Statistics Equivalence

Faculty	Class	Paper in old Syllabus	Equivalent Paper New Syllabi
Science	**F.Y. B.Sc.**	Paper I :Descriptive Statistics Paper II: Discrete Probability and Probability Distributions Paper III: Practicals	Paper : Descriptive Statistics Paper II: Discrete Probability and Probability Distributions Paper III: Practicals
	S.Y. B.Sc. Sem I	 ST 211 ST 212	 ST 211 ST 212
	Sem II	ST 221 ST 222 ST 213: Practicals	ST 221 ST 222 ST 213 : Practicals
	F.Y. B.Sc. Computer Science	Paper I Paper II Paper III Practicals	Paper I Paper II Paper III Practicals

University of Pune

Equivalences for the Old Courses(2004-05 to 2009-10) with New Courses (2010 -11 onwards) in Statistics

T. Y. B.Sc. Statistics

Papers in Old Course (2004-05 to 2009-10)	**Equivalent papers in New Course(2010 - 11 onwards)**
ST 331: Distribution Theory – I	ST 331 : Distribution Theory – I
ST 332: Theory of estimation	ST 332 : Theory of estimation
ST 333: Statistical Process Control (on line methods)	ST 333 : Statistical Process Control (on line Methods)
ST 334: Sampling Methods.	ST 344 : Sampling Methods.
ST 335: C Programming (Turbo C)	ST 335 : C Programming (Turbo C)
ST 336 A) : Operations Management ST 336 B) : Actuarial Statistics ST 336 C) : Statistical Computing using R software.	ST 336 A) : Operations Management ST 336 B) : Actuarial Statistics ST 346 C) : Statistical Computing using R software
ST 341 : Distribution Theory – II	ST 341 : Distribution Theory – II
ST 342: Testing Hypotheses	ST 342 : Testing of Hypotheses
ST 343 : Statistical Process Control (Off line Methods)	ST 343 : Statistical Process Control (Off line Methods)
ST 344 : Design of Experiments	ST 334 : Design of Experiments
ST 345 : Operation Research	ST 345 : Operation Research
ST 346 A): C++ programming, ST 346 B): Statistical Ecology, ST 346 C): Time Series Analysis.	ST 346 A): No equivalent paper* ST 346 B): Statistical Ecology, ST 336 C): Time Series Analysis
Practicals	
ST 347 : Paper I	ST 347 : Paper I
ST 348 : Paper II	ST 348 : Paper II
ST 349 : Paper III	ST 349 : Paper III

***Since there is no equivalent paper for ST 346 (A) C++ programming , the examination of backlog students will be conducted as per University procedure prescribed in such cases.**

M.Sc. Biochemistry Equivalence

Old Course No. (June 2004)	New Course No. (June 2008)
BCH 170 Biomolecules	BCH 170 Biomolecules
BCH 171 Enzymology and Genetics	**No Equivalence**
BCH 172 Microbiology and Cell Biology	BCH 172 Cell Biochemistry I and II
BCH 270 Metabolism	BCH 270 Bioenergetics and Metabolism
BCH 271 Biophysical Techniques	BCH 271 Biophsical Techniques
BCH 272 Nutrition and Physiological Biochemistry	**No Equivalence**
BCH 273 Computers Scientific Writing and Biostatistics	BCH 272 Biostatistics Bioinformatics and Computation Techniques in Biochemistry
BCH 370 Molecular Biology	BCH 370 Molecular Biology
BCH 371 Medical Biochemistry and Immunology	BCH 371 Medical Biochemistry and Immunology
BCH 372 Membrane Biochemistry and Specialized Tissues	**No Equivalence**
BCH 373 Recent trends in Biochemistry and Toxicology	BCH 373 Recent trends in Biochemistry and Toxicology
BCH 470 Endocrinology and Plant Biochemistry	BCH 470 Biochemical Endocrinology and Tissue culture
BCH 471 Fermentation, Enzyme and Food Technology	BCH 471 Fermentation, Enzyme and Food Technology
BCH 472 Genetic Engineering and Molecular Biochemistry	BCH 472 Genetic Engineering

University of Pune
Equivalences for the Old Courses with New Courses
In F.Y. B. Sc Geology

Old Syllabus (w.e.f June, 2003)	New Syllabus (w.e.f June, 2008)
Paper-I:Minerology & Petrology	
TERM I	TERM I
Mineralogy	Mineralogy
SEMESTER II	SEMESTER II
Petrology	Petrology
Paper II: General Geology & Paleontology	
TERM I	TERM I
General Geology	General Geology
TERM II	TERM II
Paleontology	Paleontology
Paper-III :Practical	
Mineralogy, Crystallography, Petrology, Maps, Paleontology, Field work Report	Mineralogy, Crystallography, Petrology, Maps, Paleontology, Field work, Report

University of Pune
Equivalences for the Old Courses with New Courses
In S.Y.B.Sc Geology

Old Syllabus (w.e.f June, 2003)	New Syllabus (w.e.f June, 2008)
Paper-I:Minerology & Crystallography	
SEMESTER I	SEMESTER I
GL-211: Mineralogy	GL-211: Mineralogy
SEMESTER II	SEMESTER II
GL-212: Petrology	GL-212: Petrology
Paper II: Structural Geology, Paleontology & Stratigraphy	
SEMESTER I	SEMESTER I
GL-221: Structural Geology	GL-221: Structural Geology
SEMESTER II	SEMESTER II
GL-222: Paleontology & Stratigraphy	GL-222: Stratigraphy & Paleontology
Paper-III GL 223: Practical	
Mineralogy, Crystallography, Petrology, Structural geology, Field work	Mineralogy, Crystallography, Petrology, Structural geology, Micro-paleontology, Field work

University of Pune

Equivalences for the Old Courses with New Courses in Geology

T.Y.B.Sc. Geology

Papers in Old Course	Equivalent papers in New Course
GL331: Indian Stratigraphy I	GL335: Precambrian Stratigraphy of India
GL332: Petrology I (Igneous & Metamorphic Petrology)	GL332: Igneous Petrology GL341: Metamorphic Petrology
GL333: Structural Geology	GL334: Structural Geology
GL334: Economic Geology I	GL343: Economic Geology GL346: Applied Geology II (Prospecting, Engineering Geology & Hydrogeology)
GL335: Environmental Geology	GL342: Environmental Geology
GL336: Field Geology, Geomorphology & Engineering Geology	GL336: Applied Geology I (Field Geology & Remote Sensing) GL346: Applied Geology II (Prospecting, Engineering Geology & Hydrogeology)
GL341: Indian Stratigraphy II	GL345: Phanerozoic Stratigraphy of India & Palaeontology
GL342: Petrology II (Igneous & Sedimentary Petrology)	GL332: Igneous Petrology GL333: Sedimentary Petrology
GL343: Geotectonics	GL344: Geotectonics
GL344: Economic Geology II	GL331: Mineralogy GL343: Economic Geology
GL345: Natural Resource Management	GL342: Environmental Geology GL346: Applied Geology II (Prospecting, Engineering Geology & Hydrogeology)
GL346: Principles of Remote Sensing, Photogeology & Geographical Information Systems (GIS)	GL336: Applied Geology I (Field Geology & Remote Sensing)
Practicals	
GL347: Petrology & Indian Stratigraphy	GL 347: Mineralogy & Petrology
GL348: Structural & Economic Geology	GL348: Structural Geology, Economic Geology, Paleontology & Indian Stratigraphy
GL349: Environmental Geology & Techniques in Geology	GL349: Applied Geology (Remote Sensing, Geohydrology, Geophysical Prospecting, Field Geology & Environmental Geology)

University of Pune
Equivalences for the Old Courses with New Courses
in M. Sc., Petroleum Technology

