

**Rayat Shikshan Sanstha's**  
**YASHAVANTRAO CHAVAN INSTITUTE OF**  
**SCIENCE, SATARA**  
**(AN AUTONOMOUS COLLEGE)**

**Reaccredited by NAAC with 'A+' Grade**

**Bachelor of Science**

**Part - I**

**NCC (Elective)**

**Syllabus**

to be implemented w. e. f. June, 2022

## Structure of the course:

### 1. Semester I:

Sr. No.	Subject title	Theory				Practical		
		Course No. and Course code	Title of Course	No. of lectures per week	Credits		No. of lectures per week	Credits
1.	NCC (Elective)	Course I BNCCT101	Basic Training in NCC	5	4	BNCCP 103 Basic Training of NCC Foot Drill	4	2
		Course II BNCCT102	Social Services, Health, Hygiene and Human Rights					

### 2. Semester II

Sr. No.	Subject title	Theory				Practical		
		Course No. and Course Code	Title of Course	No. of lectures per week	Credits		No. of lectures per week	Credits
1.	NCC (Elective)	Course III BNCCT201	Warfare and Defence Strategies	5	4	BNCCP203 Rifle Drill, Leadership and Personality Development Practical	4	2
		Course IV BNCCT202	Defence Management, Leadership and Personality Development					

**B. Sc. I: Evaluation structure****Semester I**

Theory						
	ESE	Internal Evaluation				
		ISE I	ISE II	Home Assignment I	Home Assignment II	Total
Course I	30	05	05	05	05	50
Course II	30	05	05	05	05	50
Total	60	10	10	10	10	<b>100</b>
Practical						
	ESE	Internal Evaluation			Total	
		Case Study/Survey/Report		Students Performance		
Practical I	15	05		05	<b>25</b>	
Total Marks Per Subject per Semester (Theory + Practical)					<b>125</b>	

**Semester II**

Theory						
	ESE	Internal Evaluation				
		ISE I	ISE II	Home Assignment I	Home Assignment II	Total
Course III	30	05	05	05	05	50
Course IV	30	05	05	05	05	50
Total	60	10	10	10	10	<b>100</b>
Practical						
	ESE	Internal Evaluation			Total	
		Case Study/Survey/Report		Students Performance		
Practical II	15	05		05	<b>25</b>	
Total Marks Per Subject per Semester (Theory + Practical)					<b>125</b>	

## Structure and titles of the course of B. Sc. I course

### Semester I

Code	Name of Course	Units
BNCCT 101	<b>Basic Training in NCC</b> (CREDITS: 02; TOTAL HOURS: 45)	<b>Unit I:</b> NCC Organization <b>Unit II:</b> Higher Defence Organization <b>Unit III:</b> Eligibility Criteria and Recruitment procedure in Armed Forces <b>Unit IV:</b> Para Military Forces and Intelligence Services of India
BNCCT 102	<b>Social Services, Health, Hygiene and Human Rights</b> (CREDITS: 02; TOTAL HOURS: 45)	<b>Unit I:</b> Social Service and Community Development <b>Unit II:</b> Social Services and Community Development Activities <b>Unit III:</b> Health Hygiene and First Aid <b>Unit IV:</b> Human Rights

### Semester II

Code	Name of Course	Units
BNCCT201	<b>Warfare and Defence Strategies</b> (CREDITS :02; TOTAL HOURS: 45)	<b>Unit I:</b> Chhatrapati Shivaji's Guerrilla Warfare <b>Unit II:</b> Introduction to Historical Warfare Strategy <b>Unit III:</b> Warfare in Different Terrain of India <b>Unit IV:</b> Modern Warfare
BNCCT202	<b>Defence Management, Leadership and Personality Development</b> (CREDITS: 02; TOTAL HOURS: 45)	<b>Unit I:</b> Defence Management and Leadership <b>Unit II:</b> Personality Development and Communication Skills <b>Unit III:</b> Case Studies <b>Unit IV:</b> SSB Procedure and Adventure Training

## Semester I

### Course I: BNCCT101: Basic Training in NCC

- **Course Objectives:** Students will be able to
  1. Understand NCC organization
  2. Understand modes of entry in Armed forces
  3. Study of Indian Higher Defence Organizations
  4. Learn Para Military Forces and Intelligence Services of India

<b>Credits (Total Credits 2)</b>	<b>SEMESTER - I BNCCT 101 BASIC TRAINING IN NCC</b>	<b>No. of hours per unit/credits</b>
<b>UNIT – I</b>	<b>NCC Organization</b>	<b>(10)</b>
	History, Aims, Objectives, Motto and Organization of NCC NCC Flag and Song; Incentives to NCC cadets Duties of NCC Cadets, NCC Training and Camps: Types and Conduct.	
<b>UNIT – II</b>	<b>Higher Defence Organization</b>	<b>(11)</b>
	<b>Defence and Security Policies:</b> Concept, Formulation, Objective and Linkage; Powers of the President in relation to the Armed forces; Chiefs of staff committee; Parliament and Armed forces; Cabinet Committee on Security; National Security Council; India's Nuclear Doctrine. <b>Organization of Ministry of Defence:</b> Basic Organization of Armed Forces; History and Structure of Indian Army; Genesis of Indian Navy and Organization Structure;	

