

Progressive Education Society's

Modern College of Arts, Science and Commerce, Shivajinagar, Pune 5

**(An Autonomous College Affiliated to
Savitribai Phule Pune University)**

Framework of Syllabus For B.Sc. (Statistics)

**(Based on NEP 2020 framework)
(To be implemented from the Academic Year 2023-24)**

Award of Class :

"O" : Outstanding : Grade point 10 : % 80-100

"A+" : Excellent : Grade point 9 : % 70-79

"A" : Very Good : Grade point 8 : % 60-69

"B+" : Good : Grade point 7 : % 55-59

"B" : Above Average : 6 : % 50-54

"C" : Average : Grade point 5 : % 45-49

"P" : Pass : Grade point 4 : %40-44

"F" : Fail : Grade point 0 : % 0-39

"Ab" : Absent : Grade Point 0

Scoring :

CIE Score	ESE Score	Result
<40%	< 40%	Fail
<40 %	>=40%	Fail
>=40%	<40 %	Fail
>=40%	>=40%	Pass

Semester 1 (First Year)

Cour se Type	Course Code	Course	Course / Paper Title	Hour s / Week	Cre dit	CIA	ESE
Major Mandat ory (4 + 2)	23ScStaU1101	Major Paper 1 (Theory)	Descriptive Statistics	4	4	40	60
	23ScStaU1102	Major Paper 2 (Practical)	Statistics Practical-I	4	2	20	30
Major Electi ve s		-					
Minor		-					
OE (2 + 2)	23ScStaU1401		Fundamentals of Statistics-I	2	4	40	60
	23CpCopU1402		Democracy, Election and Governance	2			
VSC (2)	23ScStaU1501	Major Specific Practical I	Data Analysis Using MS- EXCEL	4	2	20	30
SEC (2)	23ScStaU1601	Skill Paper I (Practical)	Data Analysis Using R software	4	2	20	30
AEC(2),	23CpCopU3701 23CpCopU3702	/ English Theory	MIL-I (Hindi) / MIL-I (Marathi)	2	2	20	30
VEC (2)	23CpCopU1801	EVS Theory	Environment Science I	2	2	20	30
IKS (2)	23ScStaU1901	Major Specific Theory	Indian Official Statistics	2	2	20	30
CC (2)	23CpCopU1001	CC-I Course	Online Course Based on Yoga	2	2	20	30
Total				28	22	220	330

Semester 2 (First Year)

Course Type	Course Code	Course	Course / Paper Title	Hours / Week	Credit	CIA	ESE	Total
Major Mandatory (4 + 2)	23ScStaU2101	Major Paper 3 (Theory)	Discrete probability and Probability Distributions	4	4	40	60	100
	23ScStaU2102	Major Paper 4 (Practical)	Statistics Practical-II	4	2	20	30	50
Major Electives		-						
Minor	23ScStaU2301	Minor Paper I (Practical)	Exploratory Data Analysis	4	2	20	30	50
OE (2 + 2)	23ScStaU2401		Fundamentals of Statistics- II	2	4	40	60	100
	23CpCopU2402		Fundamentals of Music	2				
VSC (2)	23ScStaU2501	Major Specific Practical II	MS- EXCEL for Discrete Probability Models	4	2	20	30	50
SEC (2)	23ScStaU2601	Skill Paper II (Practical)	R-software for Discrete Probability Models	4	2	20	30	50
AEC(2)	23CpCopU2703	English Theory	English Communication Skills I	2	2	20	30	50
VEC (2)	23CpCopU2801	EVS Theory	Environment Science II	2	2	20	30	50
IKS (2)								
CC (2)	23CpCopU2901	CC-II Course	Physical Education / Cultural Activities, NSS/NCC and Fine/ Applied/ Visual/ Performing Arts Course	2	2	20	30	50
Total				30	22	220	330	550

Semester 3 (Second Year)

Course Type	Course Code	Course	Course / Paper Title	Hours / Week	Credit	CI A	ESE	Total
Major Mandatory (4 + 4)	23ScStaU3101	Major Paper 5 (Theory)	Discrete Probability Distributions and Time Series Analysis	4	4	40	60	100
	23ScStaU3102	Major Paper 6 (Practical)	Statistics Practical-III	4	2	20	30	50
Major Electives		-						
Minor (4)	23ScStaU3301	Minor Paper II (Theory +Practical)	Introduction to Probability	(2+4)	4	40	60	100
OE (2)	23ScStaU3401		Applied Statistics-I	2	2	20	30	50
VSC (2)	23ScStaU3501	Major Specific Practical III	C-Programming	4	2	20	30	50
SEC (2)	23ScStaU3601	--	--	--	--	--	--	--
AEC(2),	23CpCopU3703	MIL	English Communication Skills II	2	2	20	30	50
VEC (2)		--	--	--	--	--	--	--
IKS (2)		--	Generic IKS	2	2	20	30	50
FP/CEP (2)	23ScStaU3002	FP –I	Field Project- I	4	2	20	30	50
CC(2)	23CpCopU3001	CC III		2	2	20	30	50
Total				30	22	220	330	550