Old Course (w.e.f. June 1977)		New Course (w.e.f. June 2008)
	Sem I	
PT-1	Petroleum Geology	Fundamentals of Petroleum Geology
PT-2	Sedimentology	Principles of Sedimentology
PT-3	Principles of Stratigraphy and Micro-palaeontology	Interpretative Micropalaeontology and Stratigraphy
PT-4	Prospecting	Structural Techniques in Petroleum exploration
PTP-1	Practical (Petroleum geology, Sedimentology, Micropaleontology, Prospecting)	Sedimentology, Micropalaeontology, Stratigraphy, Petroleum Geology, Structural techniques in Petroleum exploration
	Sem II	
PT-5	Reservoir studies – I (Dynamics)	Fundamentals of Petroleum Geo-chemistry
PT-6	Petroleum Geo-chemistry	Depositional System Analysis, Petroliferous Basins of India.
PT-7	Well log analysis	Petroleum Exploration
PT-8	World Stratigraphy	Environmental management and Economics
PTP-2	Practical (Reservoir studies, Petroleum Geochemistry, Well log analysis)	Practical (Petroleum Geochemistry, Basin analysis, Petroleum Exploration, Environmental management and Economics)
	Sem III	
PT-9	Reservoir studies – II (Hydrocarbon recovery)	Reservoir Dynamics
PT-10	Drilling and Well Completion Operations	Formation Evaluation - I
PT-11	Structural Geology	Drilling and Well Completions
PT-12	Computer Fundamentals and Applications	Fundamentals of Computer and Applications
PTP-3	Practical (Reservoir studies, Drilling and Well Completion Operations, Structural Geology)	Formation Evaluation, Drilling and Well Completions, Reservoir Dynamics
	Sem IV	
PT-13	Basin Analysis and Petroliferous Basins	Reservoir Performance
PT-14	Hydrocarbon Resources : Economics and Management	Formation Evaluation - II
PT-15	Production Operations	Production Operations
PTP-4	Practical (Applications of computers and Project report)	Practical (Reservoir Performance and Production Operations)
PTP-5	Practical (Production Operations, Petroleum economics, Training Programme Report)	Practical (Formation Evaluation – II, Project work and Assessment)

Equivalence For F.Y. B.Sc. (Physics)

Old Courses Pre-2008-09	**Equivalent New Courses (2008-09) Onwards**
Physics Paper -I Section I: Mechanics and properties of Matter Section II: Head and Thermodynamics	Physics Paper –I Section Paper –I : Mechanics Section II : Heat and Thermodynamics
Physics Paper –II Section I : Modern Physics Section –II: Optics	Physics Paper –II Section I: Emerging Physics Section II : Electricity and Magnetism

Equivalence For S.Y.B.Sc. (Physics)

Old Courses (Pre-2009-10)	**Equivalent New Courses (2009-10) Onwards**
Semester –I Paper I (PH 211) Mathematical Physics Paper –II (PH 212) Electricity and Magnetism	Semester – I Paper I (PH211) Mathematical Methods in Physics Physics Paper-II, Section II of F.Y.B.Sc. (New) (2008-09) Onwards, Electricity and Magnetism
Semester -II Paper I (PH 221) Oscillations, Waves and Sounds Paper –II (PH 222) Electronics* / Instrumentation#	Semester –II Paper –I (PH 221) Oscillations, Waves and Sounds Paper –II (PH 212) (Of Sem I of S.Y.B.Sc.(new) (2009-10) Onwards) Electronics / Instrumentation

*For Students Not Opting Electronics Subject at F.Y. B.Sc.

#For Students Opting Electronics Subjects at F.Y. B.Sc.

T.Y.B.Sc (Physics) Course Equivalence

Old Courses Pre 2010-2011	New Courses from 2010-2011 on wards
PH-331: Mathematical Methods in Physics PH-341: Solid State Physics	PH 331: Mathematical Methods in Physics PH 341: Solid State Physics
PH-332 Classical Electrodynamics PH-342: Quantum Mechanics	PH-332 Classical Electrodynamics PH-342: Quantum Mechanics
PH-333: Classical Mechanics PH-343: Thermodynamics and Statistical Physics	PH-333: Classical Mechanics PH-343: Thermodynamics and Statistical Physics
PH-334: Atomic and Molecular Physics PH-344: Nuclear Physics	PH-334: Atomic and Molecular Physics PH-344: Nuclear Physics
PH-335:'C' Programming and Computational Physics PH-345: Electronics/Advanced Electronics	PH-335:'C' Programming and Computational Physics PH-345: Electronics/Advanced Electronics
PH-347: Laboratory Course I	PH-347: Laboratory Course I
PH-348: Laboratory Course II	PH-348: Laboratory Course II
PH-349: Laboratory Course III (Project)	PH-349: Laboratory Course III (Project)
PH-336: Elective- I (Select Any One)	PH-336: Elective- I (Select Any One)
A: Astronomy and Astrophysics I and II *	A. Astronomy and Astrophysics
D: Biophysics I & II*	D. Biophysics
G: Communication Electronics I & II*	G: Communication Electronics I & II
H: Electro-Acoustics & Entertainment Electronics I & II*	H: Electro Acoustics and Entertainment Electronics
E: Medical Instrumentation I & II*	E. Medical Electronics

C: Motion Picture Physics I & II*	C. Motion Picture Physics
F: Renewable Energy Sources I & II*	F. Renewable Energy Sources
I: Basic Microprocessor & Programming I & II*	I: Microcontrollers
B: Elements of Materials Science* (PH 336/ PH 346)	B. Elements of Materials Science (PH 336 (B))
J: Lasers (PH 336/ PH 346)*	J: Lasers (PH 346 (J))
K: Vacuum Technology *	K: Vacuum Technology
L: Auxiliary Electronics *	L: Auxiliary Electronics

***- Question paper should be set for three successive turns from Academic Year 2010-11, (i.e. Oct/Nov 2010, March/April 2011, Oct/Nov 2011) and there after student has to opt new elective course (s).**

M.Sc. Physics Equivalence

Course Structure Pre June-2008		**Course Structure from June-2008 (New)**	
Semester –I		**Semester – I**	
PHY-UT-501	Classical Mechanics	PHYUTN- 501	Classical Mechanics
PHY-UT-502	Electronics	PHYUTN-502	Electronics
PHY-UT-503	Mathematical Methods in Physics	PHYUTN-503	Mathematical Methods in Physics
PHY-UT-504	Quantum Mechanics-I	PHYUTN-504	Quantum Mechanics – I
PHY-UT- 505	Basic Physics Lab-I	PHYUPN-505	Basic Physics Lab I
Semester –II		**Semester –II**	
PHY-UT-601	Electrodynamics	PHYUTN -601	Electrodynamics
PHY-UT-602	Atoms, Molecules & Solids	PHYUTN-602	Atoms, Molecules & Solids
PHY-UT-603	Statistical Mechanics in Physics	PHYUTN-603	Statistical Mechanics in Physics
PHY-UT-604	Quantum Mechanics-II	PHYUTN-604	Quantum Mechanics –II
PHY-UT-605	Electronics Lab	PHYUPN-605	Electronics Lab
Semester – III		**Semester-III**	
PHY-UT-701	Solid State Physics	PHYUTN-701	Solid State Physics
PHY-UP-702	Computer Lab	PHYUPN-702	Computer Lab
PHY-DT- 703	Departmental Course 1	PHYDTN-703	Departmental Course1
PHY-DT-704	Departmental Course 2	PHYDTN-704	Departmental Course2
PHY-DP-705	Special Lab I	PHYDPN-705	Special Lab-II
Semester – IV		**Semester-IV**	
PHY-UT-801	Nuclear Physics	PHYUTN- 801	Nuclear Physics
PHY-DT-802	Departmental Course 3	PHYDTN-802	Departmental Courses 3
PHY-DT-803	Departmental Course 4	PHYDTN-803	Departmental Course 4
PHY-DP-804	Special Lab II	PHYDPN- 804	Special Lab II
PHY-UP-805	Project	PHYUPN- 805	Project

Equivalence for Botany Syllabus

Class – F.Y. B.Sc.

Old from (June 2002)	New from (June 2008)
Paper – I Fundamental Botany Plant Diversity (Term I) Morpholory and anatomy (Term II)	Plant Diversity Term-I Part – I Term-II Part-II
Paper – II Applied Botany (Term I & Term II) Part I & Part II	Plant Resources Management and Utilization Term-I Part – I Term-II Part - II

Class -S.Y.B.Sc.

