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	Oct	**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	Nov	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	Dec	Theory Exam	
6	Jan	**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	Feb	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	March	**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	April	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)	

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Name of Teacher : Dr. U.R. Ghodake 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 IC7412!	
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.	

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Name of Teacher : Dr. U.R. Ghodake

Class : B.Sc.-I Sem: I & II

Sr.No.	Month	Name of the Topic	Remarks
1	Aug	**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	Sept	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	Oct	**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	Nov	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	Dec	Theory Exam	
6	Jan	**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	Feb	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	March	**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	April	Depletion and Enhancement MOSFET, Structure and operation, I-V characteristics Construction, working and characteristics of SCR, DIAC, TRIAC and UJT	

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Name of Teacher : Dr. U.R. Ghodake

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 (SiO_2 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.	

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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.	

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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 (λ/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	

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Name of Teacher : Dr. U.R. Ghodake

Class : B.Sc.-I Sem: I & II

Sr.No.	Month	Name of the Topic	Remarks
1	Aug	**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	Sept	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	Oct	**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	Nov	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	Dec	Theory Exam	
6	Jan	**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	Feb	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	March	**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	April	Depletion and Enhancement MOSFET, Structure and operation, I-V characteristics Construction, working and characteristics of SCR, DIAC, TRIAC and UJT	

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Name of Teacher : Dr. K.P.Deshmukh

Class : B.Sc.-I Sem : I & II

Sr.No.	Month	Name of the Topic	Remarks
1	Aug	**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	Sept	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	Oct	**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	Nov	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	Dec	Theory Exam	
6	Jan	**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	Feb	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	March	**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	April	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)	

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Annual Planning Report (2021-2022)

Name of Teacher : Dr. U.R. Ghodake 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,	

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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 (2021-2022)

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 (λ/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	

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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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Department of Electronics

Annual Planning Report (2021-2022)

Name of Teacher : Dr. U.R. Ghodake

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 (SiO_2 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.	

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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)	

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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	

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Name of Teacher : KhardeKar K.S.

Class : B.Sc.-II Sem: III & IV

Sr.No.	Month	Name of the Topic	Remarks
1	Sept	**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	Oct	**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	Nov	**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	Dec	**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	Jan	Theory Exam	
6	Feb	**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	Mar	**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	April	**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	May	**5. Wave form Generators :**Oscillators - Phase shift oscillator, Wien Bridge oscillator, (without mathematical treatment) Astable multivibeator, Monostable multivibrator (with mathematical treatment) Triangular wave generator, Saw tooth oscillator,	

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Annual Planning Report (2022-2023)

Name of Teacher : Dr. K.P.Deshmukh

Class : B.Sc.-II Sem: III & IV

Sr.No.	Month	Name of the Topic	Remarks
1	Sept	**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	Oct	**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	Nov	**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	Dec	**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	Jan	Theory Exam	
6	Feb	**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	Mar	**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	April	**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	May	**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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Annual Planning Report (2022-2023)

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

Sr.No.	Month	Name of the Topic	Remarks
1	Sept	**Unit 1. Fabrication of Integrated Circuits** :Advantages of IC's, Epitaxial process, Diffusion process: Constant source and Limited source, Oxidation (SiO_2 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	Oct	**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	Nov	**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	Dec	**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.	

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5	Jan	Theory Exam	
6	Feb	**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	Mar	**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	April	**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	May	**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.	

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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	Sept	**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	Oct	**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	Nov	**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	Dec	**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 Paraholic 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	Jan	Theory Exam	

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Shri Shivaji Mahavidyalaya,Barshi.
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6	Feb	**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	Mar	**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	April	**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	May	**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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Yearly Teaching Planning

2021-22

Class: B.A-I Division: A Subject: History Paper- Paper No: I and II

Rise of Maratha power

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
				Semester - I	
1.	June	12	6	Unit - No - I Background and Rise of Maratha power Political, Social Economics and Religious	
2.	July	26	16	Rol of Shahaji, Jijabai and early Activitics	
3.	August	24	15	Unit No - 2 chhatrapti Shivaji's Conflict with Adilshahi kingdom	
4.	September	25	15	Unit No - 3 chhatrapati Shivaji's conflict with Mughals	
5.	October	22	10	Unit - No - 4 chhatrapati Shivaji's Coronation	
6.	November	08	02	Karnatka Expedition University Examinations	

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
7.	December	26	10	University Examination Semester - 2 Administration	
8.	January	24	16	Chh. Shivaji's Administration Civil Military Judicial	
9.	February	23	16	Unit - 2 - Village community and Agrarian System Estimate of Shivaji A) Nation Builder B) Administrator C) work of Sambhaji Rajaram and Tarabai	
10.	March	23	14		
11.	April	23	—	University Examination	

Signature and Name of the Teacher
Dr B. B. Bichitkar

Signature & Name of the H.O.D
Dr. V. B. Waghmare
Head, Dept. Of History
Shri Shivaji Mahavidyalaya, Barshi

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2021-22

Class: B.A. II Division: — Subject: History of Modern Europe Paper No: III & IV

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
				Semester - I	
1.	June	12	04	Unit No-I French Revolution - 1789	
2.	July	26	14	French Revolution - Era of Nepolean Bonaparst	
3.	August	24	14	Unit - III Age of Metternich Vienna Congress.	
4.	September	25	16	Development in Europe - 1848.	
5.	October	22	12	Unification of Italy Unification of Germany Modern Concepts	
6.	November	08	—	University Examination.	

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
				University Examination	
7.	December	26	12	Age of Bismark	
8.	January	24	16	First word war causes Effects	
9.	February	23	16	Rise of Dictorship in Europe	
10.	March	23	12	Second World war causes course	
11.	April	23	—	University Examination	

Signature and Name of the Teacher

Dr. V. B. Waghmare

Signature & Name of the H.O.D

Dr. V. B. Waghmare

Head, Dept. Of History

Shri Shivaji Mahavidyalaya, Barshi

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2021-22

Class: B.A II Division: — Subject: History of Freedom Movement in India Paper No: IV & VI

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
				Semester – I	
1	June	12	06	Revolt of 1857 Background	
2	July	26	16	Socio-Religious Movements Brahmo Samaj	
3.	August	24	12	Indian Nationalism Rise of Development	
4.	September	25	16	Work of Moderators Era of Extremist and Lokmanya Tilak	
5.	October	22	10	Rise of Extremist Partition	
6.	November	08	—	Home Rule movements University Examinations	

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
7.	December	26	12	University Examination contribution of Revolutionaries Gandhian Era	
8.	January	24	16	Non-co-operation movement constitutional Development and Indian National Army	
9.	February	23	16	Independance and partition	
10.	March	23	10	University Examinations	
11.	April	23	—		

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Dr. V. B. Waghmare

Head, Dept. Of History

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Class: B.A II Division: - Subject: HSRM.IDS Paper No: IDS

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
				Semester - I	
1.	June	12	06	Maharashtra in the early 19th Century	
2.	July	26	16	Early Reforms in British Period Administration Education press	
3.	August	24	15	Early Reformers Jagannath Shankarseth &	
4.	September	25	16	Gopal Hari Deshmukh Bhau Daji Lad	
5.	October	22	10	Life and work of Mahatma Jotiba phule	
6.	November	08	02	Satyashodhak Samaj' University Examinations	

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
				Semister - II	
				University Examinations	
7.	December	26	16	Life and work of Rajarshi Shahu	
8.	January	24	16	Social Reformers	
9.	February	23	15	Women Reformers	
10.	March	23	10	Life and work of Dr. Babasaheb Ambedkar.	
11.	April	23	-	University Examinations	

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Dr. B. B. Bichitkar

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

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Class: B.A. III Division: — Subject: Ancient India Paper No: VII & XII

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
				Semester – I	
1.	June	12	04	Sources of Ancient Indian History	
2.	July	26	16	Archaeological sources.	
3.	August	24	10	Historic Age Paleolithic Age	
4.	September	25	16	Indus Valley Civilization	
5.	October	22	10	Vedic Period Origin of Aryans	
6.	November	08	02	Social and Religious Conditions. University Examination	

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
7.	December	26	12	University Examination India During 6th B.C. Jainism Buddism	
8.	January	24	16	Mouryan Empire	
9.	February	23	16	Age of the Satvahans and Guptas	
10.	March	23	10	Vardhan Dynasty and Vakataka Dynasty.	
11.	April	23	—	University Examination	

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Dr. V. B. Waghmare

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2021-22

Class: Division: Subject: Mughal India Paper No: VIII and XIII

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
1.	June	12	04	Unit - No - 1 Literary Sources of Mughal India Foregion Travel Accounts.	
2.	July	26	16	Foundation of Mughal Empire and Babar	
3.	August	24	15	Humayun and Shershah	
4.	September	25	16	Early life of Shershah conflict - Humayun and Shershaha	
5.	October	22	10	Akbar Rajput policy	
6.	November	08	02	Religious policy University Examination	

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
				Sem- II University Exam.	
7.	December	26	10	Jahangir and Shahajahan	
8.	January	24	16	War of succession - Aurangzeb	
9.	February	23	16	Administrative system of Mughal Empire	
10.	March	23	12	Architecture in Mughal period.	
11.	April	23	—	University Examinations.	

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Dr. B. B. Bichitkar

Signature & Name of the H.O.D

Dr. V. B. Waghmare

Head, Dept. Of History

Shri Shivaji Mahavidyalaya, Barshi.

Shri Shivaji Mahavidyalaya, Barshi
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2021-22

Class: Division: Subject: Expansion and Downfall of the Marratha power Paper No: IX & IX

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
1.	June	12	05	Sem- I Chh. Shahu Maharaj and civil war.	
2.	July	26	16	Work of peshwa Balaji Vishwanath peshwa Bajirao -I	
3.	August	24	15	Relation with portaguese and Siddi Northern Expansion	
4.	September	25	15	peshwa Balaji Bajirao (Nanasaheb)	
5.	October	22	08	Third Battle of panipat, 1761 A.D.	
6.	November	08	02	Effects University Examinations,	

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
				Sem - II	
7.	December	26	16	Restoration of the Maratha power.	
8.	January	24	16	Period of Barbhai	
9.	February	23	16	Decline of the Maratha power	
10.	March	23	10	Administrative system during the peshwa Period.	
11.	April	23	—	University Examination	

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Class: B.A. III Division: — Subject: Modern World Paper No: XIV & XV

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
				Sem - I	
1	June	12	04	Bismark Internal policy	
2.	July	26	16	Foreign policy New Imperialism	
3.	August	24	15	Meaning and Background	
4.	September	25	15	First world war	
5.	October	22	10	Russian Revolution - 1917	
6.	November	08	—	University Examination	

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
7.	December	26	10	Sem - II University Examination Background - Dictatorship in Europe	
8.	January	24	16		
9.	February	23	16	Second World War Cold War	
10.	March	23	10	United Nations University Examination	
11.	April	23	—	Examinations	

Signature and Name of the Teacher
Dr. V.B. Waghmare

Signature & Name of the H.O.D
Dr. V.B. Waghmare
Head, Dept. Of History
Shri Shivaji Mahavidyalaya, Barshi

Shri Shivaji Mahavidyalaya, Barshi
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2021-22

Class: B.A. III Division: — Subject: Historical Sources, Research and places Paper No: XII & XVI

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
				Sem - I	
1.	June	12	06	Meaning and Definition	
2.	July	26	16	Nature and Scope of History	
3.	August	24	14	Sources - Importance of Sources Types	
4.	September	25	16	Research process Auxiliary Sciences	
5.	October	22	12	History Writing process	
6.	November	08	—	University Examinations	

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
7.	December	26	10	Sem - II University Exam. Forts	
8.	January	24	16	Museums Importance Types	
9.	February	23	16	Historical Tourism Historians V. C. Bendre	
10.	March	23	12	University Examination	
11.	April	23	—		

Signature and Name of the Teacher
Dr. V.B. Waghmare

Signature & Name of the H.O.D
Dr. V.B. Waghmare
Head, Dept. Of History
Shri Shivaji Mahavidyalaya, Barshi

Shri Shivaji Shikshan Prasarak Mandal, Barshi

Shri Shivaji Mahavidyalaya, Barshi.

