

Price : Rs. 20/-



UNIVERSITY OF PUNE
Examination Form
S.Y. / T.Y.B.Sc. (Semester I to IV)

S.Y./T.Y.B.Sc. SEMESTER (Revised 2008)
& S.Y./T.Y.B.Sc. (2003 pattern) Equivalence
Regular (VOCATIONAL/RESTRICTURE)
(BIOTECHNOLOGY)

( University ID is compulsory for those who have got eligibility for the course )

Instructions to Candidates :

- (i) This exam. form along with fee receipt should be returned to the concerned College after remitting the required fees in Bank.
(ii) Attach xerox copy of the statement of marks of latest previous examination. (DO NOT ATTACH SUBJECT REFERENCE LIST)

To, The Controller of Examinations, College Roll No. : [ ] [ ] [ ] [ ] Division : .....
University of Pune, Pune-411007.

For Office Use only

Sir,

I request permission to present myself at the examination subjects courses mention below, to be held in April/October 20 .

Table with 2 columns: Batch No., Sr. No. and empty cells.

EXAMINATION DETAILS

1. Combination appearing Year : Tick the right combination

Table with 3 columns: SY, TY, SY/TY and rows with values 2, 3, 5.

University ID No. [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

( Number given by Eligibility Section )

2. Name of the College : [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

3. Name of the Centre at which appearing : [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

Tables for gender selection (Male/Female) and caste selection (SC, ST, OBC, DT, NT, Not Applicable).

5. Previous name changed : Yes [ Y ] No [ N ]

6. Name : Write in full in BLOCK LETTERS only. (Leave one space between two names). as required on the document

Mother's Name : [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

\* (South Indian and Foreign students & Muslim students are requested to write their names in the manner 'as' they want it to appear in the statements of marks. Leave one blank between two names.) Write surname first if any.

Table for Sports Activities with columns N.S.S., N.C.C., N.P.E.D., A.E.D., I.U.T. and rows 1-6.

8. Please tick [ X ] proper Pattern SY(85 Pat)/TY(85 Pat) SY(Sem)/TY(Sem) SY(85Pat)/TY(Sem) SY(Sem)/TY(85 Pat)

9. Year [ ] [ ] [ ] [ ] Month [ ] [ ] Seat No. [ ] [ ] [ ] [ ] [ ] [ ] of previous latest appearance

10. Permanent Registration Number, if applicable [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] No. of Courses [ ] [ ]

11. Write down Special Course for T.Y. [ ] [ ]

\*(In the Box, write special subject code as A or B or C etc. as given on next page for subjects).

12. I pay herewith Rs. .... as Examination Fees, Statement of Marks Fees

13. Permanent Address for Correspondence : ..... Pin Code .....

Table for fee details: Exam. Fee, Late Fee, Special Late Fee, Statement of Marks Fee, Passing Certificate, Fee for CAP, Form Fee, Total Rs.

DECLARATION

I hereby declare that I have gone through the List of Books prescribed for the examination for which I am appearing. I shall be responsible for any errors and wrong or incomplete entries made by me in the Examination Form. I shall not request for any special concession such as a change in time or day fixed for the University Examination etc. on religious or any other ground.

Yours faithfully,

Date : .....

Place : .....

Signature of the Candidate

**TICK PROPER S.Y./T.Y.B.Sc. Semester Combination**

(2)

Sem. I	Sem. I & II	Sem. II	Sem. I & III	Sem. II & III	Sem. III	Sem. I & IV	Sem. II & IV	Sem. III & IV	Sem. IV	Sem. I,II&III	Sem. I,II&IV	Sem. I,III&IV	Sem. II,III&IV	Sem. I,II,III&IV
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15

Please write the sem., subject code and subject name in the respective column as per the Subject Reference List

Year/Sem.	Subject Code	Name of the Subject appearing

**CERTIFICATE FROM THE PRINCIPAL OF THE COLLEGE**  
(Certificate to be signed by the Principal of the College at which the candidate has studied.)

1. I certify that the above named candidate is an Ex-student/Regular student of this college.
2. Statement as to his/her having passed in the subjects named herewith at a previous examination/s is correct and that he/she has not appeared for those subjects at an examination subsequent to the one at which he/she has passed before forwarding the form of this candidate. I have scrutinised the entries made by him/her regarding the subjects of appearance at the subjects in which he/she has passed and they are correct.
3. The above student who has passed the examination to other examining body recognized equivalent and has obtained Eligibility Certificate from University of Pune.
4. That the syllabus and the list of books prescribed for the examination to which the candidate is appearing have been duly notified to the student and to the best of my knowledge and belief he/she is a person of good conduct and has my permission to appear at the ensuing examination for the subjects for which he/she has applied.
5. That the above statements made by the student are correct.

Place : .....

Date : .....

Signature of the Principal : .....

S.Y.B.Sc. (Sem. I) students shall offer three out of four subjects offered by him in the First Year B.Sc. In addition, he shall offer one subject of one language

**S.Y.B.Sc. (Semester Pattern )**

**Semester I**

<b>SEM. I (Revised 2008 Pattern)</b>					
<b>Subject Name</b>	<b>Subject Code</b>	<b>Subject Code</b>	<b>Subject Code</b>	<b>Subject Code (out of 40 (Practical) from Oct. 2011)</b>	
11. Mathematics	51111	511A1	OR 511B1	51151	
12. Physics	51211	512A1	OR 512B1		
13. Chemistry	51311	51321			
14. Botany	51411	51421			
15. Zoology	51511	51521			
16. Geology	51611	51621			
17. Statistics	51711	51721			
18. Geography	51811	51821			
19. Microbiology	51911	51921			
20. Exp.Psychology					
20. Psychology	52011	52021			
21. Stat.Techniques	52111	52121			
22. Electronic Science	52211	52221	522A1 (Digital System Design from Oct. 2011)		
23. Defence & Strategic Studies	52311	52321	52331		
24. Environmental Science	52411	52421			
32. English	53011				
33. Marathi	53111				
34. Hindi	53211				
35. Sanskrit	53311				
37. Arabic Functional	53711				
38. Urdu General Paper II	53811				