Old Syllabus (June 2003)	New Syllabus (June 2009)
Sem – I Paper-I : Taxonomy of Angiosperms Paper – II : Plant Ecology and Utilization of Plants	 I : Fundamentals of Plant Systematic & Plant Ecology II : Fundamentals of Plant Physiology
Sem – II Paper – I : Plant Biotechnology Paper – II : Plant Physiology	 I : Structural Botany (Anatomy, Embryology & Palynology) Fundamentals of Plant Biotechnology

UNIVERSITY OF PUNE

Equivalence of The T.Y.B.Sc. Botany Revised Syllabus

Semester III

Paper	Course	Semester-III New Syllabus	Course	Semester-III Old Syllabus
I	BO. 331	Algae, Fungi and Bryophytes	BO. 331	Biology of lower Cryptogams
II	BO. 332	Molecular Biology	BO. 332	Biology of higher cryptogams
III	BO. 333	Angiosperms and Evolution	BO. 333	Biology of seed Plants I (Angiosperms and Environmental Biology)
IV	BO. 334	Genetics and Plant Breeding	BO. 334	Cell Biology and Biometrics
V	BO. 335	Biometry and Computer Applications	BO. 335	Microbiology and Plant pathology
VI	BO. 336	Cell Biology and seed technology	BO. 336	Botanical Techniques and Computer Applications.

Semester IV

Paper	Course	Semester-IV(New Syllabus)	Course	Semester-IV(Old Syllabus)
I	BO. 341	Plant Physiology and Biochemistry	BO. 341	Biology of Seed Plants II (Gymnosperms and Palaeobotany)
II	BO. 342	Plant Pathology	BO. 342	Biology of Seed Plants III (Anatomy and Embryology)
III	BO. 343	Pteridophytes, Gymnosperms and Palaeobotany	BO. 343	Plant Physiology and Biochemistry
IV	BO. 344	Plant Biotechnology	BO. 344	Genetics and Plant Breeding
V	BO.345	Botanical Techniques	BO.345	Molecular Biology
VI	BO. 346	Pharmacognosy	BO. 346	Optional Paper

M.Sc. Botany Syllabus Equivalence

M.Sc. I Semester One

New Course		Old Course	
Course No.	**Course Name**	**Course No.**	**Course Name**
BO 1.1	Systematic of Non vascular Plants	BO 111	Cell and Molecular Biology Plants
BO 1.2	Plant Physiology	BO 112	Biology and diversity of Higher Cryptogams
BO 1.3	Genetics and Plant Breeding	BO 113	Genetics and Cytogenetics
BO 1.4	Practicals Based on BO 1.1	BO 114	Practicals based on BO 111 and 112
BO 1.5	Practicals Based on 1.2 and 1.3	BO 115	Practicals Based on BO 112 and 113

M.Sc. I Semester Two

New Course		Old Course	
Course No.	**Course Name**	**Course No.**	**Course Name**
BO 2.1	Systematic of vascular plants	BO 221	Biology and Diversity of Lower Cryptogams
BO 2.2	Cell biology and Instrumentation	BO 222	Plant Physiology and Metabolism
BO 2.3	Molecular biology and Genetic engineering	BO 223	Biotechnology and genetics engineering of Plants and Microbes
BO 2.4	Practicals Based on BO 2.1	BO 224	Practicals Based on BO 211
BO 2.5	Practicals Based on BO 2.2 and 2.3	BO 225	Practicals based on BO 212 and BO 213

M.Sc. II Semester One

New Course		Old Course	
Course No.	**Course Name**	**Course No.**	**Course Name**
BO 3.1	Developmental Botany and plant tissue culture	BO 331	Plant development and reproduction
BO 3.2	Environmental Botany and Paleobotany	BO 332	Plant Ecology
BO 3.3	Elective Paper BO 3.31 Phycology I BO 3.32 Mycology and Plant Pathology I BO 3.33 Angiosperms I BO 3.34 Plant Physiology BO 3.35 Genetics Molecular Biology and Plant Breeding I BO 3.36 Plant Biotechnology I breeding BO 3.37 Plant Diversity I	BO 333	Taxonomy and diversity of Seed Plants (angiosperms and Gymnosperms)
BO 3.4	Practicals Based on BO 3.1 and 3.2	BO 334	Practicals based on BO 331 and BO 332
BO. 3.5	Practicals Based on Special Paper Angiosperms/Biotechnology.	BO 335	Practicals Based on BO 333
		BO 346	Project/Desertation

M.Sc. II Semester Two

New Course		Old Course	
Course No.	**Course Name**	**Course No.**	**Course Name**
BO 4.1	Plant Resources and Evolution	BO 441	Applied Mycology and Phycology
BO 4.2	Applied Botany	BO 442	Plant resources utilization and Conservation
BO 4.3	BO 4.41 Phycology II BO 4.42 Mycology and Plant Pathology II BO 4.43 Angiosperms II BO 4.44 Plant Physiology BO 4.55 Genetics Molecular biology and Plant breeding II BO 4.46 Plant Biotechnology II breeding BO 4.47 Plant Diversity II	BO 443	• Angiosperms, • Cytogenetics and Plant Breeding • Mycology • Phycology • Physiology • Pharmacology • Seed Technology
BO 4.4	Practicals Based on BO 4.1 and 4.2	BO 444	Practicals Based on BO 441 and BO 442
BO 4.5	Practicals Based on Special Paper Angiosperms/Plant Biotechnology	BO 445	Practicals Based on Elective Course
		BO 446	Project/Dissertation

Equivalences For the old Course with new Courses in Zoology

F. Y. B.Sc.

Paper	Paper in Old Course	Paper	Equivalent Papers in New Course
I	Animal Systematic and Diversity I Medical Zoology	ZY 101	Non-Chordates & Chordates
II	Genetics I and Animal Systematics and Diversity II	ZY 102	Genetics & Parasitology
II	Practical Course	ZY 103	Practical Course

S. Y. B.Sc. Semester I

Paper	Paper in Old Course	Paper	Equivalent Papers in New Course
I ZO.211	Animal Systematics & Diversity	I ZY.211	General Zoology and Biological Techniques Part I
II ZO.212	Applied Zoology	II ZY.212	Applied Zoology Part I

S.Y.B.Sc. Semester II

Paper	Paper in Old Course	Paper	Equivalent Papers in New Course
I ZO.221	Animal Systematic Diversity	I ZY. 221	General Zoology & Biological Techniques Part II
II ZO. 222	Applied Zoology	II ZY. 222	Applied Zoology Part II
III ZO. 223	Practical Course	III ZY. 223	Practical Course

T.Y.B.Sc. Zoology

Semester III

	Papers in Old Course		**Equivalent papers in new Course**
Z0331	Animal Systematic & Diversity	ZY331	General Zoology
Z0332	Histology Of Mammals	ZY332	Mammalians Histology
Z0333	Environmental Biology And Toxicology	ZY334	Environmental Biology An Toxicology
Z0334	Any One Of The Following a. General Entomology b. General Pathology c. Diary Science d. Computer Applications	ZY335	Any One Of The Following a. Basic Entomology b. General Pathology
Z0335	Cell-Biology	ZY 336	Cell Biology
Z0336	Biological Chemistry & Biotechniques	ZY333	Biological Chemistry

Semester IV

Z0341	Genetics	ZY 341	Biotechnology
Z0342	Physiology & Endocrinology Of Mammals	ZY 342	Mammalian Physiology And Endocrinology
Z0343	Zoogeography, Paleontology And Evolution	ZY 344	Organic Evolution
Z0344	Any One Of The Following a. Economic Entomology b. Public Health & Hygiene c. Aquaculture d. Bioinformatics	ZY 345	Any One Of The Following \ a. Biodiversity b. Public Health & Hygiene
Z0345	Molecular Biology	ZY343	Molecular Biology
Z0346	Developmental Biology	ZY346	Genetic & Developmental Biology
Z0347	Practical I Z0331, Z0332 Z0341, Z0342	ZY347	Practical I ZY331, ZY332 ZY341, ZY342
Z0348	Practical II Z0333, Z0334 Z0343, Z0344	ZY348	Practical II ZY333, ZY334 ZY343, ZY344
Z0349	Practical III ZO335, Z0336 Z0345, Z0346	ZY349	Practical III ZY335, ZY336 ZY 345, ZY346

Revised Syllabus (2008-2009) for F.Y. B.Sc. Chemistry Equivalence

Old Courses	**New Course Revised from 2008 onwards**
Paper- I : Physical and Inorganic	Paper – I Physical and Inorganic
Paper- II: Organic and Inorganic	Paper- II Organic and Inorganic
Paper- III: Practicals Physical, Inorganic & Organic volumetric, Inorganic & Organic qualitative analysis	Paper-III Practicals Physical, Inorganic & Organic Volumetric, Inorganic & Organic qualitative analysis