FINAL TIME-TABLE- 2021-2022

B.A. PART- I

Time	Monday		Tuesday		Wednesday		Thursday		Friday		Saturday	
7.10 to 8.00	Econ. BRS	35	Geog. A MWC	35	Mar. A .RCS	29	Eng.(Com) A. RBP	35	Sank.(Comp.)VDJ	29	Sank(Comp.)VDJ	29
	Sank.(Opt-)VDJ	29	Geog. B	29	Mar. B. JUN	35	Eng.(Com) B. SCM	29	--		--	
	--		Eng(Opt). SVY	50	Psy. SHM	9	Eng.(Com) C. ALA	9	--		--	
8.00 to 8.50	Eng.(Com) A. RBP	35	Econ. BRS	35	Eng.(Com) A. RBP	35	Mar. A. RCS	29	Mar. A. JUN	29	Mar.A. JUN	29
	Eng.(Com) B. SCM	29	Sank(Opt-)VDJ.	29	Eng.(Com) B. SCM	29	Mar.B. JUN	35	Mar. B. RCS	35	Mar.B. RCS	35
	Eng.(Com) C. ALA	9	--		Eng.(Com) C. ALA	9	Psy. SHM	9	Psy. SHM	9	Psy. SHM	9
8.50 to 9.40	Hindi(Opt.) A. NMC	29	Hindi(Opt.) A NMC	29	Hindi(Opt.) A- SHV	29	Hindi(Opt.) A- SHV	29	Phil. SHM	9	Phil. SHM	9
	Hindi(Opt.) B. ASK	50	Hindi(Opt.) B ASK	50	Hindi(Opt.) B- SNJ	50	Hindi(Opt.) B- SNJ	50	Phy.Edu. A. RSN	29	Phy.Edu.A. RSN	29
	History A. BBB	35	History A. BBB	35	History A. BBB	35	History A- BBB	35	Phy.Edu. .B, VSN	35	Phy.Edu.B. VSN	35
		9		9		9		9	--		--	
9.40 to 10.30	Poli.Sci. A. SVL	35	Poli.Sci. A. SVL	35	Poli.Sci. A. SVL	35	Poli.Sci. A. SVL	35	Econ. BRS	35	Econ. BRS	35
		29		29		29		29	Sank.(Opt.) VDJ	29	Sank. (Opt.) VDJ	29
	Music AAS	33	Music AAS	33	Music AAS	33	Music AAS	33	--		--	
10.30 to 11.20	Geog. A MWC	29	Eng.(Com)A. RBP	9	Geog.A MWC	29	Geog.A MWC	29	S.T.D. A. MWC	21	S.T.D. A. MWC	21
	Geog. B	21	Eng.(Com)B. SCM	29	Geog. B	21	Geog. B	21		9		9
			Eng.(Com)C. ALA	21					S.M. SBP	17	S.M. SBP	17
	Eng.(Opt) SVY	17			Eng.(Opt). SVY	17	Eng.(Opt).SVY	17	Mar.(Comp) VVG	16	Mar.(Comp) VVG	16
	--		--		--		--		Hindi(Comp) SGS	15	Hindi(Comp) SGS	15
11.20 to 12.10	S.T.D. A. MWC	21	S.T.D. A. MWC	21	Phil. SHM	20	--					
	S.M. SBP	17	S.M. SBP	17	--		--		--		--	
	Mar.(Comp) VVG	16	Mar.(Comp) VVG	16	--		--		--		--	
	Hindi(Comp) SPK	15	Hindi(Comp) SPK	15	--		--		--		--	
	Sank.(Comp) VDJ	20	Sank.(Comp) VDJ	20	--		--		--		--	
	Phil. SHM	68	--		--		--		--		--	
12 .10 to 1.00	History B. VBW	16	History B. VBW	16	--		--		History B. VBW	16	History B. VBW	16
	Poli.Sci.-B- PML	96	Poli.Sci.-B- PML	96					Poli.Sci.-B- PML	96	Poli.Sci.-B- PML	96

Chairman
Time Table Committee

Shri Shivaji Shikshan Prasarak Mandal, Barshi.

Shri Shivaji Mahavidyalaya, Barshi.

FINAL TIME-TABLE-2021-2022 (B.A.PART-II)

Time	Monday		Tuesday		Wednesday		Thursday		Friday		Saturday	
07.10 to 08.00	Poli.Sci. (PML)	50	Poli.Sci. (PML)	50	Poli.Sci.(PML)	50	Hindi (SPK)	50	Hindi (SPK)	50	Hindi (SPK)	50
	Music (AAS)	33	Music (AAS)	33	Music(AAS)	33	History (VBW)	P1	History (VBW)	9	History (VBW)	9
08.00 to 08.50	Hindi (SGS)	50	Hindi (SGS)	50	Hindi (SGS)	50	Poli.Sci. (SVL)	50	Poli.Sci. (SVL)	50	Poli.Sci. (SVL)	50
	History (BBB)	9	History (BBB)	9	History (BBB)	P1	Music(AAS)	33	Music (AAS)	33	Music(AAS)	33
08.50 to 09.40	Marathi (RCS)	68	Marathi (RCS)	68	Marathi (RCS)	68	Geo. (AHN)	68	Geo. (AHN)	68	Geo. (AHN)	68
	Psy. (SHM)	9	Psy. (SHM)	9	Psy. (SHM)	9	Eng.(Opt.) (RBP)	9	Eng.(Opt.) (RBP)	9	Eng.(Opt.) (RBP)	9
09.40 to 10.30	Geo. (SBP)	50	Geo. (SBP)	50	Geo. (SBP)	50	Marathi(VVG)	50	Marathi(VVG)	50	Marathi(VVG)	50
	Eng.(Opt.) (ABK)	9	Eng.(Opt.) (ABK)	9	Eng.(Opt.) (ABK)	9	Psy. (SHM)	9	Psy. (SHM)	9	Psy. (SHM)	9
10.30 to 11.20	Eco. (SBS)	96	Eco. (SBS)	96	Eco. (SBS)	96	Eco. (BRS)	96	Eco. (BRS)	96	Eco. (BRS)	96
	Phy.Edu. (VSN)	69	Phy.Edu. (VSN)	69	Phy.Edu.(RSN)	69	Phy.Edu.(RSN)	69	Sanskrit. (VDJ)	69	Sanskrit. (VDJ)	69
	Sanskrit. (VDJ)	15	Sanskrit. (VDJ)	15	Sanskrit.(VDJ)	15	Sanskrit.(VDJ)	15	--		--	
11.20 to 12.10	Eng.(Com)A. (KKS)	68	Eng.(Com)A.(KKS)	68	Eng.(Com)A.(KKS)	68	Logic. (SHM)	15	Logic. (SHM)	15	Logic. (SHM)	15
	Eng.(Com)B. (RBP)	69	Eng.(Com)B.(RBP)	69	Eng.(Com)B.(RBP)	69	Tour. (MWC)	68	Tour. (MWC)	68	Tour. (MWC)	68
							L.W. (SBS)	96	L.W. (SBS)	96	L.W. (SBS)	96
	--		--		--		Yoga. (VSN)	69	Yoga (VSN)	69	Yoga. (VSN)	69
	--		--		--		HSRM.(BBB)	16	HSRM. (BBB)	16	HSRM. (BBB)	16
	--		--		--		P.A. (PML)	20	P.A. (PML)	20	P.A. (PML)	20
12.10 to 01.00	Geo. (AHN)	68	Hindi (ASK)	68	Poli.Sci.(PML)	68	Marathi (JUN)	68	Eco. (BRS)	68	Geo. (SBP)	68
	Eng.(Opt.) (RBP)	69	History (BBB)	69	Marathi (BDR)	69	Psy. (SHM)	69	Sanks- (VDJ)	69	Eng.(Opt.)(ABK)	69
	--		--		--		--		--		--	
01.00 to 01.50	Envi. A Div. (SSM)	68	Envi .A (SSM)	68	Envi.A (SSM)	68	Envi.A (SSM)	68	--	68	Hindi (ASK)	68
	Envi.B Div. (RSH)	69	Envi.B (RSH)	69	Envi.B (RSH)	69	Envi.B (RSH)	69	--	69	History (VBW)	69
01.50 to 02.40	Psy. (SHM)	68	Eco. (SBS)	96	Phil. (SHM)	69	Phil. (SHM)	69	Eng.(Com)A. (KKS)	68	Poli.Sci. (SVL)	68
			Sanskrit- (VDJ)	69	Music (AAS)	33	Music (AAS)	33	Eng.(Com)B. (RBP)	69		
			Phil. (SHM)	68	--		--				--	
			--		--		--				--	
02.40 to 03.30	Logic. (SHM)	15	Phil. (SHM)	68	Phil. (SHM)	68	Phil. (SHM)	68	Phil. (SHM)	68	Phil. (SHM)	68
	Tour. (MWC)	68	--		--		--		--		--	
	L.W. (SBS)	96	--		--		--		--		--	
	Yoga. (VSN)	9	--		--		--		--		--	
	HSRM. (BBB)	16	--		--		--		--		--	
	P.A. (PML)	20	--		--		--		--		--	

Chairman

Time Table Committee

Shri Shivaji Shikshan Prasarak Mandal, Barshi's
Shri Shivaji Mahavidyalaya, Barshi.
FINAL TIME-TABLE-2021-2022 (B.A.PART-III)

