



**B.Sc.**

Credit and Semester System Syllabus

**NAME OF THE SUBJECT: BOTANY**

**SEMESTER: 3<sup>rd</sup>**

Sr. No.	Paper No	Name of the Paper	Total Marks Ext+Int*= Total	Passing Standard Ext+Int=Total	Total Teaching Hours	University Exam. Hours	Credits
1	B-301	Viruses, Bacteria, Algae, Fungi, Plant pathology, Bryophytes, Pteridophytes (Theory)	70 + 30* = 100	28 + 12 = 40	15 Weeks x 03 Hours = 45	03	03
2	B-302	Gymnosperms, Paleobotany, Morphology, Systematic botany, Taxonomy, Embryology (Theory)	70 + 30* = 100	28 + 12 = 40	15 Weeks x 03 Hours = 45	03	03
3	B-303	Plant Anatomy, Ecology (Theory)	70 + 30* = 100	28 + 12 = 40	15 Weeks x 03 Hours = 45	03	03
4	B-304	Practicals	90 + 00 = 90	36 + 00 = 36	15 Weeks x 09 Hours = 135	09	09
		<b>TOTAL</b>	<b>300 + 90 = 390</b>	<b>120 + 36 = 156</b>		<b>18</b>	<b>18</b>

* INTERNAL	MARKS
ASSIGNMENT	10
SEMINAR	10
TEST	10

*B. D. M.*



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**NAME OF THE SUBJECT: BOTANY**

					SEMESTER: 4 <sup>th</sup>				
		SR. NO.	PAPER NO	NAME OF THE PAPER	TOTAL MARKS EXT+INT*= TOTAL	PASSING STANDARD EXT+INT=TOTAL	TOTAL TEACHING HOURS	UNIVERSITY EXAM. HOURS	CREDITS
1	B-401	Economic botany, Ethno botany, Horticulture, Pharmacognosy (Theory)			70 + 30* = 100	28 + 12 = 40	15 Weeks x 03 Hours = 45	03	03
2	B-402	Plant Physiology & Plant Biochemistry (Theory)			70 + 30* = 100	28 + 12 = 40	15 Weeks x 03 Hours = 45	03	03
3	B-403	Cytology, Genetics, Embryology (Theory)			70 + 30* = 100	28 + 12 = 40	15 Weeks x 03 Hours = 45	03	03
4	B-404	Practicals			90 + 00 = 90	36 + 00 = 36	15 Weeks x 09 Hours = 135	09	09
<b>TOTAL</b>					<b>300 + 90 = 390</b>	<b>120 + 36 = 156</b>		<b>18</b>	<b>18</b>

* <u>INTERNAL</u>	<u>MARKS</u>
ASSIGNMENT	10
SEMINAR	10
TEST	10

*B. S.*

There shall be Local Excursion (*Principal and Subsidiary subject*) and Botanical study tour in any part of India (for only Principal subject) for the study of Plants. [Including visit to Forest, Plant Science based Research and Government Institutions.] Students shall have to submit Field report / Tour report in their Journal.



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**NAME OF THE SUBJECT: ZOOLOGY**

**SEMESTER: 3<sup>rd</sup>**

Sr. No.	Paper No.	Name of the Paper	Total Marks EXT+INT*=TOTAL	Passing Standard EXT+INT=TOTAL	Total Teaching Hours	University Exam. Hours	Credits
1	Z-301	Non Chordate And Economic Zoology (Theory)	70 + 30* = 100	28 + 12 = 40	15 Weeks x 03 Hours = 45	03	03
2	Z-302	Chordates and Osteology (Theory)	70 + 30* = 100	28 + 12 = 40	15 Weeks x 03 Hours = 45	03	03
3	Z-303	Physiology, Genetics, Immunology and Embryology (Theory)	70 + 30* = 100	28 + 12 = 40	15 Weeks x 03 Hours = 45	03	03
4	Z-304	Practicals	90 + 00 = 90 (External Only)	36 + 00 + 36	15 Weeks x 09 Hours = 135	09	09
		<b>TOTAL</b>	<b>300 + 90 = 390</b>	<b>120 + 36 = 156</b>	<b>---</b>	<b>18</b>	<b>18</b>

* INTERNAL	MARKS
ASSIGNMENT	10
SEMINAR	10
TEST	10

*B.D.*



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Credit and Semester System Syllabus

SEMESTER: 4<sup>th</sup>

**NAME OF THE SUBJECT: ZOOLOGY**

Sr. No.	Paper No.	Name of the Paper	Total Marks EXT+INT*=TOTAL	Passing Standard EXT+INT=TOTAL	Total Teaching Hours	University Exam. Hours	Credits
<b>PRINCIPAL &amp; FIRST SUBSIDIARY:</b>							
1	Z-401	Non Chordate And Economic Zoology (Theory)	70 + 30* = 100	28 + 12 = 40	15 Weeks x 03 Hours = 45	03	03
2	Z-402	Chordates, Applied Zoology and Environmental biology (Theory)	70 + 30* = 100	28 + 12 = 40	15 Weeks x 03 Hours = 45	03	03
3	Z-403	Enzymology, Genetics, Histology and Zoogeography (Theory)	70 + 30* = 100	28 + 12 = 40	15 Weeks x 03 Hours = 45	03	03
4	Z-404	Practicals	90 + 00 = 90 (External Only)	36 + 00 + 36	15 Weeks x 09 Hours = 135	09	09
		<b>TOTAL</b>	<b>300 + 90 = 390</b>	<b>120 + 36 = 156</b>	<b>---</b>	<b>18</b>	<b>18</b>

* INTERNAL	MARKS
ASSIGNMENT	10
SEMINAR	10
TEST	10

*B.D.N.*

There shall be Local Excursion (*Principal and Subsidiary subject*) and Zoological study tour in any part of India (for only Principal subject) for the study of Wildlife and faunal diversity. [Including visit to Forest, Desert, Sea coast, Zoological park, Nature Park, Animal science based Research institutes and government institutions.] Students shall have to submit Field report / Tour report in their Journal.