Each Course is of 100 Marks

Revised Syllabus (2008-2009) for S.Y. B.Sc. Chemistry Equivalence

Old Courses			**New Courses (Revised from 2009 onwards)**		
Semester	**Paper**	**Course Title**	**Semester**	**Paper**	**Course Title**
I	CH-211	Physical Chemistry (50 Marks)	I	CH-211	Physical Chemistry (50 Marks)
I	CH-212	Organic Chemistry (50 Marks)	I	CH-212	Organic Chemistry (50 Marks)
II	CH-221	Inorganic Chemistry (50 Marks)	II	CH-221	Inorganic Chemistry (50 Marks)
II	CH-222	Analytical Chemistry (50 Marks)	II	CH-222	Analytical Chemistry (50 Marks)
I and II	CH-223	Practical Course (100 Marks)	I and II	CH-223	Practical Course (100 Marks)

T.Y. B.Sc. Chemistry Equivalence

Equivalence of the Syllabus (First Term)

Old Courses			New Courses Revised from June 2010 onwards		
Semester	**Course No.**	**Course Title**	**Semester**	**Course No.**	**Course Title**
III	CH-331	Physical Chemistry (Compulsory) (50 Marks)	III	CH-331	Physical Chemistry (Compulsory) (50 Marks)
III	CH-332	Inorganic Chemistry (Compulsory) (50 Marks)	III	CH-332	Inorganic Chemistry (Compulsory) (50 Marks)
III	CH-333	Organic Chemistry (Compulsory) (50 Marks)	III	CH-333	Organic Chemistry (Compulsory) (50 Marks)
III	CH-334	Analytical Chemistry (Compulsory) (50 Marks)	III	CH-334	Analytical Chemistry (Compulsory) (50 Marks)
III	CH-335	Industrial Chemistry (Compulsory) (50 Marks)	III	CH-335	Industrial Chemistry (Compulsory) (50 Marks)
III	CH-336-A	Nuclear Chemistry (Optional) 50 Marks	III	CH-336-A	Nuclear Chemistry (Optional) 50 Marks
III	CH-336-B	Polymear Chemistry (Optional) 50 Marks	III	CH-336-B	Polymer Chemistry (Optional) 50 Marks
III	CH-336-C	Biochemistry (Optional) 50 Marks	III	CH-336-C	Biochemistry (Optional) 50 Marks
III	CH-336-D	Environmental Chemistry (Optional) 50 Marks	III	CH-336-D	Environmental Chemistry (Optional) 50 Marks
III	CH-336-E	Agricultural Chemistry + Dairy Chemistry (Optional) (Theory) 50 Marks	III	CH-336-E	Agriculture Chemistry (Optional) (Theory) 50 Marks

Revised Syllabus From June – 2010 (Semester System) (Semester- IV)

Equivalence of Syllabus (Second Term)

Old Courses		**New Courses Revised from June-2010 onwards**	
Course No.	**Course Title**	**Course No.**	**Course Title**
CH-341	Physical Chemistry (Compulsory) 50 Marks	CH-341	Physical Chemistry (Compulsory) 50 Marks
CH-342	Inorganic Chemistry (Compulsory) 50 Marks	CH-342	Inorganic Chemistry (Compulsory) 50 Marks
CH-343	Organic Chemistry (Compulsory) 50 Marks	CH-343	Organic Chemistry (Compulsory) 50 Marks
CH-344	Analytical Chemistry (Compulsory) 50 Marks	CH-344	Analytical Chemistry (Compulsory) 50 Marks
CH-345	Industrial Chemistry (Compulsory) 50 Marks	CH-345	Industrial Chemistry (Compulsory) 50 Marks
CH-346-A	Nuclear Chemistry (Optional) 50 Marks	CH-346-A	Nuclear Chemistry (Optional) 50 Marks
CH-346-B	Polymer Chemistry (Optional) 50 Marks	CH-346-B	Polymer Chemistry (Optional) 50 Marks
CH-346-C	Biochemistry (Optional) 50 Marks	CH-346-C	Biochemistry (Optional) 50 Marks
CH-346-D	Environmental Chemistry (Optional) 50 Marks	CH-346-D	Environmental Chemistry (Optional) 50 Marks
CH-346-E	Agri and Dairy Practicals (Optional) 50 Marks	CH-346-E	Dairy Chemistry (Theory) (Optional) 50 Marks

T.Y. B.Sc. Chemistry (Semester System)

Equivalence of Practical Syllabus Revised from June- 2010 onwards

Old Courses			**New Courses Revised from June 2010 onwards**		
Semester	**Courses No.**	**Course Title**	**Semester**	**Course No.**	**Course Title**
III and IV	CH-347	Physical Chemistry Practical 100 Marks	III and IV	CH-347	Physical Chemistry Practicals 100 Marks
III and IV	CH-348	Inorganic Chemistry Practicals 100 Marks	III and IV	CH-348	Inorganic Chemistry Practicals 100 Marks
III and IV	CH-349	Organic Chemistry Practicals 100 Marks	III and IV	CH- 349	Organic Chemistry Practicals 100 Marks

M.Sc. – I Chemistry Semester – I Equivalence of the Syllabus

Old Courses	New Courses revised from June 2008
CH- 110 : Physical Chemistry – I	CH-110 : Physical Chemistry-I
CH-130 : Inorganic Chemistry – I	CH- 130 : Inorganic Chemistry – I
CH- 150 : Organic reaction mechanism and Stereochemistry	CH-150 : Organic reaction mechanism and stereochemistry
CH- 107 : Physical Chemistry Practicals (Departmental Course)	CH- 107 : Physical Chemistry Practicals (Departmental Course)
CH- 127 : Inorganic Chemistry Practicals (Departmental Course)	CH-127 : Inorganic Chemistry Practicals (Departmental Course)

M.Sc.- I Chemistry Semester – II Equivalence of the Syllabus

Old Courses	New Courses revised from June 2008
CH- 210 : Physical Chemistry-II	CH- 210 : Physical Chemistry – II
CH-230 : Inorganic Chemistry-II	CH-230 : Inorganic Chemistry-II
CH-250 : Synthetic Organic Chemistry and Spectroscopy	CH- 230 : Synthetic Organic Chemistry and Spectroscopy
CH- 290 : General Chemistry (Departmental Course) elective	CH- 290 : General Chemistry (Departmental Course) elective
CH- 247 : Organic Chemistry Practicals (Departmental Course)	CH- 247 : Organic Chemistry Practicals (Departmental Course)

M.Sc. Part – II Physical Chemistry Semester – III

Equivalence of the Syllabus

Old Courses	New Courses revised from June 2009
Compulsory Course	**Compulsory Course**
CH- 310 : Quantum Chemistry Statistical there modynamico and Phare rule	CH-310 : Quantum Chemistry and Solid state Chemistry
CH- 311 : Nuclear and Radiation Chemistry	CH-311 : Nuclear and Radiation Chemistry
CH- 312 : Electro Chemistry and Physicochemical Methods a analysis	CH- 312 : Advanced Instrumental Methods of Analysis
CH- 313 : Physical Chemistry Practical – I	CH-313 : Physical Chemistry Practical
Optional Chemistry – I	**Optional Courses**
CH- 314 : Polymer Chemistry – I	CH-314 : Polymer Chemistry
CH-315 : Special topics in nuclear and Radiation Chemistry	CH- 315 : Special topics in Physical Chemistry
CH- 316 : Environmental Chemistry	

M.Sc. Part – II Physical Chemistry Semester – IV

Equivalence of the Syllabus

Old Courses	New Courses revised from June 2009
Compulsory Course	**Compulsory Course**
CH- 410 : Molecular Structure	CH- 410 : Molecular Structure & Spectroscopy
CH- 411 : Surface and Solid State Chemistry	CH- 411 Surface and Electro Chemistry
CH-412 : Physical Chemistry Practical - II	CH- 412 : Physical Chemistry Practical – II
CH- 413 : Physical Chemistry Practical – III/Project	CH- 413 : Physical Chemistry Practical – III/Project
Optional Course	**Optional Courses**
CH- 414 : Polymer Chemistry – II	CH- 414 : Biophysical Chemistry and Related Techniques
CH-415 : Environmental Pollution	CH-415 : Special topics in Nuclear Radiation Chemistry
CH- 416 : Special topics in Physical Chemistry	

