



**Savitribai Phule Pune University, Pune**

**(Formerly, University of Pune)**

**Under Graduate Degree Program in Science**

**(Faculty of Science and Technology)**

**Revised Syllabi as per National Education Policy (2020) for**

**FYBSc Restructuring Pattern (Semester-I and II)**

**(Applicable for Collges having Permission to Run Restructuring Pattern under UGC  
Permission)**

**To be implemented from**

**Academic Year 2024-2025**

**Framed by**

**BOARD OF STUDIES IN RESTRUCTURING PATTERN**

**Savitribai Phule Pune University,**

**Ganeshkhind, Pune -07.**

**CREDIT FRAME WORK FOR FYBSc RESTRUCTURING PATTERN SEMESTER – I and II (Level 4.5 / 100)**

<b>SEMESTER-I</b>			
<b>COURSE DETAILS</b>	<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>CREDI T</b>
<b>Subject 1 – (1T + 1P) x 2 C = 4 C</b>	Subject 1 T	As per Major Subjects (Botany, Zoology, Physics and Chemistry)	<b>2 C</b>
	Subject 1 P		<b>2 C</b>
<b>Subject 2 – (1T + 1P) x 2 C = 4 C</b>	Subject 2 T		<b>2 C</b>
	Subject 2 P		<b>2 C</b>
<b>Subject 3 – (1T + 1P) x 2 C = 4 C</b>	Subject 3 T		<b>2 C</b>
	Subject 3 P		<b>2 C</b>
<b>Generic Elective (GE) / Open Elective (OE) – (1P = 2C)</b>	OE-101-RE-T	Foundation-I	<b>2C</b>
<b>Skill Enhancement Courses (SEC) – (1T / 1P = 2 C) (Any one from basket)</b>	<b>SEC-101- RE-T</b>	<b>Population Education – I</b>	<b>2C</b>
	<b>SEC-102- RE-T</b>	<b>Family Planning and Health Education - I</b>	<b>2C</b>
	<b>SEC-103- RE-T</b>	<b>National Service Scheme - I</b>	<b>2C</b>
	<b>SEC-104- RE-T</b>	<b>National Cadet Corp –I</b>	<b>2C</b>
	<b>SEC-105- RE-T</b>	<b>Sports – I</b>	<b>2C</b>
<b>Indian Knowledge Systems (IKS) – (1T = 2 C)</b>	IKS-101-T	Generic	<b>2 C</b>
<b>Ability Enhancement Course (AEC) – (1T = 2 C)</b>	AEC-101-ENG-T	English	<b>2 C</b>
<b>Value Education Courses (VEC) – (1T = 2 C)</b>	VEC-101-ENV-T	Environmental Awareness	<b>2 C</b>
<b>Total Credits (V1+V2+V3+V4+V5+V6)</b>			<b>22 C</b>
<b>SEMESTER-II</b>			
<b>Subject 1 – (1T + 1P) x 2 C = 4 C</b>	Subject 1 T	As per Major Subjects (Botany, Zoology, Physics and Chemistry)	<b>2 C</b>
	Subject 1 P		<b>2 C</b>
<b>Subject 2 – (1T + 1P) x 2 C = 4 C</b>	Subject 2 T		<b>2 C</b>
	Subject 2 P		<b>2 C</b>
<b>Subject 3 – (1T + 1P) x 2 C = 4 C</b>	Subject 3 T		<b>2 C</b>
	Subject 3 P		<b>2 C</b>
<b>Generic Elective (GE) / Open Elective (OE) – (1P = 2C)</b>	OE-151-RE-P	Foundation-II	<b>2C</b>
<b>Skill Enhancement Courses (SEC) – (1T / 1P = 2C) (Any one from basket)</b>	<b>SEC-151- RE-P</b>	<b>Population Education – II</b>	<b>2C</b>
	<b>SEC-152- RE-P</b>	<b>Family Planning and Health Education - II</b>	<b>2C</b>
	<b>SEC-153- RE-P</b>	<b>National Service Scheme - II</b>	<b>2C</b>
	<b>SEC-154- RE-P</b>	<b>National Cadet Corp –II</b>	<b>2C</b>

	<b>SEC-155- RE-P</b>	<b>Sports – II</b>	<b>2C</b>
<b>Ability Enhancement Courses (AEC) – (1T = 2C)</b>	AEC-151-ENG-T	English	<b>2 C</b>
<b>Value Education Courses (VEC) – (1T = 2C)</b>	VEC-151-ENV-T	Environmental Awareness	<b>2 C</b>
<b>Co-curricular Courses (CC) – (1T = 2C)</b>	CC-151-T	Any one from basket	<b>2 C</b>
<b>Total Credits (V1+V2+V3+V4+V5+V6)</b>			<b>22 C</b>
<b>Total Credit Total Credits for FYBSC - Semester I (22 C) + Semester II (22 C)</b>			<b>44 C</b>

**Exit Option:** Award of UG Certificate Course with 44 Credits and an additional 4 Credits core NSQF course / Internship OR Continue with Major and Minor.

**Continue option:** Student will select one subject among the subject 1, subject 2 and subject 3 as Major and another as Minor and third subject will be dropped.

### AIMS AND OBJECTIVES

- To develop employability oriented diversified course content.
- To introduce skill oriented specialized education.
- To expose students to basic and applied knowledge of skill course.