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**NAME OF THE SUBJECT: MICROBIOLOGY**

**SEMESTER: 3<sup>rd</sup>**

SR. NO.	PAPER NO	NAME OF THE PAPER	TOTAL MARKS EXT+INT*=TOTAL	PASSING STANDARD EXT+INT=TOTAL	TOTAL TEACHING HOURS	UNIVERSITY EXAM. HOURS	CREDITS
1	MI-301	Introduction to Microbiology	70 + 30* = 100	28 + 12 = 40	15 Weeks x 03 Hours = 45	03	03
2	MI-302	Introduction to Physiology & Biochemistry	70 + 30* = 100	28 + 12 = 40	15 Weeks x 03 Hours = 45	03	03
3	MI-303	Introduction to Environmental Microbiology	70 + 30* = 100	28 + 12 = 40	15 Weeks x 03 Hours = 45	03	03
4	MI-304	Practicals in Microbiology	90 + 00 = 90 (External Only)	36 + 00 + 36	15 Weeks x 09 Hours = 135	09	09

* INTERNAL	MARKS
ASSIGNMENT	10
TEST	10
SEMINAR	10

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**Note:**

- Practical examinations shall be of two day (6 hrs/day, total 12 hrs)
- Total exercises to be performed by each candidate will be as Practical Examinational Scheme:



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SEMESTER: 3<sup>rd</sup>

**NAME OF THE SUBJECT: STATISTICS**

SR. NO.	PAPER NO	NAME OF THE PAPER	TOTAL MARKS EXT+INT*=TOTAL	PASSING STANDARD EXT+INT*=TOTAL	TOTAL TEACHING HOURS	PERIODS PER WEEK	CREDITS
1	ST-301	Mathematical Statistics – I	70 + 30* = 100	28 + 12 = 40	15 weeks x 03 hours = 45	03	03
2	ST-302	Applied Statistics – I	70 + 30* = 100	28 + 12 = 40	15 weeks x 03 hours = 45	03	03
3	ST-303	Quantitative Analysis	70 + 30* = 100	28 + 12 = 40	15 weeks x 03 hours = 45	03	03
4	ST-304	Practicals in Statistics-ABC	90 + 00 = 90 (External Only)	36 + 00 + 36	15 weeks x 09 hours = 135	09	09

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* INTERNAL	MARKS
ASSIGNMENT	10
SEMINAR	10
TEST	10

1. In a week, there will be three theory periods each of one hour's duration for direct classroom teaching of each of courses ST-301, ST-302 and ST-303.
2. In a week, there will be three laboratory sessions each of three hours' duration for conduction of course ST-304.
3. \*Course ST -304 consists of three Sections A, B, C of practicals in statistics designed to make students proficient in real life applications of some statistical methods.
4. There will be three Semester-End Practical Examination papers each of three hours' duration and every written practical paper carries 40 marks.
5. There will be a Viva-voce Examination and Journal Assessment Session of three hours duration at the end of three written Practical Papers for every practical batch. The Viva-voce and Journal Assessment will carry 30 marks.



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**SEMESTER: 3<sup>rd</sup>**

**NAME OF THE SUBJECT: INDUSTRIAL CHEMISTRY**

Sr. No.	PAPER NO.	NAME OF THE PAPER	TOTAL MARKS EXT+INT*= TOTAL	PASSING STANDARD EXT+INT= TOTAL	TOTAL TEACHING HOURS	EXAM. HOURS	CREDITS
1	IC-301	Material Science – I	70 + 30 = 100	28 + 12 = 40	15 Weeks × 03 Hours = 45	03	03
2	IC-302	Fundamental of Chemical Engineering – I	70 + 30 = 100	28 + 12 = 40	15 Weeks × 03 Hours = 45	03	03
3	IC-303	Heavy and Fine Chemicals & Catalysts – I	70 + 30 = 100	28 + 12 = 40	15 Weeks × 03 Hours = 45	03	03
4	IC-304	Practicals	90 + 00 = 90 (External Only)	36 + 00 + 36	15 Weeks x 09 Hours = 135	09	09

* INTERNAL	MARKS
ASSIGNMENT	10
SEMINAR	10
TEST	10

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**SEMESTER: 4<sup>th</sup>**

**NAME OF THE SUBJECT: INDUSTRIAL CHEMISTRY**

SR. NO.	PAPER NO	NAME OF THE PAPER	TOTAL MARKS EXT+INT*= TOTAL	PASSING STANDARD EXT+INT= TOTAL	TOTAL TEACHING HOURS	EXAM. HOURS	CREDITS
1	IC-401	Material Science – II	70 + 30 = 100	28 + 12 = 40	15 Weeks × 03 Hours = 45	03	03
2	IC-402	Analytical Chemistry	70 + 30 = 100	28 + 12 = 40	15 Weeks × 03 Hours = 45	03	03
3	IC-403	Heavy and Fine Chemicals & Catalysts – II	70 + 30 = 100	28 + 12 = 40	15 Weeks × 03 Hours = 45	03	03
4	IC-404	Practicals	90 + 00 = 90 (External Only)	36 + 00 + 36	15 Weeks x 09 Hours = 135	09	09

* <u>INTERNAL</u>	<u>MARKS</u>
ASSIGNMENT	10
SEMINAR	10
TEST	10