M.Sc. Part-II Inorganic Chemistry Semester – III

Equivalence of the Syllabus

Old Courses	New Courses revised from June 2009
Theory Course	**Theory Course**
CH-330 : Co-ordination Compounds and Structural Methods	CH- 330 : Co-ordination Chemistry, Magnetism & reaction Mechanism
CH- 331 : Inorganic Reaction Mechanism	CH- 331 : Structural Methods in Inorganic Chemistry
CH- 332 : Metalloprofeins & Bioinorganic Medicine	CH-332 : Bioinorganic Chemistry of Inorganic Elements in Chemi.liste
CH- 326 : Organomietallic Compounds in Synthesis & Homogenous Catalysis	CH- 326: Organometallic Compounds of Transition Metals & Homogenous Catalysis

M.Sc. Part-II Inorganic Chemistry Semester – IV

Equivalence of the Syllabus

Old Courses	New Courses revised from June 2009
Theory Course	**Theory Course**
CH- 430 : Inorganic Solids, Heterogeneous Catalysis & Struct. Methods	CH- 430 : Inorganic Solids and heterogeneous Catalysis
CH-431 : Material and Industrial Inorganic Chemistry	CH- 431 : Materials Science
CH- 445 : Inorganic Applications in Material Science, Bio-technology & Environmental Chemistry	CH-445 : Inorganic Applications in Industry, Biotechnology & Environmental Chemistry

M.Sc. Part-II Inorganic Chemistry Semester- III and IV

Equivalence of the Syllabus

Old Courses	New Courses revised from June 2009
Practical Course	**Practical Course**
CH-387 : Quantitative Inorganic Analysis	CH- 387 : Experiments & Computer applications in Inorganic Analysis
CH- 388 (A) : Synthesis and Structural Methods in Inorganic Chemistry	CH-388 (A) : Inorganic Instrumental Analysis and Computer applications
CH- 388 (B) : Preparation of Co-ordination Compounds	CH- 388 (B) : Preparation of inorganic Compounds
CH-488 : Research Project	CH-488 : Research Project
Extended Experiments	Extended Experiments
A. Quantitative Estimation or Identification of Inorganic Mixture	A. Preparation and Purity of complexes
B. Inorganic Preparation or Inorganic Technique	B. Structural determination of complexes using techniques
	C. Introduction to literature survey

M.Sc. Part-II Chemistry Revised Syllabus from June 2009 Organic Chemistry Semester-III

Equivalence of the Syllabus

Old Courses		New Courses & Revised from June 2009	
Course No	**Title of Course**	**Course No**	**Title of Course**
CH-350	Organic Reaction Mechanism	CH- 350	Organic Reaction Mechanism
CH-351	Spectroscopic Methods in structure determination	CH-351	Spectroscopic Methods in structure determination
CH- 352	Organic Stereo Chemistry	CH-352	Organic Stereo Chemistry
CH-353	Free Radicals Photochemistry Heterocylic Chemistry	CH-353	Free Radicals, Photochemistry Periydic reactions and their applications

M.Sc. Part-II Organic Chemistry- Semester-IV

Equivalence of the syllabus

Old Courses		New Courses & Revised from June 2009	
Course No	**Title of Course**	**Course No**	**Title of Course**
Compulsory CH- 450	Chemistry of Natural Products	CH-450	Chemistry of Natural Products
Compulsory CH- 451	Synthetic Methods inorganic Chemistry	CH-451	Synthetic Methods in Organic Chemistry
Optional CH-452	Pericyclic reactions, Chiron approach, Chemotheraphy, Medicinal Chemistry & Vitamins, Antibiotics	CH- 452	Heterocydic Chemistry, Chiron approach and medicinal Chemistry
Practical Courses CH-347	Ternany Mixture Separation	CH-347	Ternany Mixture Separation
CH-447	Two Stage Preparation	CH- 447	Single and two stage preparations
CH-448	Project or Practicals in lieu of Project	CH-448	Project and Practicals

M.Sc. Part- II Analytical Chemistry Semester-III

Equivalence of the Syllabus

Old Course	New Course revised from June 2009
Compulsory Courses	**Compulsory Courses**
CH-390 Electro analytical and current analytical methods in industries	CH-390 Electro analytical and current analytical methods in industries
CH-391 Environmental analysis of Industrial materials	CH-391 Environmental analysis of industrial materials
CH- 392 Advanced Analytical techniques	CH-392 Advanced analytical techniques
Optional Courses	**Optional Courses**
CH- 380 Pharmaceutical analysis	CH-380 Pharmaceutical analysis
CH- 381 Medicinal Chemistry	CH-381 Medicinal Chemistry

M.Sc. Part-II Analytical Chemistry Semester-IV

Equivalence of the syllabus

Old Course	New Course revised from June 2009
Compulsory Courses	**Compulsory Courses**
CH-481 Bioanalytical and Forensic Science	CH-481 Bioanalytical and Forensic Science
CH-490 Analytical Spectroscopy	CH-490 Analytical Spectroscopy
CH-491 Polymer technology	CH-491 Polymer technology
Practical Courses	**Practical Courses**
CH-387/397 Practical (Inorganic)	CH-387 Practical (Inorganic)
CH-487/497 Practicals (Physical)	CH-487 Practical (Physical)
CH-488/498 Practicals (Organic)	CH-488 Practical (Organic) or CH-498 Project

Equivalences for the New Courses (2008 Pattern) with Old Courses (2005 Pattern) in Microbiology

F.Y. B.Sc.			
New Course (2008 Pattern)		**Old Course (2005 Pattern)**	
Paper-I	Introduction to Microbiology	Paper - I	Introduction to Microbiology
Paper-II	Basic Techniques in Microbiology	Paper-II	Basic Techniques in Microbiology
Practical Course	Practical course based on theory paper I & II	Practical Course	Practical course based on theory paper I & II

S.Y.B.Sc.			
New Course (2008 Pattern)		**Old Course (2005 Pattern)**	
MB-211	Microbial Physiology	MB-211	Growth, Physiology and Systematic of Bacteria (I)
MB- 212	Microbial Genetics	MB-212	Bacterial Genetics and Applied Microbiology (I)
MB-221	Bacterial Systematic and analytical Microbiology	MB-221	Growth, Physiology and Systematic of Bacteria (II)
MB- 222	Applied Microbiology-I	MB-222	Bacterial Genetics and Applied Microbiology (II)
MB-223	Practical course based on MB 211, 212,221,222	MB-223	Practical course based on MB 211, 212,221,222

University of Pune

Equivalences for the old Courses with New courses in Microbiology

T. Y. B. Sc. Microbiology

Semester III				**Semester IV**			
New Course		**Old Course**		**New Course**		**Old course**	
Paper	**Course Title**	**Paper**	**Course Title**	**Paper**	**Course Title**	**Paper**	**Course Title**
MB 331	Medical Microbiology - I	MB 331	Medical Microbiology - I	MB 341	Medical Microbiology - II	MB 341	Medical Microbiology - II
MB 332	Genetics & Molecular Biology - I	MB 332	Genetics & Molecular Biology - I	MB 342	Genetics & Molecular Biology - II	MB 342	Genetics & Molecular Biology - II
MB 333	Enzymology	MB 333	Enzymology	MB 343	Metabolism	MB 343	Metabolism
MB 334	Immunology - I	MB 334	Immunology - I	MB 344	Immunology - II	MB 344	Immunology - II
MB 335	Fermentation Technology -I	MB 335	Fermentation Technology -I	MB 345	Fermentation Technology - II	MB 345	Fermentation Technology - II
MB 336	Food & Dairy Microbiology	MB 336	Food & Dairy Microbiology	MB 346	Soil & Agricultural Microbiology	MB 346	Soil & Agricultural Microbiology

Practical Courses

New Course		Old Course	
Paper	Course title	Paper	Course title
MB 347	Practical course – I Applied Microbiology	MB 347	Practical course – I Applied Microbiology
MB 348	Practical course – II Biochemistry & Genetics	MB 348	Practical course – II Biochemistry & Genetics
MB 349	Practical course – III Diagnostic Microbiology & Immunology	MB 349	Practical course – III Diagnostic Microbiology & Immunology

Course Equivalence for F.Y.B.A. Mathematics

Course	Title	Course	Title
FMG – 1	Financial Mathematics/Geometry	FMG -1	Financial Mathematics
MG -1	Algebra	MG-1	Algebra and Geometry
AMG – 1	Calculus	AMG - 1	Calculus