1. Title of the Course: B.Sc. Restructuring Pattern (03 years)

2. Syllabus revised as per National Education Policy (NEP) 2020 for the Colleges

Affiliated to Savitribai Phule Pune University, Pune

3. Faculty – Science (Science and Technology

4. To be implemented -For F.Y.B.Sc. (Semester I and Semester II), from August 2024.

### Program Duration and Exit Options

The UG Program lasts for four years or six semesters. Student may leave the program after the third year if, he/she would like to receive a three-year undergraduate degree. If the student decides to withdraw after the first or second year, he/she will receive a UG Certificate or UG Diploma, depending on how many credits he/she is able to complete. Re-entering within three years to finish the degree program is allowed for students who leave with a UG certificate or UG diploma. A student must earn a minimum of 18 credits and a maximum of 26 credits each semester. It is recommended, nevertheless, that student should opt 22 credits per semester. This clause aims to give student the comfort of a flexible semester-based course load. However, Table 1 lists the minimum number of credits required to be earned in order to be awarded an Undergraduate Certificate/Undergraduate Diploma/Bachelor Degree/Bachelor's Degree.

**Table1: Type of Awards and Stages of Exit**

Sr. No.	Type of Award	Stage of Exit	Mandatory Credits
1.	Undergraduate certificate in Major core course subject (Botany/Physics/Chemistry/Zoology Subject) with Restructuring courses	After successful completion of First year Semesters	44
2.	Undergraduate Diploma in Botany/Physics/Chemistry/Zoology Subject with Restructuring courses	After successful completion of Second year Semesters	88
3.	Bachelor of Science in Botany/Physics/Chemistry/Zoology Subject with Restructuring courses	After successful completion of Third year Semesters	132

**5. Eligibility Criteria –**

The basic criteria for Under Graduate Degree (F.Y.B.Sc. Restructuring pattern program) admission will be 10+2 criteria with Biology, Physics, Chemistry, Mathematics, Geography as Principal subjects OR MCVC OR Diploma courses related to concern sciences. Admissions will be given as per the selection procedure / policies adopted by the college keeping in accordance with the conditions laid down by the Savitribai Phule Pune University, Pune. Reservation and relaxation are as per the State Government rules.

**6. Fee Structure –** As per the norms of Savitribai Phule Pune University, Pune.

**7. Duration of the Course**

Certificate Course- 01 year (Completion of 02 Semesters)

Diploma Course- 02 years (Completion of 04 Semesters)

BSc Degree- 03 years (Completion of 06 Semesters)

**8. No. of semesters –** Two semesters per year

**9. Medium of instructions and teaching: English**

**10. Course Implementation criteria for Theory and Practical:**

- Each semester comprises of 15 weeks (12 weeks Actual Teaching + 3 weeks for Continuous Internal Evaluation).
- One Credit of the Theory** is equal to 15 clock hours (Teaching 1 hour per week for each credit, 12 hours Actual Teaching + 3 hours Continuous Internal Evaluation – Assignments, Tutorials, Practice, Problem solving sessions, Group discussion, Seminars and Unit Tests).
- One Credit of Practical** = 30 clock hours. (2 Contact hours per credit per week) One Credit = 30 clock hours (24 hours' Actual Table work + 6 hours for journal competition, and Continuous

Internal Evaluation of each practical).

d. **Practical for each course comprises of 02 Credits = 60 clock hours.** Therefore,

- Minimum 12 laboratory/ Filed sessions of 04 clock hours must be conducted in one semester.
- In case of short practical, two practical's should be conducted in one session.
- Each practical of 04 clock hours in the laboratory should consist of: Table performance for concerned practical, careful observations, calculation, writing results and conclusion, and submission of practical in written form.
- Pre-laboratory reading and post laboratory assignments should be given on each practical as a part of continuous internal evaluation.

**11. Examination Pattern (For each Semester):** The examinations will be conducted semester wise for both Theory as well as Practical courses.

- **Theory Paper of 02 Credits -**

- Internal Exam (15 M) + University Theory Exam (35 M) = Total 50 M
- Duration: For Internal exam = 40 Min. and For University Exam = 02 hours.

- **Practical Paper of 2 Credits -**

- Internal Exam (15 M) + University Practical Exam (35 M) = Total 50 M
- Duration: For Internal exam = 40 Min. and For University Exam = More than 04 hours.

**12. Award of Class/Grade:** The class / grade for the courses of each semester will be followed as per the norms and conditions laid down by SPPU, Pune.

**13. ATKT Rules:** As per the norms given by SPPU, Pune.

**14. Important Note:**

- a. There shall be at least a short tour/field visit/industrial visit (1-2 days) per year for all UG students. Tours are the part of curriculum and obligatory to each student, failing which they will not be considered eligible to appear for the practical examination. Under unavoidable circumstances, if the student fails to attend the tour, he/she have to produce justifiable evidence for not attending the tour. However, in lieu of tour the candidate will have to complete the work assigned by the Department.
- c. The documents to be produced by each student at the time of practical examination (at the end of each Semester) are:
  - Submission of practical records compulsory (Journals).
  - Submission of a Tour / Visit report duly signed by the concerned practical In-charge and Head of the Department.
  - Any submissions / assignments, etc. based on the practical course.