	History and Organization Setup of Indian Air Force, Badges and Ranks.	
<b>UNIT – III</b>	<b>Eligibility Criteria and Recruitment procedure in Armed Forces</b>	<b>(08)</b>
	Types of Commission Entry Schemes (Men, Women) JCOs and Other Ranks in Army, Police and CAPF, Indian Navy, Indian Coast Guard, Merchant Navy, Indian Air Force, Civil Aviation	
<b>UNIT – IV</b>	<b>Para Military Forces and Intelligence Services of India</b>	<b>(07)</b>
	National Security Guard (NSG) Border Security Force (BSF) Coast Guard Sashastra Seema Bal (SSB) Assam Rifle (AR) Indo-Tibetan Border Police (ITBP) Central Reserve Police Force (CRPF) Central Industrial Security Force (CISF) <b>Intelligence Services:</b> History of India’s Intelligence Agency, Role of Intelligence Agency Intelligence Buru (IB) Research and Analysis Wing Military Intelligence Defence Intelligence Agency (DIA)	

- **Course Outcomes:** Student should be able to
  1. Recognise NCC organization and opportunities.
  2. State modes of entry in armed forces
  3. Discuss organization of Defence structure.
  4. Distinguish between Armed forces, Para Military Forces and Intelligence Services of India

- **References:**

1. Maj. Dubal, Capt. Gaikwad, Handbook of NCC- Tanvi Prakashan- August 2020
2. Army Headquarter - Précis of OTA Nagpur- Every Year-army headquarter
3. Army Headquarter -Handbook of Defence studies – Every Year-army headquarter
4. Dr. A. P. Choudhary Adhunic Bhartacha Itihas
5. Banerjee Gautan, India's National Defence Policy: Defining Defence Reform and Military Moderations, NiraliPrakashan, New Delhi, 2016.
6. Pant Harish V, Hand book of India's Defence Policy: Theme structure and doctrine, Routledge India, 2017.
7. Venkataraman R, India's Higher Defence Organization and Management, KW Publisher, New Delhi, 2011.
8. **Online Resource:**  
Organization Structure: <https://mod.gov.in/dod/organizationstructure>

**Course II: BNCCT102: Social Services, Health, Hygiene and Human Rights**

- **Course Objectives:** Students will be able to
  1. Develop interest about social servicing and inculcate their importance in routine life
  2. Understand about various government activities of social development
  3. Study of importance of Hygiene, Sanitation and First aid
  4. Understand the Phenomena of Gender discrimination nature, causes, & Solutions.

<b>Credits (Total Credits 2)</b>	<b>SEMESTER – I BNCCT 102 Social Services, Health, Hygiene and Human Rights</b>	<b>No. of hours per unit/credits</b>
<b>UNIT – I</b>	<b>Social Service and Community Development</b>	<b>(08)</b>
	Basics of Social Service, Rural Development Programmes Social Security Schemes of Government: Atal Pension Yojana, Pradhan Mantri Jeevan Jyoti Yojana, Pradhan Mantri Suraksha Bima Yojana; Non-Government Organizations (NGO's), Contribution of NGOs; Contribution of Youth; Role of NCC	
<b>UNIT – II</b>	<b>Social Services and Community Development Activities</b>	<b>(12)</b>
	Social Evils, Protection of Children & Women Safety, Women Health and Sanitation, Beti Padhao Beti Bachao, Drug Abuse, Mission Indradhanush (Vaccination), Traffic Awareness, Road/Rail Travel Safety, New Initiatives, Digital Awareness, Cyber and Mobile Security Awareness <b>Environmental Awareness:</b> Tree Plantation, Pollution, Waste Management, Swachh Bharat Abhiyan, Water and Energy Conservation	
<b>UNIT – III</b>	<b>Health Hygiene and First Aid</b>	<b>(10)</b>



	<p><b>Hygiene and Sanitation:</b> (Personal and Camp)  Personal Hygiene, Personal hygiene and preventive measures, Food Hygiene, Purification of water and its storage, Camp Hygiene</p> <p><b>First Aid:</b> Common Medical Emergencies;  Snake, Scorpion and Dog Bite;  Asphyxia;  Types of bandages, Different Type of Fractures;  Treatment and Care of Wounds,  Methods of hospitalization (Ghayal Vyakti Ko Le Janeka Tarika)</p>	
<b>UNIT – IV</b>	<b>Human Rights</b>	<b>(06)</b>
	<p>Human Rights Meaning &amp; Definition;  Universal declaration of Human Rights progress in respect of Human Rights</p>	