Course Equivalence for S.Y.B.A. Mathematics

Course	Title	Course	Title
FMG – 2	Operations Research	FMG -2	Operations Research
MG – 2	Linear Algebra	MG- 2	Differential Equations and Linear Algebra
AMG – 2	Calculus of several variables and Vector Calculus	AMG- 2	Calculus of Several variable and Vector Calculus
MS-1	Diff. Equations and Complex Variables	MS-1	Prob. Course based on the Papers MG 2 and AMG 2 (Same as Paper III of S.Y.B.Sc. Mathematics) OR Any one of : a) Combinatorics and Computational Geometry. b) Graphs and Lattices.
MS -2	Number Theory Combinatorics Differential Geometry	MS – 2	Number Theory and Complex Variables

T.Y.B.A. (Mathematics)

1	AMG-3 Real Analysis	AMF-3 Real Analysis and Lebesgue Integration
2	MG-3-Group Theory and Ring Theory	MG-3-Group Theory and Ring Theory
3	MS-3-Metric Spaces and Complex Analysis	MS-3-Set Theory, Logic and Metric Spaces
4	MS-4 Dynamics and Partial Differential equations	MS-4-Ordinary and Partial Differential equations
5	FMG-3-C-programming	FMG-3-C-programming

Equivalent Courses at F. Y. B.Sc. Mathematics

No.	Old Course	New Course
1.	Paper- 1 -Algebra	Paper-1 Algebra and Geometry
2.	Paper -2-Calculus	Paper-2 Calculus
3.	Paper -3-Geometry and Differential Equation	Ppaer- 3- Practical

Equivalent Courses at S.Y.B.Sc. Mathematics

Semester-I

No.	Old Course	New Course
1.	MT-211 – Linear Algebra – I	MT- 223- Practical
2.	MT-212-Calculus of Several Variables	MT-211-Calculus of Several Variables
3.	MT-213-Differentaial Equation	MT-212 (A) Differential Equation
4.	MT-214- Numerical Analysis	MT- 212 (B)Numerical Analysis

Semester – II

No.	Old Course	New Course
1.	MT-221- Linear Algebra-II	MT-221- Linear Algebra
2.	MT- 222- Vector Calculus	MT- 222 (A) Vector Calculus
3.	MT- 223- Complex Variables	MT- 222(B)Discrete Mathematics
4.	MT- 224- Differential Equation and Laplace Transforms	MT-222(B)- Discrete Mathematics

Equivalent Courses at T.Y. B.Sc. Mathematics

Semester – III

No.	Old Course	New Course
1	MT-331 Metric Spaces	MT-341 Metric Spaces
2	MT-332 Real Analysis	MT- 332 Real Analysis
3	MT-333 Problem Course	MT-333 Problem Course
4	MT-334 Group Theory	MT-334 Group Theory
5	MT-335 Dynamaics	MT-347 (D) Dynamics
6	MT-336 Problem Course	MT-336 Problem Course
7	MT-337 (A) Operational Research MT-337 (B) C-Programming-I MT-337 (C) Graph Theory MT-337 (D) Combinatorics	MT-337 (A) Operational Research MT-337 (C) C-programming-I MT-337 (E) Combinatorics MT-337 (E) Combinatorics
8	MT-338 (A) Number Theory MT-338 (B) Differential Geometry MT-338 (C) Number Theory and Cryptography MT- 338 (D) Astronomy – I	MT-337 (F) Number Theory MT-337 (D) Differential Geometry MT- 337 (F) Number Theory MT-337 (D) Differential Geometry

Semester – IV

No.	Old Course	New Course
1	MT-341 Complex analysis	MT-342 Complex analysis
2	MT-342 Real Analysis-II	MT-347 (B) Improper Integrals and Laplace Transforms
3	MT-343 Problem Course	MT-333 Problem Course
4	MT-344 Ring Theory	MT-334 Ring Theory
5	MT-345 Partial Differential Equation	MT-345 Partial Differential Equation
6	MT-346 Problem Course	MT- 336 Problem Course
7	MT-347 (A) Operational Research-II MT-347 (B) Lattice Theory MT-347 (C) C-programming-II MT-347 (D) Computational Geometry MT- 348 (A) Lebesgue Integration	MT-347 (A) Optimization Techniques MT-337 (B) Lattice Theory MT-347 (C) C-programming-II MT-347 (F) Computational Geometry MT-347 (E) Lebesgue Integration
8	MT-348 (B) Differential Gemetry-II MT-348 (C) Data Structures MT-348 (D) Astronomy-II	MT-347 (F) Computational Geometery MT-347 (F) Computational Geometry MT-347 (F)Computational Geometry

F.Y. B.Sc. (Computer Science) Mathematics

Equivalent Course

No.	Old Course	New Course
1	Paper 1- Discrete Maths	Paper 1 – Discrete Maths
2.	Paper2- Algebra and Numerical Methods	Paper 3- Mathematics Practical
3	Paper 3- Geometry and Calculus	Paper 2- Algebra and Calculus

S.Y.B.Sc. (Computer Science) Mathematics

No.	Old Course	New Course
1	MTC-211 Linear Algebra	MTC-211 Linear Algebra
2	MTC-212 Algebra	MTC-212 Numerical Analysis
3	MTC- 221 Comp. Geometry	MTC-221 Comp. Geometry
4	MTC-222 Operational Research	MTC-222 Operational Research
5	MTC-223 Practical	MTC-223 Practical

M.A./M.Sc. Mathematics (Equivalence Papers)

	Old Syllabus	**Equivalent Paper**
Semester : I	MT-501 Real Analysis – I	MT-501 Real Analysis
	MT- 502 Advanced Calculus	MT-502 Advanced Calculus
	MT- 503 Linear Algebra	MT- 503 Linear Algebra
	MT- 504 Number Theory	MT-504 Number Theory
	MT- 505 Ordinary Differential Equations	MT- 505 Ordinary Differential Equations
Semester : II	MT- 601 Real Analysis – II	{Required to set the paper}
	MT- 602 Differential Geometry	MT-602 Differential Geometry
	MT-603 Group Theory	MT-603 Group and Rings
	MT-604 Complex Analysis	MT-604 Complex Analysis
	MT-605 Partial Differential Equation	MT- 605 Partial Differential Equations
	MT- 606 Object Oriented Programming using C++	MT- 606 Object Oriented Programming using C++
Semester : III	MT-701 General Topology	MT-601 General Topology
	MT-702 Mechanics	MT-703 Mechanics
	MT- 703 Functional Analysis	MT- 701 Functional Analysis
	MT-704 Mathematical Methods : I	{Required to set the paper}
	MT-705 Rings and Modules	MT-702 Rings and Modules
	MT-706 Numerical Analysis	{Required to set the paper}
	MT-707 Graph Theory	MT-705 Graph Theory
Semester : IV	MT – 801 Algebraic Topology	MT-804 Algebraic Topology
	MT-802 Hydrodynamics	{Required to set the Paper}
	MT- 803 Measure & Integration	MT-704 Measure and Integration
	MT-804 Mathematical Methods : II	{Required to set the Paper}
	MT- 805 Field Theory	MT- 801 Field Theory
	MT-806 Lattice Theory	MT- 805 Lattice Theory
	MT- 807 Combinatorics	MT-802 Combinatorics

Course Equivalence for M. Tech. (M.Sc. Tech)

(Industrial Mathematics with Computer Applications)

Semester – I

No.	Old Course	New Course
1	MIM-101-Real Analysis	MIM-101-Real Analysis
2	MIM-102-Algebra –I	MIM-102-Algebra-I
3	MIM-103-Discrete Mathematical Structures – I	MIM-103-Discrete Mathematical Structures - I
4	MIM-104-Programming in 'C' with ANSI Features-I	MIM-104-C-programming
5	Computer Architecture	MIM-105-Elements of Information Technology
6	Practicals	Practicals

Semester-II

No.	Old Course	New Course
1	MIM-201-Real and Complex Analysis	MIM-201-Real And Complex Analysis
2	MIM-202-Algebra-II	MIM-202-Algebra-II
3	MIM-203-Discrete Mathematical Structures-II	MIM-203-Discrete Mathematical Structures-II
4	MIM-204-Programming in 'C' with ANSI Features-II	MIM-204-Data Base Fundamentals
5	MIM-205 Data Structures Using C	MIM-205-Data Structures Using C
6	Practicals	Practicals