S.Y.B.Sc. (Sem. II) students shall offer three subjects offered by him in the S.Y.B.Sc. (Sem. I). In addition, he shall offer one subject of previous language and compulsory Environmental Awareness (held at college only). (10+1=11 subjects)

**S.Y.B.Sc. (Semester Pattern )**

**Semester II**

Subject Name	SEMESTER II (2008 Pattern)			
	Subject Code	Subject Code	Subject Code (Practical) (out of 80)	Subject Code (Practical) (From Oct. 2011) (out of 40)
11. Mathematics	51112	511A2 OR 511B2	51132	51152
12. Physics	51212	51222	51232	
13. Chemistry	51312	51322	51332	
14. Botany	51412	51422	51432	
15. Zoology	51512	51522	51532	
16. Geology	51612	51622	51632	
17. Statistics	51712	51722	51732	
18. Geography	51812	51822	51832	
19. Microbiology	51912	51922	51932	
20. Psychology	52012	52022	52032	
21. Stat. Techniques	52112	52122	52132	
22. Electronic Science	52212	52222	52232	522A2 (Electronic Instrumentation from Oct. 2011)
23. Defence & Strategic Studies	52312	52322	52332	
24. Environmental Science	52412	52422	52432	
32. English	53012			
33. Marathi	53112			
34. Hindi	53212			
35. Sanskrit	53312			
37. Arabic Functional	53712			
38. Urdu General Paper II	53812			
*36. Environmental Awareness (Compulsory at college only)	59992			

T.Y.B.Sc. students shall offer one of the three subjects offered by him in Second Year B.Sc. as his Principal Subject.

Special Subject Code & Name	T.Y.B.Sc. Semester Pattern 2008 SEMESTER III									
	Theory Paper	I	II	III	IV	V	VI	VII	VIII	IX
11. (A) Mathematics	61113	61123	61133	61143	61153	61163	Elective Code	Elective Code		
12. (B) Physics	61213	61223	61233	61243	61253	Elective Code				
13. (C) Chemistry	61613	61623	61333	61343	61353	Elective Code				
14. (D) Botany	61413	61423	61433	61443	61453	61463				
15. (E) Zoology	61513	61523	61533	61543	615A3 OR 615B3	61563				
16. (F) Geology	61613	61623	61633	61643	61653	61663				
17. (G) Statistics	61713	61723	61733	61743	61753	Elective Code				
18. (H) Geography	61813	61823	61833	61843	61853	61863				
19. (I) Microbiology	61913	61923	61933	61943	61953	61963				
22. (L) Electronics	62213	62223	62233	62243	62253	Elective Code				
23. (M) Defence Studies	62613	62623	62333	62343	62353	Elective	Elective	Elective	Elective	
24. (N) Environmental Science	62413	62423	62433	62443	62453	62463				
<b>SEMESTER IV</b>							<b>PRACTICAL PAPER</b>			
Theory Paper	I	II	III	IV	V	VI	I	II	III	
11. (A) Mathematics	61114	61124	61134	61144	61154	61164	Elective Code	Elective Code	61194	
12. (B) Physics	61214	61224	61234	61244	61254	Elective	61274	61284	61294	
13. (C) Chemistry	61614	61624	61334	61344	61354	Elective	61374	61384	61394	
14. (D) Botany	61414	61424	61434	61444	61454	Elective	61474	61484	61494	
15. (E) Zoology	61514	61524	61534	61544	615A4 OR 615B4	61564	61574	61584	61594	
16. (F) Geology	61614	61624	61634	61644	61654	61664	61674	61684	61694	
17. (G) Statistics	61714	61724	61734	61744	61754	Elective	61774	61784	61794	
18. (H) Geography	61814	61824	61834	61844	61854	61864	61874	61884	61894	
19. (I) Microbiology	61914	61924	61934	61944	61954	61964	61974	61984	61994	
22. (L) Electronics	62214	62224	62234	62244	62254	Elective	62274	62284	62294	
23. (M) Defence Studies	62614	62624	62334	62344	62354	Elective	Elective	Elective	Elective	
24. (N) Environmental Science	62414	62424	62434	62444	62454	62464	62474	62484	62494	

## VOCATIONAL & RESTRUCTURE COURSES

(Any one Group of the following)

S.Y.B.Sc. (Semester)

Subject	Semester I		Semester II		
	NEW (2008 Pattern)		NEW (2008 Pattern)		
	Theory Paper I	Theory Paper II	Theory	Theory	Practical III
56. Industrial Chemistry	55611	55621	55612	55622	55632
57. Bio-Technology	55711	55721	55712	55722	55732
80. Photography Audio Visual Production	58011	58021	58012	58022	58032
81. Electronic Equip. & Maintenance	58111	58121	58112	58122	58132
87. Computer Hardware & Administration Network	58711	58721	58712	58722	58732
89. Seed Technology	58911	58921	58912	58922	58932
82. Ind. Microbiology	58211	58221	58212	58222	58232
<b>RESTRUCTURE :</b>					
'C' Component * _____					
D/E Component * _____					