### Question paper pattern for Theory (2 Credit courses)

A student will have to solve the question paper of 35 marks. The paper setter should set the paper on entire syllabus for total 60 marks, including optional questions. As the course is of 2 Credits (30 clock hour lectures), paper setter should allot two marks per lecture and accordingly, questions should be set for 30 lectures, 60 marks on entire syllabus.

**Note: All questions are compulsory.**

**Time: 2 Hours**

- |   |          |
|---|----------|
| Que. 1) Answer any five of the following in one sentence  | 05 Marks |
| <ul style="list-style-type: none"><li>• Six questions</li><li>• Each for 1 mark</li></ul>                 |          |
| Que. 2a) Write any one of the following   | 06 Marks |
| <ul style="list-style-type: none"><li>i.</li><li>ii.</li></ul>  |          |
| Que. 2b) Write any one of the following   | 04 Marks |
| <ul style="list-style-type: none"><li>i.</li><li>ii.</li></ul>  |          |
| Que. 3a) Solve any one of the following   | 06 Marks |
| <ul style="list-style-type: none"><li>i.</li><li>ii.</li></ul>  |          |
| Que. 3b) Solve any one of the following   | 04 Marks |
| <ul style="list-style-type: none"><li>i.</li><li>ii.</li></ul>  |          |
| Que. 4) Write notes on (Any four)   | 10 Marks |
| <ul style="list-style-type: none"><li>a.</li><li>b.</li><li>c.</li><li>d.</li><li>e.</li><li>f.</li></ul> |          |

<b>Generic Elective (GE) / Open Elective (OE) - (1P = 2C)</b>	OE-101-RE-T	Foundation-I	<b>2C</b>
<b>Skill Enhancement Courses (SEC) - (1T / 1P = 2 C) (Any one from basket)</b>	<b>SEC-101- RE-T</b>	<b>Population Education - I</b>	<b>2C</b>
	<b>SEC-102- RE-T</b>	<b>Family Planning and Health Education - I</b>	<b>2C</b>
	<b>SEC-103- RE-T</b>	<b>National Service Scheme - I</b>	<b>2C</b>
	<b>SEC-104- RE-T</b>	<b>National Cadet Corp -I</b>	<b>2C</b>
	<b>SEC-105- RE-T</b>	<b>Sports - I</b>	<b>2C</b>

<b>Generic Elective (GE) / Open Elective (OE) - (1P = 2C)</b>	OE-151-RE-P	Foundation-II	<b>2C</b>
<b>Skill Enhancement Courses (SEC) - (1T / 1P = 2C) (Any one from basket)</b>	<b>SEC-151- RE-P</b>	<b>Population Education - II</b>	<b>2C</b>
	<b>SEC-152- RE-P</b>	<b>Family Planning and Health Education - II</b>	<b>2C</b>
	<b>SEC-153- RE-P</b>	<b>National Service Scheme - II</b>	<b>2C</b>
	<b>SEC-154- RE-P</b>	<b>National Cadet Corp -II</b>	<b>2C</b>
	<b>SEC-155- RE-P</b>	<b>Sports - II</b>	<b>2C</b>

**Savitribai Phule Pune University, Pune**  
**BA Restructuring Pattern Syllabus (as per NEP-2020)**  
**Syllabus from June 2024**

<b>Name of the Programme</b>	:	B.Sc Restructuring
<b>Class</b>	:	FYBSc.
<b>Semester</b>	:	I
<b>Name of Vertical Group</b>	:	V3 GE/OE
<b>Course Code</b>	:	OE-101-RE-T
<b>Course Title</b>	:	Foundation Course -I (Study of Indian and Global Concepts)
<b>No. of Credits</b>	:	2
<b>No. of Teaching Hours</b>	:	30

Chapter-1: A Study of Global and Indian Concepts

1. Nationalism (राष्ट्रवाद)
2. Economic Imperialism (आर्थिक साम्राज्यवाद)
3. Socialism (समाजवाद)
4. Humanity (मानवता)
5. Liberty (स्वातंत्र्य)
6. Democracy (लोकशाही)
7. Globalization (जागतिकीकरण)
8. Liberalization (उदारीकरण)
9. Privatization (खाजगीकरण)
10. Religion (धर्म)

## Chapter-2: Transformation Movements in Maharashtra

प्रकरण -२ : महाराष्ट्रातील परिवर्तन चळवळी

1. Social and Religious Movement in Maharashtra (महाराष्ट्रा) तील सामाजिक आणि धार्मिक चळवळ (
2. Prathana Samaj (प्रार्थना समाज)
3. Satyashodhak Samaj (सत्यशोधक समाज)
4. Classified Movements (वर्गीय चळवळ) व्ही(
5. Famine Movement (शेतकरी चळवळ)
6. Women's Movement (स्त्रीवादी चळवळ)
7. Educational Movement in Maharashtra (महाराष्ट्रातील शैक्षणिक चळवळ) व्ही(
8. Nature and Growth (स्वरूप आणि) विकास(

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**F. Y. B. Sc. Restructuring Pattern [Semester - I]****Course Category– Skill Enhancement Course (SEC)****Course Code – SEC-101- RE-T (Theory)****Course Title: Population Education – I****[No. of Credits: 2 C]****[No. of Lectures: 30 L]****Objectives of the Course:**

1.	To provide students with basic knowledge of Population projection and density
2.	To provide students with basic knowledge of measures of Fertility
3.	To provide students with basic knowledge of measures of Mortality.