Time	Monday		Tuesday		Wednesday		Thursday		Friday		Saturday	
	Hindi (SPK)	15	Hindi (SPK)	15	Hindi (SHV)	15	Hindi (SHV)	15	Hindi (NMC)	15	Hindi (NMC)	15
07.10	Histroy (BBB)	16	Histroy (BBB)	16	Histroy (BBB)	16	Histroy (BBB)	16	Histroy (BBB)	16	Histroy (BBB)	16
	Marathi (JUN)	17	Marathi (JUN)	17	Marathi (VVG)	17	Marathi (RCS)	17	Marathi (RCS)	17	Marathi (VVG)	17
to	Poli.Sci. (SVL)	20	Poli.Sci. (SVL)	20	Poli.Sci. (SVL)	20	Poli.Sci. (SVL)	20	Poli.Sci. (SVL)	20	Poli.Sci. (SVL)	20
	Eng. (ABK)	21	Eng. (ABK)	21	Eng. (SCM)	21	Eng. (KKS)	21	Eng. (SDP)	21	Eng. (SDP)	21
08.00	Eco. (SBS)	96	Eco. (BRS)	96	Eco. (BRS)	96	Eco. (BRS)	96	Eco. (BRS)	96	Eco. (BRS)	96
	Geo. (SBP)	L1	Geo. (SBP)	L1	Geo. (MWC)	L1	Geo. (MWC)	L1	Geo. (MWC)	L1	Geo. (MWC)	L1
							Music (AAS)	33	Music (AAS)	33		
	Hindi- (SNJ)	15	Hindi- (SNJ)	15	Hindi- (SPK)	15	Hindi (SGS)	15	Hindi (SNJ)	15	Hindi (SNG)	15
08.00	Histroy (VBW)	16	Histroy (VBW)	16	Histroy (VBW)	16	Histroy (VBW)	16	Histroy (VBW)	16	Histroy (VBW)	16
	Marathi (BDP)	17	Marathi (BDP)	17	Marathi (BDP)	17	Marathi (BDP)	17	Marathi (JUN)	17	Marathi (JUN)	17
to	Poli.Sci. (SVL)	20	Poli.Sci. (SVL)	20	Poli.Sci. (SVL)	20	Poli.Sci. (PML)	20	Poli.Sci. (PML)	20	Poli.Sci. (PML)	20
	Eng. (SDP)	21	Eng. (SDP)	21	Eng. (SVY)	21	Eng. (SVY)	21	Eng. (ABK)	21	Eng. (ABK)	21
08.50	Eco. (BRS)	96	Eco. (SBS)	96	Eco. (SBS)	96	Eco. (SBS)	96	Eco. (SBS)	96	Eco. (SBS)	96
	Geo. (AHN)	L1	Geo. (AHN)	L1	Geo. (AHN)	L1	Geo. (AHN)	L1	Geo. (SBP)	L1	Geo. (SBP)	L1
	Hindi (SGS)	15	Hindi (SGS)	15	Hindi (SGS)	15	Hindi (SPK)	15	Hindi (SPK)	15	Hindi (SPK)	15
	Histroy (VBW)	16	Histroy (VBW)	16	Histroy (VBW)	16	Histroy (VBW)	16	Histroy (VBW)	16	Histroy (VBW)	16
08.50	Marathi (JUN)	17	Mar- (VVG)	17	Marathi (JUN)	17	Marathi (VVG)	17	Marathi (JUN)	17	Marathi (JUN)	17
	Poli.Sci. (PML)	20	Poli.Sci. (PML)	20	Poli.Sci. (PML)	20	Poli.Sci. (SVL)	20	Poli.Sci. (SVL)	20	Poli.Sci. (SVL)	20
to	Eng. (SVY)	21	Eng. (SVY)	21	Eng. (KKS)	21	Eng. (SCM)	21	Eng. (ABK)	21	Eng. (ABK)	21
	Eco. (SBS)	96	Eco. (SBS)	96	Eco. (BRS)	96	Eco. (BRS)	96	Eco. (BRS)	96	Eco. (BRS)	96
09.40	Music (AAS)	33	Music (AAS)	33	Music (AAS)	33	Music (AAS)	33	Music (AAS)	33	Music (AAS)	33
	Geo. A.(AHN)	Lab1	Geo .A. (AHN)	Lab1	Geo .A. (SBP)	Lab1	Geo .A. (SBP)	Lab1	Geo .A. (MWC)	Lab1	Geo .A. (SBP)	Lab1
	Geo. B.	Lab2	Geo .B.	Lab2	Geo. B.	Lab2	Geo .B.	Lab2	Geo. B.	Lab2	Geo .B.	Lab2
	Hindi (SNJ)	15	Hindi (SNJ)	15	Eng.(Com) A. (SVY)	21	Eng.(Com) A.(SVY)	21	Eng.(Com) A. (SVY)	21	Eng.(Com) A.(SVY)	21
09.40	Histroy (BBB)	16	Histroy (BBB)	16	Eng.(Com) B. (ALA)	16	Eng.(Com)B. (ALA)	16	Eng.(Com) B. (ALA)	16	Eng.(Com) B.(ALA)	16
	Marathi (RCS)	17	Marathi (RCS)	17	Eng.(Com) C.	17	Eng.(Com) C.	17	Eng.(Com) C.	17	Eng.(Com) C.	17
	Poli.Sci. (PML)	20	Poli.Sci. (PML)	20	--		--		--		--	
to	Eng. (SCM)	21	Eng. (SCM)	21			--		--		--	
	Eco. (BRS)	96	Eco. (BRS)	96	--		--		--		--	
10.30	Geo. A (MWC)	Lab1	Geo. A (MWC)	Lab1	--		--		--		--	
	Geo. B.	Lab2	Geo. B.	Lab2	--		--		--		--	
10.30	Geo. A. (AHN)	Lab1	Geo. A. (AHN)	Lab1	Geo. A.(SBP)	Lab1	Geo. A.(SBP)	Lab1	Geo. A. (AHN)	Lab1	Geo. A. (AHN)	Lab1
	Geo. B.	Lab2	Geo. B.	Lab2	Geo. B.	Lab2	Geo. B.	Lab2	Geo. B.	Lab2	Geo. B.	Lab2
to	Phy.Edu. (VSN)	47			Phy.Edu. (VSN)	47	Phy.Edu. (VSN)	47	Phy.Edu. (RSN)	47	Phy.Edu. (RSN)	47
	--		Phy.Edu. (RSN)	47	--		--		--		--	
11.20	Music (AAS)	33	Music (AAS)	33	Music (AAS)	33	Music (AAS)	33	Music (AAS)	33	Music (AAS)	33
11.20	Geo. A. (AHN)	Lab1	Geo .A. (AHN)	Lab1	Geo .A. (MWC)	Lab1	Geo.A.(SBP)	Lab1	Geo.A.(SBP)	Lab1	Geo.A.(SBP)	Lab1
	Geo. B.	Lab2	Geo. B.	Lab2	Geo. B.	Lab2	Geo. B.	Lab2	Geo. B.	Lab2	Geo. B.	Lab2
to	Phy.Edu. (VSN)	47	Phy.Edu. (RSN)	47			Phy.Edu. (RSN)	47	Phy.Edu. (VSN)	47	Phy.Edu. (VSN)	47
	Music (AAS)	33	Music (AAS)	33	Music (AAS)	33	Music (AAS)	33	Music (AAS)	33	Music (AAS)	33
12.10	--		--		Phy.Edu. (RSN)	47	--		--		--	

CHAIRMAN
TIME-TABLE COMMITTEE

Shri Shivaji Mahavidyalaya Barshi
Department of Zoology
Dr. Gaikwad A. M.
Syllabus Planning Report 2021-22

Class: B. Sc. I Sem I & II

Sr. No.	Name of the topic	Tentative duration of completion in month
1	Unit 1 ; Kingdom Protista: General characters and classification up tot classes, Locomotory organelles and nutrition in Protozoa	August 2022
2	Unit 2; Phylum Porifera : : General characters and classification up tot classes, Canal system in sycon	September 2022
3	Phylum Cnidaria : : General characters and classification up tot classes, Polymorphism in hydrozoa.	October 2023
	Practical	
4	Study of the specimen: Kingdom protistata to class mammals	August2022-January 2023
5	Study of Permenanat slides, Poisonous and non poisonus Snake	February 2023
5	Ostiology	March 2023
6	Embryology	April 2023
7	Cytological preparations and Journal checking	May2023

Class: B. Sc. II Sem III & IV (online)

Sr. No.	Name of the topic	Tentative duration of completion in month
1	Unit 5 Community: Charateristics , species richness, dominanace, diversity indices, abundance	August 2022
2	Unit 6: Ecosystem: General characteristics and faunal adaptation in aquatic	September to November 2022
3	Study of terrestrial ecosystem	December to February 2023
	Sem IV theory	
4	Unit 6 Nucleic acids: Structure, base pairing, Types of DNA and RNA Unit 7 Central Dogma, Basic concept of Rplication, transcription and translation in prokaryotes	April 2023
5	Unit 8 enzymes: Nomenclature, classification, properties and mechanism of enzyme action.	May 2023
	Practical I and II	
3	a) Study of mitosis, Meiosis, and demonstration of Barr body b) Study of permanent Slides of mammalian organs	September 2022

4	a)Study techniques by using permanent slides and study and construction of Ecological pyramid b) Blood group and Microtomy	October 2022
5	a) Calculation shanon Weiner diversity index and Study of an aquatic ecosystem b) SimpleMuscle twitch, estimation of Carbohydrate and protein by Colorimetric method	November to December 2022
6	a) Estimation of O2, Co2 and hardness from water sample b) Demobstration of Paper chromatography and action of amylase,	Janawary to Februry 2023
7	a) Journal checking , Internal exam b) Effect of Ph, temperature and inhibitor on action of amylase, Qualitative test and project	April- May 2023
8		

Class: B. Sc. III Sem V & VI

Sr. No.	Name of the topic	Tentative duration of completion in month
1	Paper: Molecular biology Unit 1: nucleic acids, salient features of DNA and RNA, Watson and Crick model	August 2022
2	Unit 2: DNA replication	September 2022
3	Paper : Wildlife conservation and management Unit 3 Management of Habitat: Succession , logging, mechanical treatment, cover construction genetic diversity	October to November 2022
4	Unit 4: Population estimation : methods of population estimation, sex ratio computation, fecal analysis, hair identicafation, pug mark and census methods	December 2022
5	Application of Biosistics in biodiversity estimation, analysis of Shanon and symposns diversity indises	January 2023
6	Paper Animal Behaviour and Chrnobiology Unit 1: Introduction to animal behavior, Origin and history of ethology, Cause of Behavior	February 2023
7	Unit 2: Patterns of behavior, Steriotped behavior, instictnct Vs learned behavior, Associate learing, Classical and operant conditioning, impriting	March 2023
8	Unit 3 Social Behavior: Concept of society, communication and senses, Honey society, Dancing langue, foraging	April to May 2023
	Practical I	

1	Molecular biology, Cell division, Islation oF DNA, Chromatoghraphy	August 2022
2	Quantitative estiomation of DNA and RNA, Demonstration of DNA and RNA	Septembe 2022
3	FAST NCBI, Electophorsis	October 2022
4	Codon analysis and Karyotyping	November to December 2022
	Animal physiology	
1	estimation of Salivery amylase activity, Measurement of BP, Heat beat,	February 2023
2	Determination of BMI, Enumeration of RBC WBC, Differtial count of WBC and study tour	March 2023
3	Estimation of Haemoglobin. Prepation of haemin crystals, blood clotting, determination of abnormal and normal constituents of urine	April 2023
4	estimation of O2 and study of mammalian organ	May 2023

Shri Shivaji Mahavidyalaya Barshi

Department of Zoology

Dr. Gaikwad A. M.