Subject	T.Y.B.Sc. (Semester Pattern) Vocational (2008 Pattern)					
	Semester III (Theory)		Semester IV (Theory)		Semester IV (Practical)	
56. (O) Industrial Chemistry	<b>65653</b> V	<b>65663</b> VI	<b>65654</b> V	<b>65664</b> VI	<b>65694</b> III	
57. (P) Bio-Technology	<b>65753</b> V	<b>65763</b> VI	<b>65754</b> V	<b>65764</b> VI	<b>65794</b> III	
80. (Q) Photography Audio Visual Production	<b>68053</b> V	<b>68063</b> VI	<b>68054</b> V	<b>68064</b> VI	<b>68094</b> III	
81. (R) Electronic Equip. Maintenance	<b>68153</b> V	<b>68163</b> VI	<b>68154</b> V	<b>68164</b> VI	<b>68194</b> III	
82. Ind. Microbiology	<b>68253</b> V	<b>68263</b> VI	<b>68254</b> V	<b>68264</b> VI	<b>68294</b> III	
87. (S) Computer Hardware Administration Network	<b>68753</b> V	<b>68763</b> VI	<b>68754</b> V	<b>68764</b> VI	<b>68794</b> III	
89. (T) Seed Technology	<b>68953</b> V	<b>68963</b> VI	<b>68954</b> V	<b>68964</b> VI	<b>68994</b> III	
92. Business Entrepreneurship & Development						<b>69214</b> (Grade)
<b>RESTRUCTURE :</b>						
'C' Component * _____						
D/E Component * _____			<b>65504</b> * Project work			

\* Please write name of the Subject and Code No. of Restructure Course given in the list available in the college office.

**BIOTECHNOLOGY****SEMESTER - I**

Subject Name	Sem-patt-2006	Revised Course (Sem.-pat-2008)
Genetics & Immunology (Theory)	24011	54011
Cell Biology (Theory)	24021	54021
Metabolic Pathways (Theory)	24041	
Molecular Biology (Theory)		54041
Fundamentals of Ecology & Environment (Theory)	24051	
Exercises In Cell Biology & Genetics (Practical)	24131	54131
Techniques in Molecular Biology (Practical)		54231

**SEMESTER - II**

Subject Name	Sem. Pattern 2006
Molecular Biology (Theory)	24062
Plant & Animal Tissue Culture (Theory)	24082
English (Theory)	24072
Techniques in Molecular Biology (Practical)	24232
Tissue Culture Techniques (Practical)	24332

  

Subject Name	Sem. Pattern 2008
Metabolic Pathways (Theory)	54042
Environmental Biology & Biotechnology (Theory)	54062
English (Theory)	54072
Plant & Animal Tissue Culture (Theory)	54082
Tissue Culture Techniques (Practical)	54332

**SEMESTER - III**

Subject Name	<u>2006 Pattern</u>
Microbial Biotechnology (Theory)	34013
Recombinant DNA Technology (Theory)	34023
Biodiversity & Systematics (Theory)	34043
Techniques in Genetics Engg. (Theory) (Practical)	34133
Project (to be continued) (Semester IV)	34233

**SEMESTER - IV**

Subject Name	<u>2006 Pattern</u>
Large Scale Manufacturing Process (Theory)	34014
Applications of Biotechnology in Agriculture & Health (Theory)	34024
Animal and Plant Development (Theory)	34044
Development Biology (Practical)	
Development Biology & Fermentation (Practical)	34134
Project	34234

**SEMESTER - III**

Subject Name	<u>2008 Pattern</u>
Microbial Biotechnology	64013
Animal and Plant Development	64023
Biodiversity & Systematics	64043
Development Biology and Microbial Biotechnology (Practical)	64133
Project (to be continued in Sem. IV)	64233

**SEMESTER - IV**

Subject Name	<u>2008 Pattern</u>
Large Scale Manufacturing Process	64014
Biotechnology in Agriculture & Health	64024
Recombinant DNA Technology	64044
Techniques in Genetic Engg. (Practical)	64134
Project	64234

**T.Y.B.Sc. Elective Paper Subject Coding List**

<i>Sub. Code</i> <i>Subject Name</i>	<i>Sub. Code</i> <i>Subject Name</i>
<b>Sem. III Mathematics</b>	<b>Sem.- III    Defence and Strategic Studies</b> <i>(Choose any one Paper from each group)</i>
611A3    Operation Research	
611D3    Combinatorics	
611E3    Lattice Theory	
611F3    ‘C’ Programming	<b>Paper - VI</b>
611N3    Number Theory	623A3    Indian Military System (I)
611P3    Differential Geomtry	623B3    Maratha Military System (I)
<b>Sem. IV Mathematics</b>	623C3    Indian War since Independence ( I )
611D4    Computational Geomtry	<b>Paper – VII</b>
611E4    Optimization Techniques	623D3    Military Sociology
611F4    Improper Integrals and Laplace Transforms	623E3    Defence Journalism
611G4    ‘C’ Programming	623F3    Defence Preparedness of India ( I )
611H4    Dynamics	<b>Paper – VIII</b>
611N4    Lebseque Integration	623G3    Armed Conflict and Human Rights
<b>Sem. III Physics</b>	623H3    International Organisation and National Security
612A3    Astronomy and Astrophysics	623J3    International Law
612B3    Biophysics	<b>Paper-IX</b>
612F3    Motion Picture Physics	623K3    Defence Management In India
612J3    Medical Electronics	623L3    Internal Security of India ( I )
612L3    Elements of Materials Science	623M3    India’s Maritime Security ( I )
<b>Sem. IV Physics</b>	<b>Sem.- IV    Defence and Strategic Studies</b> <i>(Choose any one Paper from each group)</i>
612D4    Electro Acoustics & Entertainment Electronics	
612G4    Renewable Energy Sources	<b>Paper-VI</b>
612J4    Physics of Nanomaterials	623A4    Indian Military System ( II )
612L4    Lasers	623B4    Maratha Military System ( II )
612P4    Microcontrollers	623C4    Indian War since Independence ( II )
<b>Sem. III Chemistry</b>	<b>Paper-VII</b>
613A3    Nuclear Chemistry	623D4    Military Psychology
613B3    Polymer Chemistry	623E4    Defence Journalism and National Security
613C3    Bio-Chemistry	623F4    Defence Preparedness of India ( II )
613D3    Environmental Chemistry	<b>Paper-VIII</b>
613E3    Agriculture Chemistry	623G4    Refugees Studies
<b>Sem. IV Chemistry</b>	623H4    Study of United Nations
613A4    Nuclear Chemistry	623J4    Laws of War and Peace
613B4    Polymer Chemistry	<b>Paper-IX</b>
613C4    Bio-Chemistry	623K4    Management of Defence Production and Logistics in India
613D4    Environmental Chemistry	623L4    Internal Security of India ( II )
613E4    Dairy Chemistry	623M4    India’s Maritime Security ( II )
<b>Sem.- III Statistics</b>	
617A3    Operations Management	
617B3    Acturial Statistics	
617D3    Time Series Analysis	
<b>Sem.- IV Statistics</b>	
617B4    Statistical Ecology	
617D4    Medical Statistics	
617E4    Statistical Computing Using R Software	
<b>Sem.- III Electronics</b>	
622F3    Fiber Optics and Fiber Optic Communication	
622G3    Sensor & Actuators	
<b>Sem.- IV Electronics</b>	
622G4    Instrumentation	
622H4    Consumer Electronics	