Semester-III

No.	Old Course	New Course
1	MIM-301-Topology	MIM-401-Topology
2	MIM-302-Data Base	
3	MIM-303 Object Oriented Programming with C++	MIM-303-Object Oriented Programming with JAVA
4	MIM-304 Operating Systems-I	MIM-304-Operating Systems
5	MIM-305-Design and Analysis of Algorithms-I	MIM-305-Theoretical Computer Science
6	Practicals	Practicals

*** For MIM-302, there is no University Course in the revised syllabus Hence the question Paper is required to be set.**

Semester-IV

No.	Old Course	New Course
1	MIM-401-Functional Analysis	MIM-301-Numerical Analysis
2	MIM-402-Operational Research-II	MIM-501-Operations Research and Optimizing
3	MIM-403-Object Oriented programming with JAVA	MIM-403-Web Technologies (Client and Server side)
4	MIM-404-Operating Systems-II	MIM-504-Advanced Operating systems
5	MIM-405-Design and Analysis of Algorithms-II	MIM-404-Design and Analysis of Algorithms
6	Practicals	Practicals

Semester-V

No.	Old Course	New Course
1	MIM-501-Compiler Techniques	Modeling & Simulation
2	MIM-502-Software Engineering	MIM-302-Software Engineering (OOSE)
3	MIM-503-Computer Networks	MIM-402-Computer Networks
4	MIM-504-Computer Graphics-I	MIM-502-Statistical and Numerical Methods

Equivalence of Old and New Syllabus Theory Papers

Computer Science

FYBSc Computer Science

Paper No.	Title of Paper (Old Pattern) (Implemented from the academic year 2002-03)	Title of Paper (New Pattern) (Implemented from the academic year 2008-09)
Paper-I	CS-1: Introduction to Computer, Data Processing and Networking	CS-2: File Organization and Fundamental of Databases
Paper-II	CS-2: Introduction to Programming and Programming in C	CS-1: Introduction to Programming and Programming in C

SYBSc Computer Science

Paper No.	Title of Paper (Old Pattern) (Implemented from the academic year 2003-04)	Title of Paper (New Pattern) (Implemented from the academic year 2009-10)
Semester-I		
Paper-I	CS-211, Data Structures, Image Structures and Related Algorithms in C	CS-211, Data Structures using C
Paper-II	CS- 212, File Structures and Database Concepts	CS-212, Relational Database Management System (RDBMS)
Semester-II		
Paper-I	CS-221, Object Oriented Concepts and Programming in C++	CS-221, Object Oriented Concepts and Programming in C++
Paper-II	CS- 222, File Structures and Database Concepts	CS-222, Software Engineering

TYBSc Computer Science (To be implemented from 2010-11)

Old Course	New Course
Systems Programming & Operation Systems	Systems Programming & Operation Systems
Theoretical Computer Science & Compiler Construction	Theoretical Computer Science & Compiler Construction
Computer Networks and Network Administration	Computer Networks-I & II
Server Databases & Application Development	Web Development and PHP programming
Programming in Java & Advanced Java	Programming in Java-I & II
Software Engineering	Object Oriented Software Engineering & Business Applications

M.C.A. (Science)

Paper No.	Title of Paper (Old Pattern)	Title of Paper (New Pattern) (Implemented from the academic year 2008-09)
Semester-I		
Paper-I	CS-101: Introduction to Programming	CS-101: C-Programming
Paper-II	CS-102: Logical Organization of Computer	CS-102: Computer Architecture
Paper-III	CS-103: Mathematical Foundation	CS-103: Mathematical Foundation
Paper-V	CS-105: Numerical Methods	CS-105: Graph Theory
Semester-II		
Paper-I	CS-201: Data and File Structures	CS-201: Data and File Structures using C
Paper-II	CS-202: Theoretical Computer Science	CS-202: Theoretical Computer Science
Paper-III	CS-203: SDK and MFC Event Driven Programming	CS-203: Object Oriented Programming (C++ Programming)
Paper-V	CS-205: Operating System Concepts	CS-205: Database Management Systems
Semester-III		
Paper-I	CS-301: Design and Analysis of Algorithm	CS-301: Design and Analysis of Algorithm
Paper-II	CS-302: Database System Concepts	CS-303: Introduction to System Programming and Operating System Concepts
Paper-III	CS-303: Computer Networks	CS-302: Computer Networks

Paper-V	CS-305: System Analysis & Design (Software Engineering)	CS-305: Event Driven Programming (Win32 SDK)
Semester-IV		
Paper-I	CS-401: Graphics	CS-401: Introduction to Unix and Unix Internals
Paper-II	CS-402: Artificial Intelligence	CS-402: Advanced Networking and Mobile Computing
Paper-III	CS-403: Advanced Database Management System	CS-403: Distributed Database System
Paper-V	CS-405: Management Information System & DSS	CS-405: Object Oriented Software Engineering
Semester-V		
Paper-I	CS-501: Mobile Computing	CS 501: Cryptography and Network Security
Paper-II	CS-502: Expert Systems	CS-502: Internet Programming.
Paper-III	CS-503: Software Project Management	CS-505: Software Testing and Quality Assurance.
Paper-V	CS-505: Advanced Modeling Techniques	CS-503: Design Patterns
(In each semester Paper-IV and VI are departmental theory papers)		

Defence and Strategic Studies Equivalence of T.Y.B.Sc. Syllabus

Sr. No.	Semester III		Semester IV	
Paper No.		Title of Paper	Paper No.	Title of Paper
For both the semester following five courses will be compulsory. (Core Courses)				
1.	DS-331	Science, Technology and National Security	DS-341	Management of Military Technology in India
2.	DS-332	Defence Economics	DS-342	Economic Aspects of War
3.	DS-333	Study of Disaster	DS-343	Disaster Management
4.	DS-334	Research Mehodology	DS-344	Project Report (Internal Departmental Paper)
5.	DS-335	Computer Application in Defence Management	DS-345	Information Technology and National Security
Optional Course :- Students should Choose anyone paper from each group. (Total Group 4 and Choose from each group)				
6.	DS-336	A. Indian Military System (I) B. Maratha Military System (I) C. Indian in Since Independence (I)	DS-346	A. Indian Military System (II) B. Maratha Military System (II) C. Indian War since Independence (II)
7.	DS-337	A. Military Sociology B. Defence Journalism C. Defence Preparedness	DS-347	A. Military Psychology B. Defence Journalism and National Security C. Defence Preparedness if India (II)
8.	DS-338	A. Armed Conflict and Human Rights B. International Organisation and National Security C. International Law	DS- 348	A. Refugees Studies B. Study of United Nations C. Laws of War and Peace
9.	DS-339	A. Defence Management in India B. Internal Security of India (I) C. India's Maritime Security (I)	DS-349	A. Management of Defence Production and Logistics in India B. Internal Security of India (II) C. India's Maritime Security (II)

Defence and Strategic Studies Equivalence of B.Sc. Syllabus

OLD		NEW	
Paper No	**Title of Paper**	**Paper No**	**Title of Paper**
F.Y. B.Sc.			
DS-2	Contemporary Warfare	DS-1	War and Warfare
DS-2	Indias National Security	DS -2	Defence mechanism and military career in India
DS-3	Defence Organisation in India	DS-3	Evolution of Defence Science and Technology
S.Y.B.Sc.			
DS -4	International Relations	Sem-I	
DS-5	Geostrategy and Military Geography	DS-101	Inter Relation and Foreign Policy
DS -6	India and Her Neighbours	DS-102	Elements of National Security
		DS – 103	Geopolitics
		Sem-II	
		DS – 201	Strategic Issues in Inter Relations
		DS-202	India's National Security
		DS-203	Military Geography

Defence and Strategic Studies B.Sc. Old Syllabus

Class	Paper No.	Title of Paper
T.Y.B.Sc.	DS-7	Science, Technology and National Security
	DS-8	Research Methodology and Project
	DS-9	Defence Economics
	DS-10	Indian Military History
	DS-11	Computer application in Defence

Optional Course

DS-12	Strategic Thinkers
DS-13	International Law
DS-14	Defence Production in India
DS-15	Defence Management in India
DS-16	Armed forces and society
DS-17	Maratha Art of War and Military system
DS-18	International organization
DS-19	Evaluation of Western Art of War
DS-20	Refugees studies
DS-21	Geopolitics

F.Y.B.Sc. Electronic Science

Paper No.	Old Paper Title	New Paper Title
I	Principles of Analog Electronics	Principles of Analog Electronics
II	Principles of Digital Electronics	Principles of Digital Electronics
III	Practical's	Practical's