Syllabus Completion Report 2021-22

Class: B. Sc. I Sem I & II

Sr. No.	Name of the topic	Remark
1	Unit 1 ; Kingdom Protista: General characters and classification up tot classes, Locomotory organelles and nutrition in Protozoa	Completed
2	Unit 2; Phylum Porifera : : General characters and classification up tot classes, Canal system in sycon	Completed
3	Phylum Cnidaria : : General characters and classification up tot classes, Polymorphism in hydrozoa.	Completed
	Practical	
4	Study of the specimen: Kingdom protistata to class mammals	Completed
5	Study of Permenanat slides, Poisonous and non poisonus Snake	Completed
5	Ostiology	Completed
6	Embryology	Completed
7	Cytological preparations and Journal checking	Completed

Class: B. Sc. II Sem III & IV

Sr. No.	Name of the topic	Remark
1	Unit 5 Community: Charateristics , species richness, dominanace, diversity indices, abundance	Completed
2	Unit 6: Ecosystem: General characteristics and faunal adaptation in aquatic	Completed
3	Study of terrestrial ecosystem	Completed
	Sem IV theory	Completed
4	Unit 6 Nucleic acids: Structure, base pairing, Types of DNA and RNA Unit 7 Central Dogma, Basic concept of Rplication, transcription and translation in prokaryotes	Completed
5	Unit 8 enzymes: Nomenclature, classification, properties and mechanism of enzyme action.	Completed
	Practical I and II	Completed
3	a) Study of mitosis, Meiosis, and demonstration of Barr body b) Study of permanent Slides of mammalian organs	Completed
4	a)Study techniques by using pemamant slides and study and construction of Ecological pyramid	Completed

	b) Blood group and Microtomy	
5	a) Calculation shanon Weiner diversity index and Study of an aquatic ecosystem b) SimpleMuscle twitch, estimation of Carbohydrate and protein by Colorimetric method	Completed
6	a) Estimation of O2, Co2 and hardness from water sample b) Demobstration of Paper chromatography and action of amylase,	Completed
7	a) Journal checking , Internal exam b) Effect of Ph, temperature and inhibitor on action of amylase, Qualitative test and project	Completed
8		

Class: B. Sc. III Sem V & VI (Online)

Sr. No.	Name of the topic	
1	Paper: Molecular biology Unit 1: nucleic acids, salient features of DNA and RNA, Watson and Crick model	Completed
2	Unit 2: DNA replication	
3	Paper : Wildlife conservation and management Unit 3 Management of Habitat: Succession , logging, mechanical treatment, cover construction genetic diversity	Completed
4	Unit 4: Population estimation : methods of population estimation, sex ratio computation, fecal analysis, hair identicafation, pug mark and census methods	Completed
5	Application of Biosistics in biodiversity estimation, analysis of Shanon and symposns diversity indises	Completed
6	Paper Animal Behaviour and Chrnobiology Unit 1: Introduction to animal behavior, Origin and history of ethology, Cause of Behavior	Completed
7	Unit 2: Patterns of behavior, Steriotped behavior, instictnct Vs learned behavior, Associate learing, Classical and operant conditioning, impriting	Completed
8	Unit 3 Social Behavior: Concept of society, communication and senses, Honey society, Dancing langue, foraging	Completed
	Practical I	
1	Molecular biology, Cell division, Islation oF DNA, Chromatoghraphy	Completed
2	Quantitative estiomation of DNA and RNA,	Completed

	Demonstration of DNA and RNA	
3	FAST NCBI, Electophorsis	Completed
4	Codon analysis and Karyotyping	Completed
	Animal physiology	Completed
1	estimation of Salivery amylase activity, Measurement of BP, Heat beat,	Completed
2	Determination of BMI, Enumeration of RBC WBC, Differtial count of WBC and study tour	Completed
3	Estimation of Haemoglobin. Prepation of haemin crystals, blood clotting, determination of abnormal and normal constituents of urine	Completed
4	estimation of O2 and study of mammalian organ	Completed

श्री शिवाजी शिक्षण प्रसारक मंडळ बार्शी संचलित

श्री शिवाजी महाविद्यालय बार्शी

हिंदी विभाग

!!! कार्यपुर्ति अहवाल !!!

तिथि- 30/06/2021

सेवा में

मा. प्रधानाचार्य,

श्री शिवाजी महाविद्यालय बार्शी

जिला. सोलापुर।

विषय- 2020-21 इस शैक्षणिक वर्ष के हिंदी विभाग के पाठ्यक्रम पूर्ति अहवाल के बारे में.....

महोदय,

उपर्युक्त विषय के अनुरूप सन 2020-21 शैक्षिक वर्ष की समाप्ति के अवसर पर आज तिथि- 30/06/2021, समय सुबह10:30 को हिंदी विभागाध्यक्ष डॉ. आर.डी कदम की अध्यक्षता में विभागीय बैठक का आयोजन किया था। उक्त बैठक में हिंदी विभाग के सभी कक्षाओं का पाठ्यक्रम वार्षिक योजना के अनुरूप पूर्तता से संबंधित विमर्श किया।

उक्त बैठक से मुझे विश्वास हुआ है कि सत्र आरंभ की बैठक के अनुसार हिंदी विभाग के सभी अध्यापकों ने 2020-21 वर्ष के पाठ्यक्रम को वार्षिक योजना के अनुरूप पूर्ण किया है। हिंदी विभाग के अध्यापक निम्नानुसार पेपर पढ़ाते हैं।

डॉ. आर.डी.कदम			
अक्र	कक्षा	पेपर क्र	पेपर का नाम
1.	बी.ए -। ऐच्छिक	I,II	साहित्य रत्न
2	बी.ए- III	XI,XVI	भाषा विज्ञान
3	एम.ए-।	III,VII	प्रयोजनमूलक हिंदी
४	एम.ए- ॥	X,XIV	काव्य शास्त्र
डॉ एस.एन. जाधव			
1	बी.ए ।	I,II	साहित्य रत्न
2	बी.ए -III	VI,XII	आधुनिक गद्य
3	एम.ए ।	I,V	आधुनिक गद्य
४	एम.ए - ॥	IX,XIII	आधुनिक गद्य
डॉ आर एस कांबले			
१	बीए -।	I,II (com)	साहित्य रंग
2	बीए-III	IX,XIV	हिंदी साहित्य का इतिहास
3	एम ए -।	III,VII	पत्रकारिता
४	एम ए - ॥	IX,XIII	हिंदी साहित्य का इतिहास
प्रा एन एन चौधरी			
१	बीए -।	I,II	साहित्यरत्न

2	बीए - ॥	III,V	कहानी एवं व्याकरण
3	बीए- ॥।	X, XV	प्रयोजनमूलक हिंदी
४	एम ए -।	II,VI	भाषा विज्ञान
प्रा एस एच वैद्य			
१	बीए -। (opt)	I, ॥	साहित्य रत्न
२	बीए - ॥	IV, VI	प्राचीन एवं मध्ययुगीन काव्य,
3	बीए -॥।	VIII,XIII	साहित्यशास्त्र
४	एम ए - ॥	XII,XVI	अनुवाद सिद्धांत एवं प्रयोग

वार्षिक पाठ्यक्रम योजना के अनुरूप पूर्ति की स्वीकृति देने वाले अध्यापकों के हस्ताक्षर

अ क्र	अध्यापकों का नाम	पदनाम	हस्ताक्षर
१	डॉ आर.डी कदम	हिंदी विभागाध्यक्ष	
२	डॉ एस एन जाधव	सहाय्यक प्राध्यापक	
3	डॉ ए एस कांबले	सहाय्यक प्राध्यापक	

४	प्रा एन एम चौधरी	सहाय्यक प्राध्यापक	
५	प्रा एस एच वैद्य	सहाय्यक प्राध्यापक	

हिंदी विभागाध्यक्ष

Shri Shivaji Mahavidyalaya, Barshi

Department of

Yearly Teaching Planning

2021-22

Class: B.A-I Division: A Subject: History Paper- Paper No: I and II

Rise of Maratha power

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
				Semester - I	
1.	June	12	6	Unit - No - I Background and Rise of Maratha power Political, Social Economics and Religious	
2.	July	26	16	Rol of Shahaji, Jijabai and early Activitics	
3.	August	24	15	Unit No - 2 chhatrapti Shivaji's Conflict with Adilshahi kingdom	
4.	September	25	15	Unit No - 3 chhatrapati Shivaji's conflict with Mughals	
5.	October	22	10	Unit - No - 4 chhatrapati Shivaji's Coronation	
6.	November	08	02	Karnatka Expedition University Examinations	

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
7.	December	26	10	University Examination Semester - 2 Administration	
8.	January	24	16	Chh. Shivaji's Administration Civil Military Judicial	
9.	February	23	16	Unit - 2 - Village community and Agrarian System Estimate of Shivaji A) Nation Builder B) Administrator C) work of Sambhaji Rajaram and Tarabai	
10.	March	23	14		
11.	April	23	—	University Examination	

Signature and Name of the Teacher
Dr B. B. Bichitkar

Signature & Name of the H.O.D
Dr. V. B. Waghmare
Head, Dept. Of History
Shri Shivaji Mahavidyalaya, Barshi

Shri Shivaji Mahavidyalaya, Barshi
Department of
Yearly Teaching Planning
2021-22

Class: B.A. II Division: — Subject: History of Modern Europe Paper No: III & IV

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
				Semester - I	
1.	June	12	04	Unit No-I French Revolution - 1789	
2.	July	26	14	French Revolution - Era of Nepolean Bonaparst	
3.	August	24	14	Unit - III Age of Metternich Vienna Congress.	
4.	September	25	16	Development in Europe - 1848.	
5.	October	22	12	Unification of Italy Unification of Germany Modern Concepts	
6.	November	08	—	University Examination.	

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
				University Examination	
7.	December	26	12	Age of Bismark	
8.	January	24	16	First word war causes Effects	
9.	February	23	16	Rise of Dictorship in Europe	
10.	March	23	12	Second World war causes course	
11.	April	23	—	University Examination	

Signature and Name of the Teacher

Dr. V. B. Waghmare

Signature & Name of the H.O.D

Dr. V. B. Waghmare

Head, Dept. Of History

Shri Shivaji Mahavidyalaya, Barshi

Shri Shivaji Mahavidyalaya, Barshi
Department of
Yearly Teaching Planning
2021-22

Class: B.A II Division: — Subject: History of Freedom Movement in India Paper No: IV & VI

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
				Semester – I	
1	June	12	06	Revolt of 1857 Background	
2	July	26	16	Socio-Religious Movements Brahmo Samaj	
3.	August	24	12	Indian Nationalism Rise of Development	
4.	September	25	16	Work of Moderators Era of Extremist and Lokmanya Tilak	
5.	October	22	10	Rise of Extremist Partition	
6.	November	08	—	Home Rule movements University Examinations	

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
7.	December	26	12	University Examination contribution of Revolutionaries Gandhian Era	
8.	January	24	16	Non-co-operation movement constitutional Development and Indian National Army	
9.	February	23	16	Independance and partition	
10.	March	23	10	University Examinations	
11.	April	23	—		

Signature and Name of the Teacher

Dr. B. B. Bichitkar

Signature & Name of the H.O.D

Dr. V. B. Waghmare

Head, Dept. Of History

Shri Shivaji Mahavidyalaya, Barshi

Shri Shivaji Mahavidyalaya, Barshi
Department of
Yearly Teaching Planning
2021-22