S.Y. B.Sc (Sem. I ) students shall offer three out of four subjects offered by him in the First Year B.Sc. In addition, he shall offer one subject of one language. **Backlog students of Sem I (2003 Patt.) will have to appear for equivalence Sem . I (2008 Patt) subjects.**

### Semester I 2003 Pattern with Equivalence

Subject Name	Equiv. New Subject code (2008 Patt) Paper I	Equiv . New Subject code (2008 Patt) Paper II	Equiv. New Subject code (2008 Patt)	Old Subject code 2003 Paper I, Paper II, Practical		
				(Only for office Information)		
(For Students ) (2003 Pattern)				I	II	III
11. Mathematics	51132 (Practical)	51111	511A1 or 511B1	21111	21121	21131 OR 21141
12. Physics	51211	512A1 or 512B1		21211	21221	
13. Chemistry	51311	51321		21311	21321	
14. Botany	51411	51421		21411	21421	
15. Zoology	51511	51521		21511	21521	
16. Geology	51611	51621		21611	21621	
17. Statistics	51711	51721		21711	21721	
18. Geography	51811	51821		21811	21821	
19. Microbiology	51911	51921		21911	21921	
20. Exp. Psychology	52011	52021		22011	22021	
21. Stat. Techniques	52111	52121		22111	22121	
22. Electronic Science	52211	52221		22211	22221	
23. Defence & Strategic Studies	52311	52321	52331	22311	22321	22331
24. Environmental Science	52411	52421		22411	22421	
32. English	53011			23011		
33. Marathi	53111			23111		
34. Hindi	53211			23211		
35. Sanskrit	53311			23311		
37. Arabic Functional	53711					
38. Urdu General Paper II	53811					

S.Y. B.Sc. (Sem.II) students shall offer three subject offered by him in the S.Y. B.Sc. (Sem.I) . In addition, he shall offer one subject of previous language and compulsory Environment Awareness (held at college only). (10+1=11 subjects). **Backlog students of Sem II (2003 Patt.) will have to appear for equivalence Sem. II (2008 Patt) subjects.**

### S.Y.B.Sc. (Semester Pattern)

#### Semester II 2003 Pattern with Equivalence

Subject Name	Equiv. New Subject code (2008 Patt) Paper I	Equiv. New Subject code (2008 Patt) Paper II	Equiv. New Subject code (2008 Patt) Paper III	Equiv. New Subject code (2008 Patt) Prac.	Old Subject code 2003 paper I, paper II, paper III, Practical		
					(Only for Office Information)		
(For Students) (2003 Pattern)					I	II	III Pra.
11. Mathematics	51112	511A2	511B2	511B2	21112	21122	21132 OR 21142
12. Physics	51212	51222		51232	21212	21222	21232
13. Chemistry	51312	51322		51332	21312	21322	21332
14. Botany	51412	51422		51432	21412	21422	21432
15. Zoology	51512	51522		51532	21512	21522	21532
16. Geology	51612	51622		51632	21612	21622	21632
17. Statistics	51712	51722		51732	21712	21722	21732
18. Geography	51812	51822		51832	21812	21822	21832
19. Microbiology	51912	51922		51932	21912	21922	21932
20. Exp. Psychology	52012	52022		52032	22012	22022	22032
21. Stat. Techniques	52112	52122		52132	22112	22122	22132
22. Electronic Science	52212	52222		52232	22212	22222	22232
23. Defence & Strategic Studies	52312	52322		52332	22312	22322	22332
24. Environmental Science	52412	52422		52432	22412	22422	22432
32. English	53012				23012		
33. Marathi	53112				23112		
34. Hindi	53212				23212		
35. Sanskrit	53312				23312		
37. Arabic Functional	53712						
38. Urdu General Paper II	53812						
36. Environmental Awareness (Compulsory at college only)	59992				29992		

**Backlog students of Sem I & II (2003 patt.) will have to appear equivalence Sem I & II (2008 Patt.) subject.**  
**(Pattern with Equivalence)**

Sem. I & II (2003)

VOCATIONAL & RESTRUCTURE COURES

(Any one Group of the following)

S.Y.B.Sc. (Semester)

(Reference List)