Semester 4 (Second Year)

Course Type	Course Code	Course	Course / Paper Title	Hours / Week	Credit	CIA	ESE	Total
Major Mandatory (4 + 4)	23ScStaU4101	Major Paper 7 (Theory)	Continuous Probability Distributions	4	4	40	60	100
	23ScStaU4102	Major Paper 8 (Practical)	Statistics Practical-IV	4	4	40	60	100
Major Electives		-						
Minor (4)	23ScStaU4301	Minor Paper III (Theory+Practical)	Probability Distributions	(2+4)	4	40	60	100
OE (2)	23ScStaU4401		Applied Statistics-II	2	2	20	30	50
VSC (2)		--	--	--	--	--	--	--
SEC (2)	23ScStaU4601	Skill Paper III (Practical)	R-programming	4	2	20	30	50
AEC(2)	23CpCopU4701 / 23CpCopU4702	MIL	MIL-II (Hindi) / MIL-II (Marathi)	2	2	20	30	50
VEC (2)		--	--	--	--	--	--	--
IKS (2)		--	--	--	--	--	--	--
FP / CEP(2)	23ScStaU4003	CEP –I	Community Engagement Project	4	2	20	30	50
CC(2)	23CpCopU4001	CC-4		2	2	20	30	50
Total				28	22	220	330	550

Semester 5 (Third Year)

Cour se Type	Course Code	Course	Course / Paper Title	Hour s / Week	Cr ed it	CI A	ES E	Total
Major Mandat ory (4 + 4 + 2)	23ScStaU5101	Major Paper 9 (Theory)	Distribution Theory	4	4	40	60	100
	23ScStaU5102	Major Paper 10 (Theory)	Statistical Inference	4	4	40	60	100
	23ScStaU5103	Major Paper 11 (Practical)	Lab course on 23ScStaU5101 and 23ScStaU5102	4	2	20	30	50
Major Electi ve s	23ScStaU5201	Elective I (Theory+Practical)	Regression Analysis	2+4	4	40	60	100
	23ScStaU5202	Elective II (Theory+Practical)	Stochastic Processes	2+4	4	40	60	100
Minor (4)	23ScStaU5301	Minor Paper IV (Theory+Practical)	Applied Statistics-I	2+4	4	40	60	100
OE (2)		--	--	--	--	--	--	--
VSC (2)	23ScStaU5501	Major Specific Practical IV	Statistical Analysis Using Python programming	4	2	20	30	50
SEC (2)		--	--	--	--	--	--	--
AEC(2)		--	--	--	--	--	--	--

VEC (2)		--	--	--	--	--	--	--
IKS (2)		--	--	--	--	--	--	--
FP / CEP(2)	23ScStaU5002	FP –II	Field Project- II	4	2	20	30	50
Total				32	22	220	330	550

Semester 6 (Third Year)

Course Type	Course Code	Course	Course / Paper Title	Hours / Week	Credit	CIA	ESE	Total
Major Mandatory (4 + 4 + 2)	23ScStaU6101	Major Paper 12 (Theory)	Sampling Theory and Statistical Quality Control	4	4	40	60	100
	23ScStaU6102	Major Paper 13 (Theory)	Data Mining and Survival Analysis	4	4	40	60	100
	23ScStaU6103	Major Paper 14 (Practical)	Lab course on 23ScStaU6101 and 23ScStaU6102	4	2	20	30	50
Major Electives	23ScStaU6201	Elective III (Theory+Practical)	Design of Experiments	2+4	4	40	60	100
	23ScStaU6202	Elective IV (Theory+Practical)	Operations Research	2+4	4	40	60	100
Minor (4)	23ScStaU6301	Minor Paper V (Theory+Practical)	Applied Statistics-II	(2+4)	4	40	60	100
OE (2)		--	--	--	--	--	--	--
VSC (2)		--	--	--	--	--	--	--
SEC (2)		--	--	--	--	--	--	--

AEC(2),		--	--	--	- -	--	--	--
VEC (2)		--	--	--	- -	--	--	--
IKS (2)		--	--	--	- -	--	--	--
FP / CEP(2)		--	--	--	- -	--	--	--
OJT(4)	23ScStaU6004	OJT	On Job Training	8	4	40	60	100
Total				32	22	220	330	550

OE: Open Elective
AEC: Ability Enhancement Course
VEC: Value Education Courses
CC: Co-Curricular Courses
IKS: Indian Knowledge System
OJT: On Job Training
FP: Field Project
VSC: Vocational Skill Courses
SEC: Skill enhancement courses
CEP: Community Engagement Project