Class: B.A II Division: - Subject: HSRM.IDS Paper No: IDS

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
				Semester - I	
1.	June	12	06	Maharashtra in the early 19th Century	
2.	July	26	16	Early Reforms in British Period Administration Education press	
3.	August	24	15	Early Reformers Jagannath Shankarseth &	
4.	September	25	16	Gopal Hari Deshmukh Bhau Daji Lad	
5.	October	22	10	Life and work of Mahatma Jotiba phule	
6.	November	08	02	Satyashodhak Samaj' University Examinations	

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
				Semister - II	
				University Examinations	
7.	December	26	16	Life and work of Rajarshi Shahu	
8.	January	24	16	Social Reformers	
9.	February	23	15	Women Reformers	
10.	March	23	10	Life and work of Dr. Babasaheb Ambedkar.	
11.	April	23	-	University Examinations	

Signature and Name of the Teacher
Dr. B. B. Bichitkar

Signature & Name of the H.O.D
Dr. V. B. Waghmare
Head, Dept. Of History
Shri Shivaji Mahavidyalaya, Barshi

Shri Shivaji Mahavidyalaya, Barshi

Department of

Yearly Teaching Planning

2021-22

Class: B.A. III Division: — Subject: Ancient India Paper No: VII & XII

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
				Semester – I	
1.	June	12	04	Sources of Ancient Indian History	
2.	July	26	16	Archaeological sources.	
3.	August	24	10	Historic Age Paleolithic Age	
4.	September	25	16	Indus Valley Civilization	
5.	October	22	10	Vedic Period Origin of Aryans	
6.	November	08	02	Social and Religious Conditions. University Examination	

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
7.	December	26	12	University Examination India During 6th B.C. Jainism Buddism	
8.	January	24	16	Mouryan Empire	
9.	February	23	16	Age of the Satvahans and Guptas	
10.	March	23	10	Vardhan Dynasty and Vakataka Dynasty.	
11.	April	23	—	University Examination	

Signature and Name of the Teacher
Dr. V. B. Waghmare

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Shri Shivaji Mahavidyalaya, Barshi.

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Department of

Yearly Teaching Planning

2021-22

Class: Division: Subject: Mughal India Paper No: VIII and XIII

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
1.	June	12	04	Unit - No - 1 Literary Sources of Mughal India Foregion Travel Accounts.	
2.	July	26	16	Foundation of Mughal Empire and Babar	
3.	August	24	15	Humayun and Shershah	
4.	September	25	16	Early life of Shershah conflict - Humayun and Shershaha	
5.	October	22	10	Akbar Rajput policy	
6.	November	08	02	Religious policy University Examination	

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
				Sem- II University Exam.	
7.	December	26	10	Jahangir and Shahajahan	
8.	January	24	16	War of succession - Aurangzeb	
9.	February	23	16	Administrative system of Mughal Empire	
10.	March	23	12	Architecture in Mughal period.	
11.	April	23	—	University Examinations.	

Signature and Name of the Teacher

Dr. B. B. Bichitkar

Signature & Name of the H.O.D

Dr. V. B. Waghmare

Head, Dept. Of History

Shri Shivaji Mahavidyalaya, Barshi.

Shri Shivaji Mahavidyalaya, Barshi
Department of
Yearly Teaching Planning
2021-22

Class: Division: Subject: Expansion and Downfall of the Marratha power Paper No: IX & IX

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
1.	June	12	05	Sem- I Chh. Shahu Maharaj and civil war.	
2.	July	26	16	Work of peshwa Balaji Vishwanath peshwa Bajirao -I	
3.	August	24	15	Relation with portaguese and Siddi Northern Expansion	
4.	September	25	15	peshwa Balaji Bajirao (Nanasaheb)	
5.	October	22	08	Third Battle of panipat, 1761 A.D.	
6.	November	08	02	Effects University Examinations,	

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
				Sem - II	
7.	December	26	16	Restoration of the Maratha power.	
8.	January	24	16	Period of Barbhai	
9.	February	23	16	Decline of the Maratha power	
10.	March	23	10	Administrative system during the peshwa Period.	
11.	April	23	—	University Examination	

Signature and Name of the Teacher
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Department of

Yearly Teaching Planning

2021-22

Class: B.A. III Division: — Subject: Modern World Paper No: XIV & XV

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
				Sem - I	
1	June	12	04	Bismark Internal policy	
2.	July	26	16	Foreign policy New Imperialism	
3.	August	24	15	Meaning and Background	
4.	September	25	15	First world war	
5.	October	22	10	Russian Revolution - 1917	
6.	November	08	—	University Examination	

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
7.	December	26	10	Sem - II University Examination Background - Dictatorship in Europe	
8.	January	24	16		
9.	February	23	16	Second World War Cold War	
10.	March	23	10	United Nations University Examination	
11.	April	23	—	Examinations	

Signature and Name of the Teacher
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Department of
Yearly Teaching Planning
2021-22

Class: B.A. III Division: — Subject: Historical Sources, Research and places Paper No: XII & XVI

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
				Sem - I	
1.	June	12	06	Meaning and Definition	
2.	July	26	16	Nature and Scope of History	
3.	August	24	14	Sources - Importance of Sources Types	
4.	September	25	16	Research process Auxiliary Sciences	
5.	October	22	12	History Writing process	
6.	November	08	—	University Examinations	

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
7.	December	26	10	Sem - II University Exam. Forts	
8.	January	24	16	Museums Importance Types	
9.	February	23	16	Historical Tourism Historians V. C. Bendre	
10.	March	23	12	University Examination	
11.	April	23	—		

Signature and Name of the Teacher
Dr. V.B. Waghmare

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Head, Dept. Of History
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Shri Shivaji Mahavidyalaya Barshi

Department of Mathematics

Yearly Teaching planning **Academic Year:** 2021-22

Name of Teacher: Shinde M. Y. **Class:** BSc.III

Subject: Algebra II and Integral Calculus **Paper No:**IX and XVI

Sr No.	Month	Working days	Periods Available	Teaching Topics	Remarks
1	August	25		Admission Process.	
2	September	24	13	Introduction to Rings.	
3	October	25	12	Ouotient Rings and Vector Spaces	
4	November	16	10	Linear Transformation and Matrices.	
5	December	25	12	Inner product space.	
6	January	25	12	Improper Integral.	
7	February	22	10	Improper Integral.	
8	March	25	12	Beta and Gamma Function.	
9	April	23	11	Multiple Integral.	
10	May	24	10	Multiple Integral.	
11	June.	26	__	University Practical exam.	
12	July	26	__	University Exam.	

Signature of Teachers: **Signature of HOD:**

Shri Shivaji Mahavidyalaya Barshi

Department of Mathematics

Yearly Teaching planning **Academic Year:** 2021-22

Name of Teacher: Sabale N. V. **Class:** BSc.III

Subject: Real Analysis and Numerical Analysis. **Paper No:** XI and XIV

Sr No.	Month	Working days	Periods Available	Teaching Topics	Remarks
1	August	25		Admission Process.	
2	September	24	___	___	
3	October	23	6	Real Numbers.	
4	November	16	12	Real Sequences.	
7	December	25	18	Infinite Series.	
8	January	25	18	Infinite Series.	
9	February	23	17	Finite differences.	
10	March	25	17	Interpolation.	
11	April	23	17	Numerical differentiation and Integration.	
12	May	24	10	Difference Equations.	
13	Jun	___	___	University Practical Exam	
14	July	___	___	University Exam.	

Signature of Teachers: **Signature of HOD:**

Shri Shivaji Mahavidyalaya Barshi

Department of Mathematics

Yearly Teaching planning **Academic Year:** 2021-22

Name of Teacher: Sabale N. V. **Class:** BSc.III

Subject: Complex analysis and metric space. **Paper No:** X and XIII

Sr No.	Month	Working days	Periods Available	Teaching Topics	Remarks
1	August	25	___	Admission Process.	
2	September.	24	___	____	
3	October	23	6	Analytic Functions.	
4	November.	16	12	Complex Integration.	
5	December.	25	18	Calculus of Residue.	
6	January	25	18	Calculus of Residue.	
7	February	23	17	Limits and Metric Spaces.	
8	March	25	17	Continuous functions on metric spaces.	
9	April	23	17	Continuous functions on metric spaces.	
10	May	24	10	Completeness and compactness.	
11	Jun	26		University Practical Exam.	
12	July	26		University Exam.	

Signature of Teachers: **Signature of HOD:**

Shri Shivaji Mahavidyalaya Barshi

Department of Mathematics

Yearly Teaching planning **Academic Year:** 2021-22

Name of Teacher: Javir P. S. **Class:** BSc.III

Subject: PDE and Graph Theory **Paper No:** XII and XV

Sr No.	Month	Working days	Periods Available	Teaching Topics	Remarks
1	August	25		Admission Process.	
2	Septmber.	24		____	
2	October.	23	6	Linear PDE. Of order one.	Extra Lecture.
3	November	16	8	Nonlinear PDE of order one.	Extra Lecture.
4	December	25	13	Linear PDE with constant coefficient.	Extra Lecture.
5	January	25	13	Linear PDE with constant coefficient.	Extra Lecture.
6	February	23	12	Graph theory.	
7	March	25	13	Operations on Graphs	
8	April	23	11	Trees.	
9	May	24	12	Number system.	
10	June	26		University Practical exam.	
11	July	26		University Exam.	

Signature of Teachers: **Signature of HOD:**

Shri Shivaji Mahavidyalaya Barshi

Department of Mathematics

Yearly Teaching planning **Academic Year:** 2021-22

Name of Teacher: Sabale N. V. **Class:** BSc.II

Subject: Differential Calculus and Abstract Algebra I **Paper No:** V and VIII

Sr No.	Month	Working days	Periods Available	Teaching Topics	Remarks
1	August	25	___	Admission Process.	
2	September.	24	___	____	
3	October	23	6	Tangents and Normals.	
4	November.	16	12	Curvature.	
5	December.	25	18	Jacobian.	
6	January	25	18	Maxima and Minima.	
7	February	23	17	Introduction to groups.	
8	March	25	17	Equivalence, Congruence Divisibility.	
9	April	23	17	Groups and Group Homomorphism.	
10	May	24	10	Groups and Group Homomorphism.	
11	Jun	26	__	University Practical Exam.	
12	July	26	__	University Exam.	

Signature of Teachers: **Signature of HOD:**

Shri Shivaji Mahavidyalaya Barshi

Department of Mathematics

Yearly Teaching planning **Academic Year:** 2021-22

Name of Teacher: Javir P. S. **Class:** BSc.II

Subject: Laplace Transform and Differential Equations. **Paper No:** VI and VII

Sr No.	Month	Working days	Periods Available	Teaching Topics	Remarks
1	August	25	__	Admission Process.	
2	Septmber.	24	__	____	
2	October	23	6	Laplace Transform.	
3	November	16	8	The Inverse Laplace Transform.	
4	December	25	13	The Inverse Laplace Transform.	
5	January	25	13	Application of Laplace Transform.	
6	February	23	12	Diif Equation Unit 1	
7	March	25	13	Diif Equation Unit 2	
8	April	23	11	Diif Equation Unit 3	
9	May	24	12	Diif Equation Unit 4 and 5	
10	Jun	26	__	University Practical exam.	
11	July	26	__	University Exam.	