Subject	Semester I		Semester I	
	NEW (2008 pattern) Equivalence Subject (for Students)		OLD (2003 pattern) (Only office information)	
	Theory Paper I	Theory Paper II	Theory Paper I	Theory Paper II
56. Industrial Chemistry	55611	55621	25611	25621
57. Bio-Technology	55711	55721	25711	25721
80. Still Photography and Audio Product	58011	58021	28011	28021
81. Electronic Equip. & Maintenance	58111	58121	28111	28121
87. Computer Maintenance	58711	58721	28711	28721
89. Seed Technology	58911	58921	28911	28921
82. Ind. Microbiology	58211	58221	28211	28221
<b>RESTRUCTURE</b> "C" Component				
D/E/ Component				

(Any one Group of the following)

S.Y.B.Sc. (Semester)

(Reference List)

Subject	Semester II			Semester II		
	NEW (2008 pattern) Equivalence Subject (for Students)			OLD (2003 pattern) (Only office information)		
	Theory Paper I	Theory Paper II	Practical Paper III	Theory Paper I	Theory Paper II	Practical Paper III
56. Industrial Chemistry	55612	55622	55632	25612	25622	25632
57. Bio-Technology	55712	55722	55732	25712	25722	25732
80. Still Photography and Audio Product	58012	58022	58032	28012	28022	28032
81. Electronic Equip. & Maintenance	58112	58122	58132	28112	28122	28132
87. Computer Maintenance	58712	58722	58732	28712	28722	28732
89. Seed Technology	58912	58922	58932	28912	28922	28932
82. Ind. Microbiology	58212	58222	58232	28212	28222	28232
<b>RESTRUCTURE</b> "C" Component						
D/E/ Component						

**B.Sc. Sem. III (2003 pat.) students will have to appear T.Y.B.Sc. (2008 Pat.) EQUIVALENCE Course**

**T.Y.B.Sc students shall offer one of the three subjects offered by him in Second Year B.Sc. as his Principal Subject.**

Subject Code & Name	T.Y. B.Sc Semester pattern 2003 SEMESTER III (only for office information)								
	I	II	III	IV	V	VI	VII	VIII	IX Practical
Theory paper									
11. (A) Mathematics	31113	31123	31133	31143	31153	31163	Elective Code	Elective Code	
12.(B) Physics	31213	31223	31233	31243	31253	Elective Code			
13. (C) Chemistry	31313	31323	31333	31343	31353	Elective Code			
14. (D) Botany	31413	31423	31433	31443	31453	31463			
15. (E) Zoology	31513	31523	31533	31543	31553	31563			
16.(F) Geology	31613	31623	31633	31643	31653	31663			
17.(G) Statistics	31713	31723	31733	31743	31753	Elective Code			
18. (H) Geography	31813	31823	31833	31843	31853	31863			
19. (I) Microbiology	31913	31923	31933	31943	31953	31963			
22. (L) Electronic	32213	32223	32233	32243	32253	Elective Code			
23.(M) Defence Studies	32313	32323	32333	32343	32353	Elective Code	Elective Code	Elective Code	Elective Code
24.(N) Environmental Science	32413	32423	32433	32443	32453	32463			

Subject Code & Name	T.Y. B.Sc Semester pattern 2003 SEMESTER III (For students) Equivalence Subject Code								
	I	II	III	IV	V	VI	VII	VIII	IX Practical
Theory paper									
11. (A) Mathematics	61114	61123	61133	61143	611H4	61163	Elective Code	Elective Code	
12.(B) Physics	61213	61223	61233	61243	61253	Elective Code			
13. (C) Chemistry	61313	61323	61333	61343	61353	Elective Code			
14. (D) Botany	61413	61423	61433	61443	61453	61463			
15. (E) Zoology	61513	61523	61543	61543	61563	61533			
16.(F) Geology	61653	61614	61643	61634	61624	61664			
17.(G) Statistics	61713	61723	61733	61744	61753	Elective Code			
18. (H) Geography	61813	61823	61833	61843	61853	61863			
19. (I) Microbiology	61913	61923	61933	61943	61953	61963			
22. (L) Electronic	62233	62223	62253	62243	62234	Elective Code			
23.(M) Defence Studies	62313	62343	62323	623A3	62353	Elective Code	Elective Code	Elective Code	Elective Code
24.(N) Environmental Science	62413	62423	62433	62443	62453	62463			

**T.Y. B.Sc. Sem. III (2003 Pattern) students will have to appear T.Y.B.Sc. (2008 Pattern) Equivalante**

**T.Y. B.Sc students shall offer one of the three subjects offered by him in Second Year B.Sc. as his Principal Subject.**

Special Subject Code & Name	T.Y. B.Sc. Semester Pattern 2003 SEMESTER IV (only for office information)						PRACTICAL PAPER		
	I	II	III	IV	V	VI	I	II	III
Theory paper									
11. (A) Mathematics	31114	31124	31134	31144	31154	31164	Elective Code	Elective Code	31194
12. (B) Physics	31214	31224	31234	31244	31254	Elective Code	31274	31284	31294
13. (C) Chemistry	31314	31324	31334	31344	31354	Elective Code	31374	31384	31394
14. (D) Botany	31414	31424	31434	31444	31454 Code	Elective	31474	31484	31494
15. (E) Zoology	31514	31524	31534	31544	31554	31564	31574	31584	31594
16. (F) Geology	31614	31624	31634	31644	31654	31664	31674	31684	31694
17. (G) Statistics	31714	31724	31734	31744	31754	Elective Code	31774	31784	31794
18. (H) Geography	31814	31824	31834	31844	31854	31864	31874	31884	31894
19. (I) Microbiology	31914	31924	31934	31944	31954	31964	31974	31984	31994
22. (L) Electronic	32214	32224	32234	32244	32254	Elective Code	32274	32284	32294
23. (M) Defence Studies	32314	32324	32334	32344	32354	Elective Code	Elective Code	Elective Code	Elective Code
24. (N) Environmental Science	32414	32424	32434	32444	32454	32464	32474	32484	32494