S.Y.B.Sc. Electronic Science

Semester	OLD Syllabus	New Syllabus
Semester I	EL211 Analog Circuit Design Principles I	Paper - I : Analog Circuits and Systems
	EL 212 Communication I	Paper - II: Electronic Instrumentation
Semester II	EL 221 Analog Circuit Design Principles II	Paper – I: Digital System Design
	EL 222 Communication II	Paper – II: Communications system

T.Y.B.Sc. Electronic Science Semester III

OLD Syllabus			NEW Syllabus	
Paper-I	**EL-331**	Analog circuits and systems	EL – 333	Analog Circuit Design and Application of Linear IC's
Paper-II	**EL-332**	Micro-controllers	EL - 332	Microcontrollers
Paper-III	**EL-333**	Modeling & Simulation using C & MATLAB	EL – 335	C Programming
Paper-IV	**EL-334**	Electromagnetic fields and Waves	EL – 334	Foundation of Nanoelectronics
Paper-V	**EL-335**	Optional Course -I		
	A)	Power Electronics -I	EL – 343	Power Electronics
	B)	Principles & Applications of Sensors-I	EL – 336 B	Sensor & Actuators
	C)	Industrial Electronics –I	EL – 343 A	Power Electronics
	D)	Computer Service Management	EL – 346 B	Consumer Electronics
	E)	Electronic Equipment Troubleshooting & repairs	EL – 346 B	Consumer Electronics
Paper-VI	**EL-336**	Optional Course - II		
	A)	Computer Hardware	EL 336 A	Fiber Optics and fiber optic communication
	B)	Computer Network design & Maintenance	EL 336 A	Fiber Optics and fiber optic communication
	C)	Biomedical Instrumentation-I	EL -336 A	Fiber Optics and fiber optic communication
	D)	Industrial Electronics -I	EL – 336 A	Fiber Optics and fiber optic communication
	E)	Agri Electronics –I	EL – 336 A	Fiber Optics and fiber optic communication
	F)	Fiber optics & Fiber optic Communication-I	EL – 336 A	Fiber Optics and fiber optic Communication
Paper-VII	EL-347	Practical Course –I	EL-347	Practical Course –I
Paper-VIII	EL-348	Practical Course –II	EL-348	Practical Course –II
Paper-IX	EL-349	Practical Course –III (Project Course)	EL-349	Practical Course –III (Project Course)

T.Y.B.Sc. Electronic Science Semester IV

OLD Syllabus			NEW Syllabus	
Paper-I	**EL-341**	Digital circuits and systems	EL - 331	Advanced Digital syster design
Paper-II	**EL-342**	Process Automation	EL- 342	Embedded Systems
Paper-III	**EL-343**	Modeling & Simulation: Applications in Electronics	EL – 345	Mathematical Methods and Analysis using Mat
Paper-IV	**EL-344**	Physics of Electronic Materials	EL – 344	Electronic Materials And Devices
Paper -V	**EL-345**	Optional Course – I		
	A)	Power Electronics -II	EL – 346 B	Consumer Electronics
	B)	Principles & Applications of Sensors-II	EL – 336 B	Consumer Electronics
	C)	Industrial electronics -II	EL – 346 B	Consumer Electronics
	D)	Entrepreneurship development	EL – 346 B	Consumer Electronics
	E)	Entrepreneurship development	EL – 346 B	Consumer Electronics
Paper-VI	**EL-346**	Optional Course –II		
	A)	Computer Networking	EL- 341	Advanced Communicati Systemss
	B)	Network Operating System	EL- 341	Advanced Communicati Systemss
	C)	Biomedical Instrumentation-II	EL- 341	Advanced Communicati Systemss
	D)	Medical Instrumentation	EL- 341	Advanced Communicati Systemss
	E)	Agrielectronics –II	EL- 341	Advanced Communicati Systemss
	F)	Fiber optics & Fiber optic Communication-II	EL – 341	Advanced Communicati Systemss
Paper-VII	EL-347	Practical Course –I	EL-347	Practical Course –I
Paper-VIII	EL-348	Practical Course –II	EL-348	Practical Course –II
Paper-IX	EL-349	Practical Course –III (Project Course)	EL-349	Practical Course –III (Project Course)

F.Y.B.Sc. (Computer Science) Electronics Subject

Paper No.	Old Paper Title	New Paper Title
I	Linear Electronics	Electronic devices, Circuits and Computer Peripherals
II	Digital Electronics	Fundamentals of Digital Electronics
III	Practical	Practical Course

S.Y.B.Sc. (Computer Science) Electronics Subject

Sem-I Old Course	Sem-I New Course
21301ELC 211 Computer Organization	21311ELC 211 Microprocessor Architecture & Programming
21302ELC 212 Process Control Instrumentation	21302 ELC 212 Process control Instrumentation (to be continued)
Sem-II Old Course	**Sem-II Old Course**
22301 ELC 221 Microprocessors	22311 ELC 221 8051 Microcontroller & Embedded Systems
22302 ELC 222 Communication Principles	21313 ELC 212 Communication Principles

Environmental Science Course Equivalence

	F.Y. B.Sc. (Old)		F.Y. B.Sc. (New)
Paper-I	Environmental Science	Paper-I ENV-101	Life Science, Basic Biology- Term-I Life Science Natural Resource Term-II
Paper-II	Introduction to Environmental Pollution	Paper-II ENV-102	Earth Science: Environmental Chemistry Term-I Earth Science basic Geosciences Term-II
Paper-III	Practical	Paper-III	Practical Course on 101 and 102
	S.Y. B.Sc. (Old)		**S.Y. B.Sc. (New)**
Paper-I	Environment and Impact of Human Activities on Environment	Paper-I ENV 201	Ecology and Ecosystem Semester-I Biological Diversity Semester-II
Paper-II	Effects of Changed Environment on man and Management of Environment	Paper-II ENV 202	Hydrology Semester-I Soil Science Semester-II
Paper-III	Practical Course	Paper-III	Practical Course on 201 and 202

T.Y. B.Sc. (Environmental Science) Course Design To be implemented from the year 2010-11

Course Number	T.Y. B.Sc. (Old) Semester-III	Course Number	T.Y. B.Sc. (New) Semester-III
EN-331	Environmental Quality Management	ENV-301	Terrestrial Ecosystems and Management
EN-332	Natural Recourse Management	ENV-302	Wildlife Biology
EN-333	Environmental Chemistry	ENV-303	Water Quality
EN-334	Environmental Geo Science	ENV-304	Issues in Environmental Science
EN-335	Applied Biology	ENV-305	Environmental Governance and Equity: Law and ethics
		ENV-306	Environmental Biotechnology-II
	Semester – IV		**Semester-IV**
EN-341	Environmental Quality Management	ENV-301	Aquatic Ecosystems and Management
EN-342	Natural Resource Management	ENV-302	Nature Conservation
EN-343	Environmental Chemistry	ENV-303	Air and Soil Quality
EN-344	Environmental Geo Science	ENV-304	Issues in Environmental Science
EN-345	Applied Biology	ENV-305	Environmental Governance and Equity: EMS, ISO 14000
		ENV-306	Environmental Biotechnology-II
	Practical Courses		**Practical Courses**
EN-347	Water Analysis	ENV-307	Practical -24
EN-347	Soil analysis and Air Quality Analysis	ENV-308	Practical -24
EN-348	Noise Quality Analysis and Study Visits	ENV-309	Practical-12
EN-349		ENV-309	Project Work

Equivalence to F.Y. B.Sc. Vocational Papers

Subject	Old Paper	Equivalence
Industrial Chemistry	Paper I Paper II	New Paper I New Paper II
Industrial Microbiology	Paper I Paper II	New Paper I New Paper II
Vocational Biotechnology	Paper I Paper II	New Paper I New Paper II
Seed Technology	Paper I Paper II	New Paper I New Paper II
Electronic Equipment Maintenance	Paper I Paper II	New Paper I New Paper II
Photography	Still Photography Paper I Still Photography Paper II	Still Photography and AV Production Paper I Still Photography and AV Production Paper II
Computer Maintenance	Computer Maintenance Paper I Computer Maintenance Paper II	Computer Hardware and Network Administration Paper I Computer Hardware and Network Administration Paper II

Equivalence of Biotechnology

Equivalence for UG & PG courses in Biotechnology has not been given. The subjects will remain as it is given in the revised syllabus