Signature of Teachers: **Signature of HOD:**

Shri Shivaji Mahavidyalaya Barshi

Department of Mathematics

Yearly Teaching planning **Academic Year:** 2021-22

Name of Teacher: Shinde M. Y. **Class:** BSc.I

Subject: Calculus and Geometry. **Paper No:** II and III

Sr No.	Month	Working days	Periods Available	Teaching Topics	Remarks
1	August	25	__	Admission Process.	
2	September	24	13	Differentiation.	
3	October	25	12	Functions of Two Variables.	
4	November	16	10	Reduction formulae.	
5	December	25	12	Vector calculus.	
6	January	25	12	Vector calculus.	
7	February	22	10	Change of Axis.	
8	March	25	12	Plane.	
9	April	23	11	Sphere.	
10	May	24	10	Sphere.	
11	June.	26	__	University Practical exam.	
12	July	26	__	University Exam.	

Signature of Teachers: **Signature of HOD:**

Shri Shivaji Mahavidyalaya Barshi

Department of Mathematics

Yearly Teaching planning **Academic Year:** 2021-22

Name of Teacher: Javir P. S. **Class:** BSc.I

Subject: Algebra and Differential Equation .**Paper No:** I and IV

Sr No.	Month	Working days	Periods Available	Teaching Topics	Remarks
1	August	25	__	Admission Process.	
2	Septmber.	24	__	____	
2	October	23	6	Matrices	
3	November	16	8	Linear equations	
4	December	25	13	Complex number	
5	January	25	13	Transcendental functions	
6	February	23	12	Diff Equation Unit 1 (A)	
7	March	25	13	Diff Equation Unit 1(B)	
8	April	23	11	Diff Equation Unit 2 (A)	
9	May	24	12	Diff Equation Unit 2 (B)	
10	Jun	26	__	University Practical exam.	
11	July	26	__	University Exam.	

Signature of Teachers: **Signature of HOD:**

Shri SHINDE M. Y.

Department of mathematics

S. S. M. Barshi

Date:- 25/07/2022.

To

The principal

S. S. M. Barshi

Sub: - Syllabus completion report

R/S

I have satisfactorily completed the prescribed syllabus of B.Sc. part I, II and III according to the workload assigned to me in the academic year 2021 – 22

This completion report is given on this 25th day July 2022.

Remark: Due To covid Pandemic Syllabus completed by online method fron Aug 2021 to Feb 2022.

Name And Sign

HOD Dept of Mathematics

Miss Javir P. S.

Department of mathematics

S. S. M. Barshi

Date:- 25/07/2022.

To

The principal

S. S. M. Barshi

Sub: - Syllabus completion report

R/S

I have satisfactorily completed the prescribed syllabus of B.Sc. part I, II and III according to the workload assigned to me in the academic year 2021 – 22

This completion report is given on this 25th day July 2022.

Remark: Due To covid Pandemic Syllabus completed by online method from Aug 2021 to Feb 2022.

Name and Sign **Name and Sign**

Asst professor **HOD Dept of Mathematics**

Shri Sabale N. V.

Department of mathematics

S. S. M. Barshi

Date:- 25/07/2022.

To

The principal

S. S. M. Barshi

Sub: - Syllabus completion report

R/S

I have satisfactorily completed the prescribed syllabus of B.Sc. part I, II and III according to the workload assigned to me in the academic year 2021 – 22

This completion report is given on this 25th day July 2022.

Remark: Due To covid Pandemic Syllabus completed by online method from Aug 2021 to Feb 2022.

Name and Sign **Name and Sign**

Asst professor **HOD Dept of Mathematics**

ADD-ON COURSE IN "PRINTED CIRCUIT BOARD DESIGNING AND DEVELOPMENT"

Objectives of the Course:- This is basic skill based course for designing and developing of PCB using software. PCB (Printed Circuit Board) is an integral part of each electronic product and this course is designed to make students capable of designing and developing their own project PCB up to industrial grade.Upon completion of the PCB design course, the students should be able to carry out any PCB design necessary for their graduation projects.Students will also be able to create schematics from blue-prints, they will also be able to perform simple simulations The course is intended to give the students the necessary knowledge and of PCB design steps, starting from a simple schematics, through creating new components, and all the way to down a final PCB layout ready for population Recognize the technologies used in electronic industry through the practical experience gained in the course.

Target Audience:- B.Sc.III (Electronics) students.

Topics Covered:-

1. Introduction to PCB designing concepts.
2. Introduction to different electronic components and their categories.
3. Introduction to different PCB development tools.
4. Detailed description and practicals of PCB designing and development.
5. LAB practice and designing concepts.

Detailed Syllabus of the Course

Section-I:- Introduction to PCB designing concepts

1. Introduction and brief history

- What is PCB?
- Types of PCBs - Single sided (single layer), Double sided (double or multi-layer)
- PCB materials

2. Introduction to Electronic Design Automation (EDA)

- Brief history of EDA
- Latest trends in market
- Different EDA tools
- Introduction to SPICE and PSPICE environment
- Introduction and working of ORCAD and PROTEUS

Section-II:- Introduction to different electronic components and their categories

1. Types of Components

A) Active Components

- Diodes
- Transistors
- MOSFET

- LED
- SCR, DIAC and TRIAC
- Integrated Circuits (ICs)

B) Passive Components

- Resistor
- Capacitor
- Inductor
- Transformer
- Relays and Switches
- Speaker/Buzzer

2. Component Package Types

A) Through Hole Packages

- Axial lead
- Radial lead
- Single Inline Package (SIP)
- Dual Inline Package (DIP)
- Transistor Outline (TO) Package
- Pin Grid Array (PGA) Package

B) Surface Mount Technology (SMT) Packages

- Metal Electrode Face (MELF)
- Leadless Chip Carrier (LCC)
- Small Outline Integrated Circuit (SOIC)
- Quad Flat Pack (QPF) and Thin QPF (TQPF)
- Ball Grid Array (BGA)
- Plastic Leaded Chip Carrier (PLCC)

Section-III:- Introduction to different PCB development tools

A) Introduction to PCB design using ORCAD tool

B) Introduction to PCB design using Proteus tool

Section-IV:- Detailed description and practicals of PCB designing and development

A) PCB Designing Flowchart

- Schematic Entry
- Net Listing
- PCB Layout Designing
- Prototype Designing

  I) Design Rule Check (DRC)

  II) Design for Manufacturing (DFM)
- PCB Making

  I) Printing

II) Etching

III) Drilling

- Assembly of Components

B) Description of PCB Layers

- Electrical Layers

  I) Top Layer

  II) Mid Layer

  III) Bottom Layer

- Mechanical Layers

  I) Board Outline and Cutouts

  II) Drill Details

- Documentation Layers

  I) Component Outlines

  II) Reference Designation

  III) Text

C) Keywords and their Description

- Footprint
- Pad stacks
- Vias
- Tracks
- Color of Layers
- PCB Track size calculation formula

D) PCB Materials

- Standard FR-4 Glass Epoxy
- Multifunctional FR-4
- Tetra-functional FR-4
- NelcoN400-6
- GETEK
- BT Glass Epoxy
- Cyanate Aster
- Plyimide Glass
- Teflon

E) Rules for Check

- Track Length
- Track Angle
- Track Joints
- Track Size

F) Study of IPC Standards

- IPC standard for schematic design
- IPC standard for PCB design
- IPC standard for PCB materials
- IPC standard for documentation and PCB fabrication

Section 5: Lab practice and designing concepts

A) Starting the PCB designing

• Understanding the schematic Entry

• Creating Library & Components

• Drawing a Schematic

• Flat Design / hierarchical Design

• Setting up Environment for PCB

• Design a Board

B) Auto routing

• Introduction to Auto routing

• Setting up Rules

• Defining Constraints

• Auto router Setup

C) PCB Designing Practice

• PCB Designing of Basic and Analog Electronic Circuits

• PCB Designing of Power Supplies

• PCB Designing of Different Sensor modules

• PCB Designing of Electronics Projects

• PCB Designing of Embedded Projects

D) Post Designing & PCB Fabrication Process

• Printing the Design

• Etching

• Drilling

• Interconnecting and Packaging electronic Circuits (IPC) Standards

• Gerber Generation

• Soldering and De-soldering

• Component Mounting

• PCB and Hardware Testing

Project work

• Making the schematic of Academic and Industrial projects

• PCB Designing of these projects

- Soldering and De-soldering of components as per Design
- Testing and Troubleshooting Methods

Prepare a copper clade double sided PCB and clean it properly with a piece of paper-sand Use the guillotine paper cutter to cut the copper clade according to the defined pcb dimensions From the Gerber viewer software make a print out of i.e. actual top-layer, bottom-layer and the topoverlay layer, use a glossy paper and laser printer Stick the papers of top and bottom layers on sides of copper clade PCB Put in the trimmed Copper PCB inside laminating machine several times while the temperature at maximum Use a small amount of water in a bowel to cool down the PCB and slowly peal out the glossy papers Merge the PCB inside a ferric chloride etchant for at least 2 hours at 50 degree Celsius Use a milling machine with 1mm drill pit to drill the entire solder holes of the PCB

References: -

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14. PCB Fabrication at home(video): https://www.youtube.com/watch?v=mv7Y0A9YeUc, https://www.youtube.com/watch?v=imQTCW1yWkg

Shri Shivaji Mahavidyalaya, Barshi
Department of Political Science
Yearly Teaching Planning
2021-22

Class: B.A. I Division: A Subject: Political Science Paper No: I&II

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
1.	June	9	7	1. The Constituent Assembly	
				and the Constitution:	
				Philosophy of the Constitution	
				the Preamble	
2.	July	26	15	Features of the Constitution	
				2. Citizens Right and Duties,	
				Directive Principles of State	
				Policy: Fundamental Rights	
				Duties of Indian Citizen	
3.	August	23	16	Directive Principles	
				3. Union Legislature and	
				Executive:a. Union Legislature:	
				Lok Sabha and Rajya Sabha:	
				Composition, Power & Functions.	
4.	September	25	18	Union Executive: President,	
				Vice President, Prime Minister	
				and Council of Minister	
				4. Judiciary	
				Supreme Court:	
5.	October	22	14	Composition, Power and	
				Functions.	
6.	November	12	9	1. Federalism:	
				Division of Powers, Emergency	
				Provision	

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
7.	December	26	18	2 Election Commission.	
				Power and Function of	
				Election Commission.	
8.	January	24	17	3. Indian Party System:	
				a. Ideology and Programme	
				b. Indian National Congress	
				Bahujan Samaj Party	
9.	February	23	16	Communist Party of Indian	
				Bharatiy Janata Party,	
				Nationalist Congress Party	
10.	March	25	17	4. Challenges before unity	
				and integrity	
				Caste, Religion, Regionalism	
				and Communalism	
11.	April	-	-		
				University Exam.	