Subject Code & Name	T.Y. B.Sc Semester Pattern 2003 SEMESTER IV (For students) Equivalence						PRACTICAL PAPER (For Student) Equivalence Subject Code		
	I	II	III	IV	V	VI	I	II (Out of. (80))	III
Theory paper									
11. (A) Mathematics	61114	611F4	61134	61144	61154	61164	Elective Code	Elective Code	31194
12. (B) Physics	61214	61224	61234	61244	61254	Elective Code	61274	61274	61294
13. (C) Chemistry	61314	61324	61334	61344	61354	Elective Code	61374	61384	61394
14. (D) Botany	61414	61424	61434	61444	61454	61464	61474	61484	61494
15. (E) Zoology	61514	61524	61544	61554	61534	61564	61574	61584	61594
16. (F) Geology	61654	61633	61644	61634	61624	61663	61674	61684	61694
17. (G) Statistics	61714	61724	61734	61743	61754	Elective Code	61774	61784	61794
18. (H) Geography	61814	61824	61834	61844	61854	61864	61874	61884	61894
19. (I) Microbiology	61914	61924	61934	61944	61954	61964	61974	61984	61994
22. (L) Electronic	62213	62224	62254	62244	622H4	Elective Code	62274	62284	62294
23. (M) Defence Studies	62314	62344	62324	623A4	62354	Elective Code	Elective Code	Elective Code	Elective Code
24. (N) Environmental Science	62414	62424	62434	62444	62454	62464	62474	62484	62494

Subject	T.Y. B.Sc. (Semester Pattern ) Vocational (2003 Pattern) (For Office use Only)					
Theory Paper	Semester III (Theory)		Semester IV (Theory)		Semester VI (Theory)	
56. (O) Industrial Chemistry	35653 V	35663 VI	35654 V	35664 VI	35694 III	
57. (P) Bio-Tecnology	35753 V	35763 VI	35754 V	35764 VI	35794 III	
80. (Q) Still Photography & Audio Product	38053 V	38063 VI	38054 V	38064 VI	38094 III	
81. (R) Electronic Equip. & Maintenance	38153 V	38163 VI	38154 V	38164 VI	38194 III	
82. Ind. Microbiology	38253 V	38263 VI	38254 V	38264 VI	38294 III	
87. (S) Computer Maintenance	38753 V	38763 VI	38754 V	38764 VI	38794 III	
89. (T) Seed Technology	38953 V	38963 VI	38954 V	38964 VI	38994 III	
92. Business Entrepreneurship & Development						39214
RESTRUCTURE: 'C' Computer * ——						
D/E Component * ——			35504 *Project work			

Subject	T.Y. B.Sc. (Semester Pattern) Vocational (2003 Pattern) (For students) Equivalence Subject Code					
Theory Paper	Semester III (Theory)		Semester IV (Theory)		Semester VI (Theory)	
56. (O) Industrial Chemistry	65653 V	65663 VI	65654 V	65664 VI	65694 III	
57. (P) Bio-Technology	65753 V	65763 VI	65754 V	65764 VI	65794 III	
80. (Q) Photography Audio Visual Production	68053 V	68063 VI	68054 V	68064 VI	68094 III	
81. (R) Electronic Equip. & Maintenance	68153 V	68163 VI	68154 V	68164 VI	68194 III	
82. Ind. Microbiology	68253 V	68263 VI	68254 V	68264 VI	68294 III	
87. (S) Computer Hardware Administretion Network	68753 V	68763 VI	68754 V	68764 VI	68794 III	
89. (T) Seed Technology	68953 V	68963 VI	68954 V	68964 VI	68994 III	
92. Business Entrepreneurship & Development						39214
RESTRUCTURE: 'C' Computer * ——						
D/E Component * ——			65504 * Project work			

**T.Y.B.Sc. ELECTIVE PAPER-SUBJECT CODING LIST (2003 Pattern)**

(15)