**Course Outcome:****By the completion of the course, student will be able to:**

<b>COs1</b>	:	Acquire the knowledge about the Population Projection.
<b>COs 2</b>	:	Calculate and compare various measures of Fertility.
<b>COs 3</b>	:	Calculate and compare various measures of Mortality.
<b>COs 2</b>	:	Carry out socioeconomic survey.

<b>Topic No.</b>	<b>Topic Name</b>	<b>Sub Topic</b>	<b>No. of Hours</b>
1.	<b>Population Projection</b>	a. Population Projection methods b. Arithmetic Increase Method, c. Geometric Increase Method	5
2	<b>Measures of Fertility</b>	i. Crude Birth Rate ii. General Fertility Rate iii. Age-Specific Fertility Rates iv. Total Fertility Rate v. Gross Reproduction Rate	5
3.	<b>Measures of Mortality</b>	i. Crude Death Rate ii. Age-Specific Death Rate iii. Maternal Mortality Rate iv. Infant Mortality Rate V. Cause-Specific Death Rate Standard Mortality Ratio	5
4.	Field Survey and report	Field Survey and report writing	5

**References:**

1. Agarwala, S. N. (1962). Age at Marriage in India, Allahabad: Kitab Mahal Pvt. Ltd.
2. Barclay, G. W. (1958). Techniques of Population Analysis, New York: John Wiley and Sons.
3. Mandal, R. B., Uyanga, J., and Prasad, H. (2007), Introductory Methods in Population Analysis, New Delhi: Concept Publishing Company.
4. Pathak, K. B., and Ram, F. (2013). Techniques of Demographic Analysis, Mumbai: Himalaya Publishing House.
5. Shryock, H. S. (1970). The Methods and Materials of Demography, New York: Academic Press.
6. Siegel, J. S., and Swanson, D. A. (2004). The Methods and Materials of Demography. Boston: Academic Press.
7. Taylor, P. J. (1977). Quantitative Methods in Geography. Boston: Houghton Mifflin Co.
8. Wilkinson, F. J., and Monkhouse, H. R. (1966). Maps and Diagrams: Their Compilation and Construction. London: Methuen and Co.

**F. Y. B. Sc. Restructuring Pattern [Semester - I]****Course Category– Skill Enhancement Course (SEC)****Course Code – SEC-102- RE-T (Theory)****Course Title: Family Planning & Health Education - I****[No. of Credits: 2 C]****[No. of Lectures: 30 L]****Course Objectives: -**

1. Relate the basic health sciences and apply this knowledge in Health Promotion Education
2. The objectives of health education include providing knowledge, developing positive attitudes towards health issues, and promoting decision-making.
3. The goal of health education is to promote, maintain and improve individuals' and community health.

**Course Outcomes: -**

- CO1: Describe health related information to identifying the problems related to the health.
- CO2: To facilitate interactive learning experiences which provide students with the knowledge, skills, and attitudes necessary to make positive health-related choices.
- CO3: To enable students to make healthy behaviour changes regarding their physical, mental, emotional, social, and environmental health.
- CO4: To provide students with the knowledge and skills necessary to access valid and reliable health information and resources.

<b>1. Introduction</b>	<b>[02]</b>
a. Definition and Scope of health education,	
b. Branches of Health education	
<b>2. Evolution and Basic Concepts of Public Health</b>	<b>[06]</b>
a. History of Social Medicine and Community Health	
b. History of Public Health	
c. Social Development and Health	
d. Natural History of Disease	
e. Levels of Prevention	
f. Globalization and Its Impact on Health	
g. Roles and Responsibility of State, Community and Private Sector in Health	
<b>3. Environment and Health</b>	<b>[05]</b>
a. Environmental pollution and Health impacts	
b. Climate change and impact on health	
<b>4. Nutrition and Diet</b>	<b>[09]</b>
i. Ecology of malnutrition	
ii. Optimum nutrition, balanced diet, reference man and woman	
iii. Assessment of Nutritional status	
iv. Nutritional diseases and their management	
v. Food and nutrition security and related legislations	
vi. National Nutrition programs	

**5. Health and Yoga****[06]**

- i. Meaning, Definition, Nature of Yoga, importance of yoga, Misconceptions
- ii. related with Yoga.
- iii. Types of Yoga

**6. Health Services Organization****[02]*****Reference books.***

1. Health, Family Planning & Nutrition in India by Rameshwari Pandya
2. Health for all through Yoga- Dr. Ganesh Shanker Ghi
3. Nutrient requirement & Recommended Dietary Allowances for Indians, ICMR 1990.
4. Textbook of Human Nutrition. Bamji MS, Rao R.N. & Reddy V. Oxford & IBHPub Co. PVT LTD, New Delhi
5. Clinical Dietetics Manual – Indian Dietetics Association
6. Use of growth charts for promoting child nutrition. A review of global experiences by– C. Gopan & Meera Chaterjee, Nutrition Foundation of India, Special publication series-2
7. Hath Yoga Pradipika-Kaivalyadham
8. Asana, Pranayama, Mudra, Bandha

**F. Y. B. Sc. Restructuring Pattern [Semester - I]**  
**Course Category– Skill Enhancement Course (SEC)**  
**Course Code – SEC-103- RE-T (Theory)**

**Course Title: National Service Scheme – I**

**[No. of Credits: 2 C]**

**[No. of Lectures: 30 L]**

**Objectives of the Course:**

1.	To provide students with basic knowledge of National Service Scheme
2.	To provide students with basic knowledge of work of social reformists
3.	To provide students with basic knowledge of remedies to solve every problems.
4	To provide students with basic knowledge of remedies to repair and construction of roads.