Mr. Londhe S.V.
Signature and Name of the Teacher

Dr. Lawand P.M.
Signature & Name of the H.O.D

Shri Shivaji Mahavidyalaya, Barshi
Department of Political Science
Yearly Teaching Planning
2021-22

Class: B.A. I Division: B Subject: Political Science Paper No: I&II

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
1.	June	9	6	1. The Constituent Assembly	
				and the Constitution:	
				Philosophy of the Constitution	
				the Preamble	
2.	July	26	17	Features of the Constitution	
				2. Citizens Right and Duties,	
				Directive Principles of State	
				Policy: Fundamental Rights	
				Duties of Indian Citizen	
3.	August	23	16	Directive Principles	
				3. Union Legislature and	
				Executive:a. Union Legislature:	
				Lok Sabha and Rajya Sabha:	
				Composition, Power & Functions.	
4.	September	25	15	Union Executive: President,	
				Vice President, Prime Minister	
				and Council of Minister	
				4. Judiciary	
				Supreme Court:	
5.	October	22	18	Composition, Power and	
				Functions.	
6.	November	12	8	1. Federalism:	
				Division of Powers, Emergency	
				Provision	

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
7.	December	26	16	2 Election Commission.	
				Power and Function of	
				Election Commission.	
8.	January	24	17	3. Indian Party System:	
				a. Ideology and Programme	
				b. Indian National Congress	
				Bahujan Samaj Party	
9.	February	23	15	Communist Party of Indian	
				Bharatiy Janata Party,	
				Nationalist Congress Party	
10.	March	25	16	4. Challenges before unity	
				and integrity	
				Caste, Religion, Regionalism	
				and Communalism	
11.	April	-	-		
				University Exam.	

Dr. Lawand P.M.
Signature and Name of the Teacher

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Shri Shivaji Mahavidyalaya, Barshi
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2021-22

Class: B.A. II Division: A Subject: Political Science Paper No: III & V

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
1.	June	9	8	1. Political Theory	
				(a) Meaning	
				(b) Nature and scope	
				(c) Importance	
2.	July	26	14	2. State	
				(a) Meaning	
				(b) Elements of state,	
				(c) Functions of state	
3.	August	23	17	3. Nation	
				(a) Meaning	
				(b) Elements of nation	
				(c) Difference between state and nation	
4.	September	25	18	Sovereignty	
				(a) Meaning.	
				(b) Kinds of sovereignty	
				(c) Features of sovereignty	
5.	October	22	15	d) Theory of Austin and	
				Laski about sovereignty	
6.	November	12	9	1. Power	
				(a) Meaning	
				(b) Influence and power	

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
7.	December	26	18	2. Authority	
				(a) Meaning	
				(b) Kinds	
				(c) Features of authority	
8.	January	24	15	3. Legitimacy	
				(a) Meaning.	
				(b) Authority and	
				legitimacy	
				(c) Bases of Legitimacy	
9.	February	23	16	4. I) Liberty, Equality and	
				Justice: Meaning and Types	
				II) Democracy	
				(a) Meaning	
10.	March	25	18	(b) Features of democracy	
				(c) Kinds of democracy:	
				Parliamentary and	
				Presidential	
11.	April	-	-		
				University Exam	

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Department of Political Science
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2021-22

Class: B.A. II Division: A Subject: Political Science Paper No: IV&VI

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
1.	June	9	4	1. Raja Rammohan Roy	
				(a) Social Reforms.	
				(b) Political Thoughts.	
2.	July	26	20	(c) The role of Roy in Indian	
				Renaissance.	
				2. Mahatma Phule	
				(a) Views about British Rule.	
3.	August	23	14	(b) Work of social reformation	
				about – Women's and	
				Untouchability	
				(c) Thoughts about Farmers	
4.	September	25	16	3. B. G. Tilak	
				(d) Views about British Rule.	
				(e) Nationalism.	
				(f) Four – Fold Programme.	
				4. Mahatma Gandhi	
5.	October	22	15	(a) Satya, Ahimsa and Satyagraha.	
				(b) Concept of Swaraj	
				(c) Theory of Trusteeship.	
6.	November	12	7	1. Jawaharlal Nehru	
				(a) Secular Nationalism	

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
7.	December	26	16	(b) Democratic Socialism	
				(c) Foreign Policy	
				2. Maulana Abul Kalam Azad	
				(a) Religion and Politics	
				(b) Nationalism	
8.	January	24	15	(c) Democracy.	
				3. Dr. B.R. Ambedkar	
				(a) Social Thought	
				(b) State Socialism (Economic	
				Thought)	
9.	February	23	14	(c) Thoughts on Parliamentary	
				Democracy and Conditions	
				of democratic success.	
				4. R.M. Lohia	
				(a) Caste and Language	
10.	March	25	16	(b) Four Pillar of the State.	
				(c) Democratic Socialism	
11.	April	-	-		
				University Exam	

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Shri Shivaji Mahavidyalaya, Barshi
Department of Political Science
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2021-22

Class: B.A. II Division: A Subject: Public Administration Paper No: IDS

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
1.	June	9	5	1) Public Administration	Sem I
				(a) Meaning, Definition.	
				(b) Nature, Scope and	
				Importance.	
				(c) Public and Private Admi.	
2.	July	26	19	2) Principles of Organization	
				(a) Hierarchy.	
				(b) Span of Control	
				(c) Unity of Command	
3.	August	23	14	(d) Co-ordination	
				3) Units of Organization	
				(a) Staff and Line Agencies	
				(b) Department – Bases of	
4.	September	25	14	Departmental Organization	
				4) Public Corporations	
				(a) Characteristics.	
				(b) Ministerial and	
				Parliamentary control over	
5.	October	22	15	Public Corporation	
				(c) Challenges of Privatization	
				in front of Public Corporation	
6.	November	12	7	1) Financial Administration	Sem II
				(a) Preparation and Passing of	
				Budget	

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
7.	December	26	17	(b) Financial Committees	
				(1) Estimate Committee	
				(2) Public Accounts	
				Committee	
				(3) Committee on Public Und.	
8.	January	24	17	2) Public Policy (a) Definition	
				(b) Characteristics and Models	
				3) Citizen and Administration.	
				interface	
				A) RTI B) Lokpal	
9.	February	23	15	C) Citizens Charter and E-	
				Governance	
				4) Social Welfare Policies	
				• Education: Right to	
				Education	
10.	March	25	16	• Health: National Health	
				Mission	
				• Food: Right to food Security	
				• Employment: MNREGA	
11.	April	-	-		
				University Examination	

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Shri Shivaji Mahavidyalaya, Barshi
Department of Political Science
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2021-22

Class: B.A. III Division: A Subject: Political Science Paper No: VII&XII

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
1.	June	9	4	1) Formation of Sanyukta Maharashtra	Sem I
2.	July	26	14	a) Sanyukta Maharashtra movement b) Obstacles in the formation of Maharashtra	
3.	August	23	18	2. Socio - Economic determinants of Politics of Maharashtra a) Social B) Economic	
4.	September	25	16	3. Political Parties and Pressure Groups in Maharashtra a) Congress b) NCP C) Shivsena D) BJP E) Sugar Lobby	
5.	October	22	14	4. Politics of coalitions in Maharashtra a) - its Causes and effects.	
6.	November	12	10	1) Legislature : Legislative Assembly, Legislative Council- Composition, Powers and Functions.	Sem II

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
7.	December	26	16	Law making process	
				2) Executive Council & Judiciary	
				1) a) Governor , Chief Minister	
				Council of ministers	
				High Court:	
8.	January	24	18	Composition, power and	
				function	
				2) Local self Government (Rural)	
				Zilla parishad, Panchayat samitee	
				Composition, power and Function	
				73^{th} constitutional amendments	
9.	February	23	16	3) Local self Government(Urban)	
				Municipal Corporation	
				Composition, power and	
				function	
10.	March	25	16	Municipality- Composition and	
				function	
				74^{th} constitutional amendments	
11.	April	-	-		
				University Examination	

Mr. Londhe S.V
Signature & Name of the Teacher

Dr. Lawand P.M.
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Shri Shivaji Mahavidyalaya, Barshi
Department of Political Science
Yearly Teaching Planning
2021-22

Class: B.A. III Division: A Subject: Political Science Paper No: VIII&XIII

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
1.	June	9	4	1) Political Sociology:-	Sem I
				a. Meaning, Definition,	
2.	July	26	14	b. Nature & Scope of political	
				Sociology	
3.	August	23	18	2) Approaches to study	
				political Sociology	
				a) Marxist Approach	
				b) System Approach	
4.	September	25	16	3) Political Culture	
				a. Meaning, Definition,	
				b. Classification of Political	
				culture	
				d. Importance of political Cul.	
5.	October	22	14	4) Political Socialization	
				a) Meaning and Definition	
				b) Features of Political	
				Socialisation	
				c) Agencies of Political	
6.	November	12	10	Socialisation	
				d) Importance of Political	
				Socialisation	

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
7.	December	26	16	1) Political participation	Sem II
				a)Meaning, Definition, Nature	
				b) Means of political	
				participation	
				c) Different stages of political	
				participation	
				d) Influencing Factors of	
				Political Participation	
8.	January	24	18	2) Political Communication	
				a) Meaning , Definition, Nature	
				b) Karls .w. Deustsch s Theory of	
				Communication, c) Means and	
				Importance of political communi	
9.	February	23	16	3) Political Elites	
				a. Meaning, Definition, b. factors	
				Responsible for emergence of	
				Elites c. Pareto circulation theory	
				of elites d.Poli.Eli.& Democracy	
10.	March	25	16	4) Political change	
				a. Meaning, Definition, Nature	
				b) Factors influencing of	
				Political Change.	
				d) Importance of Political	
11.	April	-	-		
				University Examination	

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Signature and Name of the Teacher

Dr. Lawand P.M.
Signature & Name of the H.O.D

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Department of Political Science
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Class: B.A. III Division: A Subject: Political Science Paper No: IX&XIV

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
1.	June	9	6	1) International Politics:	Sem I
				a) Nature and Scope	
				b) Idealistic Theories	
				c) Realistic Theories	
2.	July	26	16	2) Element of National Power	
				a) Geography, Population,	
				National Resources	
3.	August	23	14	b) Leadership, Technology	
				c) Ideology, National	
				Character, Morale	
4.	September	25	20	3) Foreign policy	
				a) Objectives	
				b) determinants	
5.	October	22	14	4) Diplomacy:	
				a) Meaning. Kinds and	
				changing nature	
				b) Functions of diplomats	
6.	November	12	8	5) Balance of Power	Sem II
				a) Meaning and	
				Characteristics	

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
7.	December	26	20	b) Techniques of balance of	
				power	
				c) Balance of terror	
8.	January	24	14	6) UN- a) Main Organs-	
				Achievement & failure of UN	
				b) International law	
				Meaning, Sources and	
				Limitation	
9.	February	23	16	7) New World Order:	
				a) End of cold war and	
				emergence of	
				Unipolarworld?	
				b) Emergence of regional	
				organizations- SAARC,	
				ASEAN and Shanghai Co-	
				Operation Organization	
				c) Economic co - operation –	
				WTO , BRICS, International	
				Monetary Fund and World	
				Bank	
10.	March	25	18	8) Indian relations with -	
				neighbouring country	
				a) Pakistan, China,	
				b) Shrilanka, Bangladesh and	
				Nepal	
11.	April	-	-		
				University Examination	

Mr. Londhe S.V.
Signature & Name of the Teacher

Dr. Lawand P.M.
Signature & Name of the H.O.D

Shri Shivaji Mahavidyalaya, Barshi
Department of Political Science
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2021-22