(2003 Pattern) for Office

(Elec. 2003 Pattern) for Student

Equivalence Subject Code

Subject Code	Subject Name	Theory Practical	Subject Code	Subject Name	Theory Practical
<b>Sem. III—Mathematics</b>			<b>Sem. III—Mathematics</b>		
311A3	OPERATION RESEARCH I	Theory	611A3	OPERATION RESEARCH	Theory
311B3	GRAPH THEORY	Theory	611D3	COMBINATORICS	Theory
311C3	COMPUTATIONAL MATHEMATICS I	Theory	611F3	“C” PROGRAMMING	Theory
311D3	COMBINATORICS	Theory	611D3	COMBINATORICS	Theory
311N3	NUMBER THEORY	Theory	611N3	NUMBER THEORY	Theory
311P3	DIFFERENTIAL GEOMETRY I	Theory	611P3	DIFFERENTIAL GEOMETRY	Theory
311R3	COMPUTATIONAL MATHEMATICS III	Theory	611N3	NUMBER THEORY	Theory
311T3	ASTRONOMY I	Theory	611P3	DIFFERENTIAL GEOMETRY	Theory
<b>Sem. IV—Mathematics</b>			<b>Sem. IV—Mathematics</b>		
311A4	OPERATION RESEARCH II	Theory	611E4	OPTIMIZATION TECHNIQUES	Theory
311B4	LATICE THEORY	Theory	611E3	LATICE THEORY	Theory
311C4	COMPUTATIONAL MATHEMATICS II	Theory	611G4	“C” PROGRAMMING	Theory
311D4	COMPUTATIONAL GEOMETRY	Theory	611D4	COMPUTATIONAL GEOMETRY	Theory
311N4	LEBSEQUE INTEGRATION	Theory	611N4	LEBSEQUE INTEGRATION	Theory
311P4	DIFFERENTIAL GEOMETRY II	Theory	611P3	DIFFERENTIAL GEOMETRY	Theory
311R4	COMPUTATIONAL MATHEMATICS IV	Theory	611D4	COMPUTATIONAL GEOMETRY	Theory
311T4	ASTRONOMY II	Theory	611D4	COMPUTATIONAL GEOMETRY	Theory
<b>Sem. III—Physics</b>			<b>Sem. III—Physics</b>		
312A3	ASTRONOMY AND ASTROPHYSICS	Theory	612A3	ASTRONOMY AND ASTROPHYSICS	Theory
312B3	BIOPHYSICS I	Theory	612B3	BIOPHYSICS	Theory
312C3	COMMUNICATION ELECTRONICS I	Theory	612D4	ELECTRO-ASCOUSTIC & ENTERI ELETRONIC	Theory
312D3	ELECTRO-ASCOUSTICS & ENTERIN- ELECTRONICS	Theory	612D4	ELECTRO-ASCOUSTIC & ENTERI ELETRONIC	Theory
312E3	MEDICAL INSTRUMENTATION I	Theory	612J3	MEDICAL ELECTRONICS	Theory
312F3	MOTION PICTURE PHYSICS I	Theory	612F3	MOTION PICTURE PHYSICS	Theory
312G3	RENEWABLE ENERGY SOURCES I	Theory	612G4	RENEWABLE ENERGY SOURCES	Theory
312H3	BASIC MICROPROCESSOR & PROGRAMMING	Theory	612P4	MICROCONTROLLERS	Theory
312K3	AUXILIARY ELECTRONICS	Theory	612D4	ELECTRO-ASCOUSTIC & ENTERI ELETRONIC	Theory
312L3	ELEMENTS OF MATERIALS SCIENCES	Theory	612L3	ELEMENTS OF MATERIALS SCIENCES	Theory
312M3	LASERS	Theory	612L4	LASERS	Theory
312N3	VACUUM TECHNOLOGY	Theory	612L3	ELEMENTS OF MATERIALS SCIENCES	Theory
<b>Sem. IV—Physics</b>			<b>Sem. IV—Physics</b>		
312A4	ASTRONOMY AND ASTROPHYSICS II	Theory	612A3	ASTRONOMY AND ASTROPHYSICS	Theory
312B4	BIOPHYSICS II	Theory	612B3	BIOPHYSICS	Theory
312C4	COMMUNICATION ELECTRONICS II	Theory	612D4	ELECTRO-ASCOUSTIC & ENTERI ELETRONIC	Theory
312D4	ELECTRO-ASCOUSTIC & ENTERI ELETRONIC II	Theory	612D4	ELECTRO-ASCOUSTIC & ENTERI ELETRONIC	Theory
312E4	MEDICAL INSTRUMENTATION II	Theory	612J3	MEDICAL ELECTRONICS	Theory
312F4	MOTION PICTURE PHYSICS II	Theory	612F3	MOTION PICTURE PHYSICS	Theory
312G4	RENEWABLE ENERGY SOURCES II	Theory	612G4	RENEWABLE ENERGY SOURCES	Theory
312H4	BASIC MICROPROCESSOR & PROGRAMMING II	Theory	612P4	MICROCONTROLLERS	Theory
312K4	VACUUM TECHNOLOGY	Theory	612L3	ELEMENTS OF MATERIALS SCIENCES	Theory
312L4	LASERS	Theory	612L4	LASERS	Theory
312M4	AUXILIARY ELECTRONICS	Theory	612D4	ELECTRO-ASCOUSTIC & ENTERI ELETRONIC	Theory
312N4	ELEMENTS OF MATERIALS SCIENCES	Theory	612L3	ELEMENTS OF MATERIALS SCIENCES	Theory
<b>Sem. III—Chemistry</b>			<b>Sem. III—Chemistry</b>		
313A3	NUCLEAR CHEMISTRY	Theory	613A3	NUCLEAR CHEMISTRY	Theory
313B3	POLYMER CHEMISTRY	Theory	613B3	POLYMER CHEMISTRY	Theory
313C3	BIO-CHEMISTRY	Theory	613C3	BIO-CHEMISTRY	Theory
313D3	ENVIRONMENTAL CHEMISTRY	Theory	613D3	ENVIRONMENTAL CHEMISTRY	Theory
313E3	AGRICULTURE & DAIRY CHEMISTRY	Theory	613E3	AGRICULTURE & DAIRY CHEMISTRY	Theory
313F3	MEDICINAL CHEMISTRY	Theory	613C3	BIO-CHEMISTRY	Theory