**By the completion of the course, student will be able to:**

<b>COs1</b>	:	To provide students with basic knowledge of National Service Scheme
<b>COs 2</b>		To provide students with basic knowledge of work of social reformists
<b>COs 3</b>		To provide students with basic knowledge of remedies to solve every problems.
<b>COs 2</b>	:	Carry out socioeconomic survey.

Topic No.	Topic Name	Sub Topic	No. of Hours
<b>Credit-I</b> 1.	Concept of N.S.S	Brief History, Aims, and Objectives, Growth, Organizational structure and present status.	<b>05</b>
2	Need social work in human life.	Introduction to the work of social reformists like, Mahatma Phule, Savitribai Phule, D.K. Karve, Bhurao Patil, Mahatma Gandhi, .An Introduction to the life of Saints Gadgebaba etc	<b>05</b>
3.	Superstitions	Superstitions and modern Emergence of Superstitions, Factors Responsible to Superstitions and remedies to every can this problem.	<b>05</b>
<b>Credit-II</b> 4	Sanitation-	<i>Sanitation</i> refers to public health conditions related to clean drinking water and treatment and disposal of human excreta and sewage. Importance of sanitation.	<b>05</b>
5	Importance of Cleaning slums	Disposal of sewage in Villages, Cleaning of the campus	<b>03</b>
6	Role of N.S.S Volunteers in Repairs and Construction of Roads	Role of N.S.S Volunteers in Repairs and Construction of Roads	<b>02</b>
7	Tree Plantation	Tree Plantation- A tree plantation, forest plantation, plantation forest, timber plantation or tree farm is a forest	<b>05</b>

NEP-2020		planted for high volume production of wood, Food and cloths	2024-2025
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### References:

1. National Service Scheme, The youth volunteer program for undergraduate students by Dr.D.S.Pawar.
2. National Service Scheme, The youth volunteer program for undergraduate students by Amit Kumar,J.N.Brijesh kumar Rathi.Semester I&II.
3. NSS And Youth Development (Paperback, Dr. Sunita Agarwalla)
4. 4. National Service Scheme Book Sem –I&II. by Amit jain.

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**F. Y. B. Sc. Restructuring Pattern [Semester - I]**  
**Course Category– Skill Enhancement Course (SEC)**  
**Course Code – SEC-104- RE-T (Theory)**  
**Course Title: National Cadet Corp – I**

**[No. of Credits: 2 C]**

**[No. of Lectures: 30 L]**

### Objectives of the Course:

1.	To acquaint students with the NCC
2.	To make students aware about basic organisation of Army
3.	To explain the Badges and Ranks
4.	To understand National Integration Importance and Necessity

### Course Outcome:

**By the completion of the course, student will be able to:**

<b>COs1</b>	:	Understand the NCC
<b>COs 2</b>	:	Explain basic organisation of Army
<b>COs 3</b>	:	Aware about Badges and Ranks
<b>COs 4</b>	:	Acquaint the knowledge about National Integration Importance and Necessity

### Topics and Learning Points

Topic No.	Topic Name	Sub Topic	No. of Periods
1.	The NCC	• Aims and Objectives of NCC	03

NEP-2020		<ul style="list-style-type: none"> <li>• Organisation, Training and NCC Song</li> </ul>	2024-2025
2.	Basic Organisation of Army	<ul style="list-style-type: none"> <li>• Introduction</li> <li>• Command and Control</li> <li>• Fighting Arms</li> <li>• Supporting Arms</li> <li>• Supporting Services</li> </ul>	04
3.	Badges and Ranks	<ul style="list-style-type: none"> <li>• Introduction</li> <li>• Commissioned Officers</li> <li>• Junior Commissioned Officer (JCO)</li> <li>• Non Commissioned Officer (NCO)</li> </ul>	04

4.	National Integration	<ul style="list-style-type: none"> <li>• Religions, Culture, Traditions and Customs of India</li> <li>• National Integration Importance and Necessity</li> <li>• National Interests, Objectives, Threats and Opportunities</li> <li>• Problems / Challenges of National Integration.</li> <li>• Unity in Diversity</li> <li>• Contribution of Youth in Nation Building</li> </ul>	04
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## References:

### Books-

- ‘NCC: National Cadet Corps (Including Model Papers & Solved Questions)’ by R. Gupta’s
- ‘Handbook NCC’: Kanti Publication, Itawa (U.P.)
- ‘NCC Cadets Military Training’ by Vishnu Kant Sharma and Meena Sharma



**F. Y. B. Sc. Restructuring Pattern [Semester - I]**  
**Course Category– Skill Enhancement Course (SEC)**  
**Course Code – SEC-105- RE-T (Theory)**  
**Course Title: Sports- I**

**[No. of Credits: 2 C]**

**[No. of Lectures: 30 L]**

**Course Objectives:**

1. To be sensitive student about emerging issue such as health and fitness, wellness technology and environment.
2. To inculcate good thinking and scientific temper among the student
3. To develop physical fitness and sport participation awareness about the student.
4. To develop the leadership quality, self confidence and organizational.