Class: B.A. III Division: A Subject: Political Science Paper No: X & XV

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
1.	June	9	4	1) Comparative Politics	Sem I
				a) Meaning,	
				b) Nature & Scope of	
				Comparative Politics	
2.	July	26	20	2) Approaches to the study of	
				Comparative politics	
				a) Traditional Approaches.	
				b) Structural-Functional	
				Approach	
				C) Behavioral Approach	
3.	August	23	14	3) Characteristics of	
				constitution	
				a) United Kingdom & USA	
				b) Switzerland	
4.	September	25	14	4) Executive	
				a) Composition and Functions	
				of executive (United Kingdom,	
				USA and Switzerland)	
5.	October	22	16	1) legislature	Sem II
				a) Composition and	
				Functions. (United Kingdom,	
				USA and Switzerland)	
6.	November	12	6	2) Judiciary	

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
7.	December	26	16	a) Judicial Review in U.S.A. b) Independence of Judiciary	
8.	January	24	16	3) Unitary and federal system a) Characteristics unitary systems b) Federal systems USA & Switzerland	
9.	February	23	14	4) Party system a) Two party system of UK & USA	
10.	March	25	16	b) Multi party system Swiss & France	
11.	April	-	-	University Examination	

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Signature & Name of the Teacher

Dr. Lawand P.M.
Signature & Name of the H.O.D

Shri Shivaji Mahavidyalaya, Barshi
Department of Political Science
Yearly Teaching Planning
2021-22

Class: B.A. III Division: A Subject: Political Science Paper No: XI&XVI

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
1.	June	9	5	1) Plato	Sem I
				a) Justice	
				b) Education	
				c) Ideal State	
2.	July	26	18	2) Aristotle	
				a) Nature& classification of	
				state	
				b) Citizenship	
				c) Revolution	
3.	August	23	14	3) Machiavelli	
				a) Human Nature	
				b) Role of King	
				c) Politics and Motility,	
4.	September	25	17	4) Theory of Social Contract	
				a) Hobbes -Social Contract	
				Theory	
				b) Locke - Social	
5.	October	22	15	Contract Theory	
				c) Rousseau - Social Contract	
				Theory	
6.	November	12	7	1) Hegel	Sem II
				a) Dialectics	
				b) State and Civil Society.	

Sr. No.	Month	Working Days	Period Available	Teaching Topics	Remark
7.	December	26	18	2) Karl Marks:	
				a) Historical Materialism	
				b) Theory of surplus value	
				c) Proletarian Revolution and	
				Communism.	
8.	January	24	15	3) J. S. Mill	
				a) Utilitarianism	
				b) Concept of Liberty	
				c) Representative Government	
9.	February	23	16	4) Harold Laski:	
				a) Pluralistic theory of	
				Sovereignty	
10.	March	25	17	b) Liberty and equality	
				c) Democratic socialism	
11.	April	-	-		
				University Examination	

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Shri Shivaji Mahavidyalaya Barshi

Department of Zoology

Prof. Dr. Chati R.S

Syllabus Planning Report 2021-22

Class: B. Sc. I Sem I & II

Sr. No.	Name of the topic	Tentative duration of completion in month
1	Semester-I-Animal Diversity -II Unit 1 ; Protochordates –General features and Phyllogeny of Protochoradates	August 2021
2	Unit 2:Agnatha- General features of Agnatha and Classification of Cyclostomes up to classes	September 2021
3	Unit-3: Pisces- General features and Classification up to orders , Economic importance of Fishes	October to November 2021
4	Unit-IV Amphibia- General features and Classification up to orders, Parental care	December 2021
	Semester-II- Developmental Biology of Vertebrates	
5	Unit-I: Gametogenesis- Spermatogenesis and Oogenesis, Vitellogenesis in birds and structure of Hen egg	January 2022
6	Vitellogenesis in birds and Structure of Hen egg	February 2022
7	Unit-II: Fertilization – External fertilization, internal fertilization and Mechanism of fertilization	March 2022
8	Unit-III: Early embryonic development up to Gastrulation-Cleavage ,Blastulation Gastrulation in frog and Human	April 2022
9	Gastrulation in frog and Human and Fate map of Blastula in frog and human	May 2022
	Practicals	

4	Study of the specimen: Kingdom protista to class Mammals	August2021-January 2022
5	Study of Permanent slides, Poisonous and non poisonous Snake	February 2022
5	Osteology	March 2022
6	Embryology	April 2022
7	Cytological preparations and Journal checking	May2022

Shri Shivaji Mahavidyalaya Barshi
Department of Zoology
Prof. Dr. Chati R.S
Syllabus Planning Report 2021-22
Class: B. Sc. II Semester III & IV

Sr. No.	Name of the topic	Tentative duration of completion in month
	Semester –III Principles of Ecology	
1	Unit 1: Introduction to Ecology ,History of Ecology ,Autecology and Synecology	August 2021
2	Unit 7: Food chain, Pond ecosystem food chain, ecological pyramid, energy flow and ecological succession	September to November 2021
3	Unit-8: Applies Ecology-Brief idea of Biodiversity hotspots and Sacred grooves in India with examples	December to February 2022
	Sem IV theory-Animal Physiology	
4	Unit 2: Histology of Mammalian organs	March to April 2022

5	Unit 4 ;Muscles-: Types of Muscles ,Ultrastructure and Muscle contraction	April 2022
6	Unit; Endocrine system- Histology ,Hormones ,functions and disorders of Pituitary, Thyroid, Parathyroid , Pancreas and Adrenal gland	May 2022
	Practical II	
3	a) Study of permanent Slides of mammalian organs	September 2021
4	b) Blood group and Microtomy	October 2021
5	c) SimpleMuscle twitch, estimation of Carbohydrate and protein by Colorimetric method	November to December 2021
6	d) Demobstration of Paper chromatography and action of amylase,	January to February 2022
7	a) Journal checking , Internal exam b) Effect of Ph, temperature and inhibitor on action of amylase, Qualitative test and project	April- May 2022

Shri Shivaji Mahavidyalaya Barshi
Department of Zoology
Prof. Dr. Chati R.S
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Class: B. Sc. III Semester V & VI

Sr. No.	Name of the topic	Tentative duration of completion in month
1	Paper: Endocrinology-	August 2021

	Unit-I: Introduction to Endocrinology, History, Classification, Characteristics and transport of hormones , Neurosecretions and neurohormones	
2	Unit 2: Epiphysis- Location ,structure of Pineal glands,,secretions and their function in Biological rhythm and reproduction	September 2021
3	Paper : Wildlife conservation and Management Unit I: Introduction to wildlife, values of wildlife(Positive and negative) ,importance of conservation, causes of depletion	October to November 2021
4	Unit 4: Population estimation : methods of population estimation, sex ratio computation, fecal analysis, hair identicafation, pug mark and census methods	December 2021
5	Application of Biosistics in biodiversity estimation, analysis of Shanon and symposns diversity indises	January 2021
6	Paper Animal Behaviour and Chrnobiology Unit 1: Introduction to animal behavior, Origin and history of ethology, Cause of Behavior	February 2022
7	Unit 2: Patterns of behavior, Steriotped behavior, instictnct Vs learned behavior, Associate learing, Classical and operant conditioning, impriting	March 2022
8	Unit 3 Social Behavior: Concept of society, communication and senses, Honey society, Dancing langue, foraging	April to May 2022
	Practical I	
1	Molecular biology, Cell division, Islation oF DNA, Chromatoghraphy	August 2021
2	Quantitative estiomation of DNA and RNA, Demonstration of DNA and RNA	September 2021
3	FAST NCBI, Electophoresis	October 2021

4	Codon analysis and Karyotyping	November to December 2021
	Animal physiology	
1	estimation of Salivery amylase activity, Measurement of BP, Heat beat,	February 2022
2	Determination of BMI, Enumeration of RBC WBC, Differtial count of WBC and study tour	March 2022
3	Estimation of Haemoglobin. Prepation of haemin crystals, blood clotting, determination of abnormal and normal constituents of urine	April 2022
4	estimation of O2 and study of mammalian organ	May 2022

Shri Shivaji Mahavidyalaya Barshi
Department of Zoology

Class- M.Sc-II (Semester-III)
Prof. Dr. Chati R.S
Syllabus Planning Report 2021-22

Sr. No.	Name of the Paper /Topic	Tentative duration of completion in month
1	**SCT3.2**Unit-I-Principles and uses of Analytical instruments- 1) Spectroscopy 2) Lasers in Biology 3) X-rays in Biology 4) Electron Microscope	August 2021
2	Unit I: 5) Proteomics Unit-II Cell culture Techniques- 1) Design and Functioning of tissue culture laboratory 2) Culture media preparation 3) Types of culture 4) Cell viability and Characterization	September 2021
3	Unit-II: -5) Modern advances in cell culture techniques	October to November 2021
4	Unit-III: Cell based Techniques	December 2021

	1) Cell characterization 2) Fusion in different cell cycle phases & its applications 3) Cell hybrids & its applications	
5	Unit-IV: Cryotechniques 1) Cryopreservation of cells, tissues ,organs and organisms 2) Cryotomy 3)Freezing techniques	December 2021
6	Unit-V: Separations Techniques and Radio labeling 1) Chromatography, Electrophoresis and its types 2) Ultracentrifugation &Fractonation 3) Radiolabel techniques in Biology 4) Radioactivity counter 5) Autoradiography	January 2022
	Practicals	
1	1) Study of different laboratory equipments 2)Study of different Microscopes	August2021
2	Separation of Amino acids & Sugars by Paper Chromatography	September 2021
3	DNA extraction & Isolation	October 2021
4	Analysis of DNA samples by Gel electrophoresis	November /December 2021
5	Visit	January 2022

Shri Shivaji Mahavidyalaya Barshi
Department of Zoology

Class- M.Sc-I (Semester-I)
Prof. Dr. Chati R.S
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Sr. No.	Name of the Paper /Topic	Tentative duration of completion in month

1	**Tools and Techniques in Biology** Unit-I-Principles and uses of Analytical instruments- 1) Spectroscopy 2) Lasers in Biology 3) X-rays in Biology 4) Electron Microscope	August 2021
2	Unit I: 5) Proteomics Unit-II Cell culture Techniques- 1) Design and Functioning of tissue culture laboratory 2) Culture media preparation 3) Types of culture 4) Cell viability and Characterization	September 2021
3	Unit-II: -5) Modern advances in cell culture techniques	October to November 2021
4	Unit-III: Cell based Techniques 1) Cell characterization 2) Fusion in different cell cycle phases & its applications 3) Cell hybrids & its applications	December 2021
5	Unit-IV: Cryotechniques 1) Cryopreservation of cells, tissues ,organs and organisms 2) Cryotomy 3)Freezing techniques	December 2021
6	Unit-V: Separations Techniques and Radio labeling 1) Chromatography, Electrophoresis and its types 2) Ultracentrifugation &Fractonation 3) Radiolabel techniques in Biology 4) Radioactivity counter 5) Autoradiography	January 2022
	Practicals	
1	1) Study of different laboratory equipments 2)Study of different Microscopes	August2022

2	Separation of Amino acids & Sugars by Paper Chromatography	September 2022
3	DNA extraction & Isolation	October 2022
4	Analysis of DNA samples by Gel electrophoresis	November /December 2022
5	Visit	January 2022

Duration of completed in month

C