**T.Y.B.Sc. ELECTIVE PAPER-SUBJECT CODING LIST (2003 Pattern)**  
(2003 Pattern) for Office

(Elec. 2003 Pattern) for Student  
Equivalence Subject Code

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Subject Code	Subject Name	Theory Practical	Subject Code	Subject Name	Theory Practical
<b>Sem. IV—Chemistry</b>			<b>Sem. IV—Chemistry</b>		
313A4	NUCLEAR CHEMISTRY	Theory	613A4	NUCLEAR CHEMISTRY	Theory
313B4	POLYMER CHEMISTRY	Theory	613B4	POLYMER CHEMISTRY	Theory
313C4	BIO-CHEMISTRY	Theory	613C4	BIO-CHEMISTRY	Theory
313D4	ENVIRONMENTAL CHEMISTRY	Theory	613D4	ENVIRONMENTAL CHEMISTRY	Theory
313E4	AGRICULTURE AND DAIRY CHEMISTRY	Theory	613E4	DAIRY CHEMISTRY	Theory
313F4	MEDICINAL CHEMISTRY	Theory	613C4	BIO-CHEMISTRY	Theory
<b>Sem. IV—Botany</b>			<b>Sem. IV—Botany</b>		
314A4	MUSHROOM TECHNOLOGY	Theory	61464	(BO-346) PHARMACOGNOSY	Theory
314B4	POLY-HOUSE TECHNOLOGY	Theory	61464	(BO-346) PHARMACOGNOSY	Theory
314C4	MEDICO BOTANY	Theory	61464	(BO-346) PHARMACOGNOSY	Theory
<b>Sem. III—Statistics</b>			<b>Sem. III—Statistics</b>		
317A3	OPERATIONS MANAGEMENT	Theory	617A3	OPERATIONS MANAGEMENT	Theory
317B3	ACTURIAL STATISTICS	Theory	617B3	ACTURIAL STATISTICS	Theory
317C3	STATISTICAL COMPUTING USING R SOFT.	Theory	617D3	TIME SERIES ANALYSIS	Theory
<b>Sem. IV—Statistics</b>			<b>Sem. IV—Statistics</b>		
317A4	C++ PROGRAMMING	Theory	317A4	C++ PROGRAMMING	Theory
317B4	SATISTICAL ECOLOGY	Theory	617B4	SATISTICAL ECOLOGY	Theory
317C4	TIME SERIES ANALYSIS	Theory	617D3	TIME SERIES ANALYSIS	Theory
<b>Sem. III—Electronics</b>			<b>Sem. III—Electronics</b>		
322A3	COMPUTER HARDWARE	Theory	622F3	FIBER OPTICS & FIBER OPTIC COMN.I	Theory
322B3	COMP.NETWORK DESIGN & MAINTENANCE	Theory	622F3	FIBER OPTICS & FIBER OPTIC COMMUNICATION.I	Theory
322C3	BIOMEDICAL INSTRUMENTATION I	Theory	622F3	FIBER OPTICS & FIBER OPTIC COMN.I	Theory
322D3	ELECTRONIC INSTRUMENTATION	Theory	622F3	FIBER OPTICS & FIBER OPTIC COMN.I	Theory
322E3	AGRI ELECTRONICS I	Theory	622F3	FIBER OPTICS & FIBER OPTIC COMN.I	Theory
322F3	FIBER OPTICS & FIBER OPTIC COMN.I	Theory	622F3	FIBER OPTICS & FIBER OPTIC COMN.I	Theory
<b>Sem. IV—Electronics</b>			<b>Sem. IV—Electronics</b>		
322A4	COMPUTER NETWORKING	Theory	62214	ADVANCED COMMUNICATION SYSTEMS	Theory
322B4	NETWORK OPERATING SYSTEMS	Theory	62214	ADVANCED COMMUNICATION SYSTEMS	Theory
322C4	BIOMEDICAL INSTRUMENTATION II	Theory	62214	ADVANCED COMMUNICATION SYSTEMS	Theory
322D4	MEDICAL INSTRUMENTATION	Theory	62214	ADVANCED COMMUNICATION SYSTEMS	Theory
322E4	AGRI ELECTRONICS II	Theory	62214	ADVANCED COMMUNICATION SYSTEMS	Theory
322F4	FIBER OPTICS & FIBER OPTIC COMMUNICA II	Theory	62214	ADVANCED COMMUNICATION SYSTEMS	Theory
<b>Sem. III—Defence Studies</b>			<b>Sem. III—Defence Studies</b>		
323A3	STRATEGIC THINKERS	Theory	623C3	INDIAN WAR SINCE INDEPENDENCE ( I )	
323B3	INTERNATIONAL LAW	Theory	623J3	INTERNATIONAL LAW	
323C3	REFUGES STUDIES	Theory	623E3	DEFENCE JOURNALISM	
323F3	MARATHAART OF WAR & MILITARY SYSTEM	Theory	623B3	MARATHA MILITARY SYSTEM ( I)	
323G3	INTERNATIONAL ORGANIZATION	Theory	623H3	INTERNATIONAL ORGANISATION AND NATIONAL SECURITY	
323H3	EVALUATION OF WESTERN ART OF WART	Theory	623L3	INTERNAL SECURITY OF INDIA ( I )	
323M3	ARMED FORCES & SOCIETY	Theory	623G3	ARMED CONFLICT AND HUMAN RIGHTS	
323N3	GEOPOLITICS	Theory	623M3	INDIA'S MARITIME SECURITY ( I )	
323T3	DEFENCE PRODUCTION IN INDIA	Theory	623F3	DEFENCE PREPAREDNESS OF INDIA ( II)	
323U3	DEFENCE MANAGEMENT IN INDIA	Theory	623K3	MANAGEMENT OF DEFENCE PRODUCTION AND LOGISTICS IN INDIA	
<b>Sem. IV—Defence Studies</b>			<b>Sem. IV—Defence Studies</b>		
323A4	STRATEGIC THINKERS	Theory	623C4	INDIAN WAR SINCE INDEPENDENCE ( II )	
323B4	INTERNATIONAL LAW	Theory	623J4	LAWS OF WAR AND PEACE	
323C4	REFUGES STUDIES	Theory	623G4	REFUGEES STUDIES	
323F4	MARATHAART OF WAR & MILITARY SYSTEM	Theory	623B4	MARATHA MILITARY SYSTEM ( II)	
323G4	INTERNATIONAL ORGANIZATION	Theory	623H4	STUDY OF UNITED NATIONS	
323H4	EVALUATION OF WESTERN ART OF WAR	Theory	623D4	MILITARY PSYCHOLOGY	
323M4	ARMED FORCES & SOCIETY	Theory	623M4	INDIA'S MARITIME SECURITY ( II )	
323N4	GEOPOLITICS	Theory	623F4	DEFENCE PREPAREDNESS OF INDIA ( II)	
323T4	DEFENCE PRODUCTION IN INDIA	Theory	623K4	MANAGEMENT OF DEFENCE PRODUCTION AND LOGISTICS IN INDIA	
323U4	DEFENCE MANAGEMENT IN INDIA	Theory			