**Course Out Comes:**

1. To achieve health and fitness
2. Develop fitness and sport participation
3. Develop self confidence
4. Develop sport attitude

**THEORY (Credit: 1)**

- A) Introduction to physical Education and Sports.
- B) Introduction to Asian Games and Olympic Games.
- C) Introduction to Health Education and Hygiene
- D) Brief study of the Game. (Any Two)

(With reference to History of the Game, Equipment of the Game, Dimensions of the ground, Rules and Regulations of the Game, Basic Skills of the game, Techniques and Tactics of the Game)

1. Cricket
2. Football
3. Table Tennis
4. Volley Ball
- 5 Kho-Kho

**Practical based activity (Participation in Sports) Credit : 01**

- A) Exercises :
  - a) General and specific stretching, warming up and collingdown exercises of the game.
  - b) Various games skill development exercises
- B) General introduction to track and field events.
  - a) Throwing events
  - b) Jumping
  - c) Running events (short, Middle and Long distance Running)

**Semester II**

<b>Generic Elective (GE) / Open Elective (OE) - (1P = 2C)</b>	OE-151-RE-P	Foundation-II	<b>2C</b>
<b>Skill Enhancement Courses (SEC) - (1T / 1P = 2C) (Any one from basket)</b>	<b>SEC-151- RE-P</b>	<b>Population Education – II</b>	<b>2C</b>
	<b>SEC-152- RE-P</b>	<b>Family Planning and Health Education - II</b>	<b>2C</b>
	<b>SEC-153- RE-P</b>	<b>National Service Scheme - II</b>	<b>2C</b>
	<b>SEC-154- RE-P</b>	<b>National Cadet Corp –II</b>	<b>2C</b>
	<b>SEC-155- RE-P</b>	<b>Sports – II</b>	<b>2C</b>

**Savitribai Phule Pune University, Pune**  
**BSc Restructuring Pattern Syllabus (as per NEP-2020)**  
**Syllabus from June 2024**

<b>Name of the Programme</b>	:	B.Sc Restructuring
<b>Class</b>	:	FYBSc
<b>Semester</b>	:	II
<b>Name of Vertical Group</b>	:	V3 GE/OE
<b>Course Code</b>	:	OE-151-RE-P
<b>Course Title</b>	:	Foundation course - II (Contemporary Social Issues in India (Practical's Based Activity)
<b>No. of Credits</b>	:	2 (Practical based Activity)
<b>No. of Teaching Hours</b>	:	60 hrs

**Chapter-1: Basic Concepts in Political Science, Political Issues**

प्रकरण -१ : राज्यशास्त्रातील मूलभूत संकल्पना, राजकीय विषय

1. Indian Constitution Creation and Importance (भारतीय संविधान निर्मिती आणि महत्त्व)
2. Democracy (लोकशाही)- Definition and Types (व्याख्या आणि प्रकार), Merits and Demerits of Indian Democracy (भारतीय लोकशाहीचे गुण व दोष )
3. Human Rights and Responsibilities (मानवाधिकार आणि जबाबदा ्या.)
4. Local Governments) स्थानिक प्रशासन(

**Chapter-2: Value Education**

प्रकरण -२ : मूल्य शिक्षण

1. National Values
2. Democracy
3. Socialism
4. Secularism(
5. Equality)
6. Justice)
7. Liberty/ Freedom()
8. Fraternity)
9. Social Values )
10. Pity and Probity
11. Self Control)
12. Universal Brotherhood)
13. Professional Values )
14. Knowledge Thirst )
15. Sincerity)

16. Regularity)
17. Punctuality)
18. Faith)
19. Religious Values)
20. Personality)
21. Tolerance)
22. Wisdom)
23. Aesthetic Values )
24. Love
25. Appreciations
26. Respect to Literature and Fine Arts)

**F. Y. B. Sc. Restructuring Pattern [Semester - II]****Course Category– Skill Enhancement Courses (SEC)****Course Code – SEC-151- RE-P (Practical)****Practical Course Title: Population Education – II****[No. of Credits: 2 C]****[No. of Lectures: 30 L]****Objectives of the Course:**

1.	To provide students with basic knowledge of Population projection and density
2.	To provide students with basic knowledge of measures of Fertility
3.	To provide students with basic knowledge of measures of Mortality.

**Course Outcome:****By the completion of the course, student will be able to:**

<b>COs1</b>	:	Acquire the knowledge about the Population Projection.
<b>COs 2</b>		Calculate and compare various measures of Fertility.
<b>COs 3</b>		Calculate and compare various measures of Mortality.
<b>COs 2</b>	:	Carry out socioeconomic survey.

Topic No.	Topic Name	Sub Topic	No. of Hours
1.	<b>Composition of Population</b>	i. Age and Sex Pyramid	5
2	<b>Calculation of Population Density</b>	i. Arithmetic Density ii. Physiological Density iii. Agricultural Density.	5
3.	<b>Measures of Human Resource</b>	i. Human Development Index ii. Gender Development Index iii. Construction of Life Table	5
4.	<b>Computer Applications in population data Representation</b>	i. Collection of data ii. Data analysis using Microsoft excel/ SPSS iii. Graphical representation of population data	5

**References:**

1. Agarwala, S. N. (1962). Age at Marriage in India, Allahabad: Kitab Mahal Pvt. Ltd.
2. Barclay, G. W. (1958). Techniques of Population Analysis, New York: John Wiley and Sons.

- Population Analysis, New Delhi: Concept Publishing Company.
4. Pathak, K. B., and Ram, F. (2013). Techniques of Demographic Analysis,  
Mumbai: Himalaya Publishing House.
5. Shryock, H. S. (1970). The Methods and Materials of Demography, New York:  
Academic Press.
6. Siegel, J. S., and Swanson, D. A. (2004). The Methods and Materials of  
Demography. Boston: Academic Press.
7. Taylor, P. J. (1977). Quantitative Methods in Geography. Boston: Houghton Mifflin Co.
8. Wilkinson, F. J., and Monkhouse, H. R. (1966). Maps and Diagrams: Their  
Compilation and Construction. London: Methuen and Co.

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### **F. Y. B. Sc. Restructuring Pattern [Semester - II]**

**Course Category – Skill Enhancement Courses (SEC)**

**Course Code – SEC-152- RE-P (Practical)**

**Practical Course Title: Family Planning & Health Education - II**

**[No. of Credits: 2 C]**

**[No. of Lectures: 30 L]**

#### **Course Objectives: -**

1. Relate the basic Family Planning education and apply this knowledge in Family Planning education
2. The objectives of Family Planning education include providing knowledge, developing positive attitudes towards Family Planning issues, and promoting decision-making.
3. The goal of Family Planning education is to promote, maintain and improve individuals' and community health.

#### **Course Outcomes: -**

- CO1: Describe Family Planning related information to identifying the problems related to health.
- CO2: To facilitate interactive learning experiences which provide students with the knowledge, skills, and attitudes necessary to make positive health-related choices.
- CO3: To provide students with the knowledge and skills necessary to access valid and reliable health information and resources.

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#### **Theory (Credit.02)**

##### **1. Introduction**

**[03]**

- a. Definition and Scope of Family Planning education,
- b. History of Family Planning

##### **2. Human reproductive system.**

**[03]**

- a. Male reproductive system
- b. Female reproductive system
- c. Reproductive Health Issues

**3. Contraceptive services. [07]**

- a. Female and Male sterilization
- b. Oral Contraceptive Pills (OCPs)
- c. Reversible Methods of Birth Control
- d. Hormonal Methods
- e. Barrier Methods
- f. Fertility Awareness-Based Methods
- g. Emergency Contraceptive Pill (ECP)
- h. Permanent Methods of Birth Control

**4. Nutrition and Diet in pregnancy [05]**

- a. Definition, Nutrition and Diet
- b. Types of Diet
- c. Health Issues

**5. Sexually transmitted Infections [05]**

- a. Human Immunodeficiency Virus (HIV)
- b. Acquired Immune Deficiency Syndrome (AIDS)
- c. Chlamydia.
- d. Genital herpes.
- e. Trichomoniasis.

**6. Parturition and childcare [02]**

**7. Population control [03]**

**8. National program for Family Planning [02]**

**Reference books**

1. Health, Family Planning & Nutrition in India by Rameshwari Pandya
2. Family Planning Guidance Booklet for Community Health Officers(CHOs)
3. National family planning procedure manual
4. Family Planning: A Global Handbook for Providers : Evidence-based Guidance Developed Through Worldwide Collaboration by Johns Hopkins University (Author), World Health Organization (Author)
5. Handbook of Family Planning and Reproductive Health Care by Nancy Loudon (Author), Anna Glasier BSc MD DSc FRCOG FFPRHC OBE (Author)

\*\*\*\*

Course Category– Skill Enhancement Courses (SEC)

Course Code – SEC-153- RE-P (Practical)

Practical Course Title: National Service Scheme – II

[No. of Credits: 2 C]

[No. of Lectures: 30 L]

**Objectives of the Course:**

1.	To acquaint knowledge about Nutrition.
2	To analyze the socio-economic religions aspects.
3.	To develop Role of N.S.S Students in Enhancement of school college Complex.
4.	To develop knowledge about Aim and Objectives of NSS.
5	To aware the Role of national service scheme.
6	To aware the Role of NSS Volunteers in backward/Tribal/ minority/people.

**Course Outcome:****By the completion of the course, student will be able to:**

COs1	:	To provide students with basic knowledge of Nutrition
COs 2		To provide students with basic knowledge of Village socio-economic religions aspects
COs 3		To provide students with basic knowledge of Role of N.S.S Students in Enhancement of school.
COs 2	:	To provide the information about Aims and Objectives of NSS.

**Topics and Learning Points**

Topic No.	Topic Name	Sub Topic	No. of Hours
<b>Credit-I</b> 1	Nutrition	Nutrition- Public Organization health system across nations is a conglomeration of all organized activities that prevent disease, prolong life and promote health and efficiency of its people.	<b>05</b>
2	Village socio-economic religions aspects.	Village socio-economic/educating& religions aspects. Religions can be identified and described using a number of common characteristics-Beliefs and teachings, Rituals, practices, events and celebrations, Leadership and rules, Customs and traditions	<b>05</b>
3.	Role of N.S.S Students in Enhancement of school	Role of N.S.S Students in Enhancement of school college Complex by organizing activities like cultural, Educational, sports, Debeting etc	<b>05</b>



<p>NEP-2020</p> <p><b>Credit</b></p> <p><b>II 4</b></p>	<p>Aim and Objectives of NSS</p>	<p>Aim and Objectives of NSS and Role of NSS Volunteers for nation developments. Identify needs. Problems and resources of the community. Plan Programmes and carry out the plans. relate his learning and experience towards finding solutions to the problems</p>	<p>2024-2025</p> <p><b>05</b></p>
<p>5</p>	<p>Role of national service</p>	<p>. Scheme in Rural Development- NSS volunteers work in rural areas, adopted villages, Eradication of Gajar Grass/weeds, Survey of child health nursing, impact of social evils on Global level.</p>	<p><b>05</b></p>
<p>6</p>	<p><b>Role of NSS Volunteers in backward/Tribal/minority/people.</b></p>	<p><b>Role of NSS Volunteers in</b> backward/Tribal/minority/people. Water availability resources, population regards the Family Planning, energy resources, Cropping Pattern.</p>	<p><b>05</b></p>

### References:

1. National Service Scheme, The youth volunteer program for undergraduate students by D.S.Pawar.
2. National Service Scheme, The youth volunteer program for undergraduate students by Amit Kumar, J.N. Brijesh Kumar Rathi. Semester I&II.
3. NSS And Youth Development (Paperback, Dr. Sunita Agarwalla)
4. National Service Scheme Book Sem –I&II. by Amit Jain.

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**F. Y. B. Sc. Restructuring Pattern [Semester - II]**  
**Course Category– Skill Enhancement Courses (SEC)**  
**Course Code – SEC-154- RE-P (Practical)**

**Practical Course Title: National Cadet Corp – I I**

**[No. of Credits: 2 C]**

**[No. of Lectures: 30 L]**

**Objectives of the Course:**

1.	To acquaint students with Task and Role of Fighting Arm
2.	To make students aware about Task and Role of Supporting Arms and Services
3.	To explain the Modes of Entry to Army
4.	To understand Honours and Awards

**Course Outcome:**

**By the completion of the course, student will be able to:**

<b>COs1</b>	:	Understand Task and Role of Fighting Arm
<b>COs 2</b>	:	Explain Task and Role of Supporting Arms and Services
<b>COs 3</b>	:	Aware about Modes of Entry to Army
<b>COs 4</b>	:	Acquaint the knowledge about Honours and Awards

**Topics and Learning Points**

Topic No.	Topic Name	Sub Topic	No.of Periods
1.	Task and Role of Fighting Arm	<ul style="list-style-type: none"> <li>Infantry</li> <li>Armour</li> <li>The Mechanised Infantry</li> </ul>	03
2.	Task and Role of Supporting Arms and Services	<ul style="list-style-type: none"> <li>Supporting Arms</li> <li>Supporting Services</li> </ul>	04
3.	Modes of Entry to Army	<ul style="list-style-type: none"> <li>Types of Commission</li> <li>Entry Schemes (Men and Women)</li> <li>JCO and Other Ranks</li> </ul>	04

4.	Honours and Awards	<ul style="list-style-type: none"> <li>• Introduction</li> <li>• Gallantry Awards</li> <li>• Non Gallantry Awards including NCC Awards</li> <li>• Order of Precedence for Wearing of Medals and Decoration</li> </ul>	04
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### References Books

- 'NCC: National Cadet Corps (Including Model Papers & Solved Questions)' by R. Gupta's
- 'Handbook NCC': Kanti Publication, Itawa (U.P.)
- 'NCC Cadets Military Training' by Vishnu Kant Sharma and Meena Sharma

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## F. Y. B. Sc. Restructuring Pattern [Semester - II]

### Course Category– Skill Enhancement Courses (SEC)

### Course Code – SEC-155- RE-P (Practical)

### Practical Course Title: Sports- II

[No. of Credits: 2 C]

[No. of Lectures: 30 L]

### Course Objectives:

5. To be sensitive student about emerging issue such as health and fitness, wellness technology and environment.
6. To inculcate good thinking and scientific temper among the student
7. To develop physical fitness and sport participation awareness about the student.
8. To develop the leadership quality, self confidence and organizational.

### Course Out Comes:

5. To achieve health and fitness
6. Develop fitness and sport participation
7. Develop self confidence
8. Develop sport attitude

- A) Concept of Physical Education and Scope.
- B) Concept of Physical fitness.
- C) Infer colligate, intramural sport event organisation.
- D) Brief study of the Game (Any Two)

(With reference to History of the Game, Equipment of the Game, Dimensions of the ground, Rules and Regulations of the Game, Basic Skills of the game, Techniques and Tactics of the Game)

- Basketball
- Kho-Kho
- Kabaddi
- Badminton

Practical based Activity (Participation in Sports) Credit :01

1. Sports Activity on Ground related to theory syllabus

- Basketball
- Kho-Kho
- Kabaddi
- Badminton
- Athletics

2. Yoga Practical's.

- Books :
1. Fundamental Elements of Physical Education. By Kamlesh M.L.
  2. Principal & History of Physical Education and Sports By Singh D.K.
  3. A Text Book of Applied measurement Evaluation & Sport Selection by Kansal D.K.
  4. A Pioneer of Scientific and Physical Education by Swami Kuvalayananda
  5. PatanjaliYogDarshan by Swami Anandrushi
  6. Asanas by Swami Kuvalayananda.

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