- **Course Outcomes:** Student should be able to
  1. State various Community Development schemes and their importance
  2. Demonstrate Social Service activities for Community Development
  3. Illustrate community hygiene and types of first aids after any incidents
  4. Discuss about human rights and social justice
  
- **References:**
  1. Maj. Dubal, Capt. Gaikwad, Handbook of NCC-Tanvi Prakashan- August 2020
  2. Army Headquarter - Précis of OTA Nagpur- Every Year-army headquarter
  3. Army Headquarter -Handbook of Defence studies – Every Year-army headquarter
  4. Adhunic Bhartacha Itihas- Dr. A. P. Choudhary
  5. Buergenthal Thomas, International Human Rights in Nutshell, 2<sup>nd</sup> edition, West Publishing co. 1995
  6. Palmer and Perkins- International Relations, 3rd Edn. Scientific Book Agency, Calcutta,1970
  7. Cranston, Maurice, what are Human Rights? (London, 1973)
  8. Davidson, Scott, Human Rights (Buckingham, 1993)
  9. Donnelly, Jack, The Concept of Human Rights (London, 1985)
  10. Donnelly, Universal Human Rights in Theory and Practice, 3rd ed (Ithaca, 2003)

### Practical I: BNCCP103: Basic Training of NCC Foot Drill

- **Course Objectives:** Students will be able to
  1. Understand about discipline
  2. Study the importance of unity
  3. Understand drill and its importance
  4. Imbibe the team spirit and leadership qualities among students

Credits (Total Credit 02)	SEMESTER I Practical I: Basic Training of NCC Foot Drill	No. of hours per unit/credits
	<b>A. Introduction to Drill</b>	
	<ol style="list-style-type: none"> <li>1. Introduction to kit items</li> <li>2. Wearing of uniform</li> <li>3. Drill ki Aam Hidayaten aur Words of Command</li> <li>4. Savdhan, Vishram, Aram se aur Mudna</li> <li>5. Kadwar Sizing, Teen Line Banana, Khuli Line aur Nikat Line</li> </ol>	
	<b>B. Foot Drill</b>	
	<ol style="list-style-type: none"> <li>1. Dahine, Baen, Aage aur Piche Kadam lena</li> <li>2. Tej Chal- Tham aur Dhire Chal-Tham</li> <li>3. Tej Chal se Mudna aur Salute Karna</li> <li>4. Tej Kadam Taal aur tham, Tej Kadam Taal se Kadam Badalna</li> <li>5. Teenon Teen se Ek File aur Ek File se Teenon Teen banana</li> </ol>	

- **Course Outcomes:** Student should be able to
  1. Demonstrate foot drill procedure
  2. Estimate leadership traits in themselves
  3. Demonstrate about unity and discipline
  4. Inculcate team spirit and leadership qualities amongst themselves

- **References:**

1. OTA Kamtee - Drill and Weapon training- Every Year- Army Headquarter
2. Maj. R.C. Mishra - Handbook of NCC- Kranti Prakashan - 2020

## SEMESTER - II

### Course III: BNCCT201: Warfare and Defence Strategies

- **Course Objectives:** Students will be able to
  1. Study guerrilla warfare of Ch. Shivaji Maharaj
  2. Understand Indian military warfare
  3. Study about different warfare terrains
  4. Understand modern warfare

<b>Credits (Total Credits 2)</b>	<b>SEMESTER – II BNCCT201 Warfare and Defence Strategies</b>	<b>No. of hours per unit/credits</b>
<b>UNIT – I</b>	<b>Chhatrapati Shivaji’s Guerrilla Warfare</b>	<b>(08)</b>
	Strategy and Tactics used by Ch. Shivaji in: Battle of Pratapgad, Raid on Shahistekhan; Campaign of Mirza Raja Jaising Karnatka Campaign: Objective & Consequences. Organization of Maratha Army. Organization of Maratha Forts and Aarmar (Naval Base) Chhatrapati Shivaji’s Contribution in Guerrilla Warfare	
<b>UNIT – II</b>	<b>Introduction to Historical Warfare Strategy</b>	<b>(11)</b>
	Grand Strategy, Strategy & Tactics, Causes, Nature of courses of war, Ceasefire <b>Implications of:</b> Indo-Pak War of 1947-48, 1965 and 1971 India-China war of 1962 Kargil Episode of 1999 Case study: WW2	
<b>UNIT – III</b>	<b>Warfare in Different Terrain of India</b>	<b>(07)</b>

	<p>Necessity and Its application</p> <p>Plain, Dessert, High Altitude (Galwan Valley Dispute) and Jungle</p> <p>Characteristics, Tactical and Logistic Problems</p> <p><b>War and Environment:</b> Use of Environment Factor</p> <p>War and Its Impact on Environment.</p>	
<b>UNIT – IV</b>	<b>Modern Warfare</b>	<b>(10)</b>
	<p><b>Information Warfare:</b> Security of Information System, Information Operation, Cyber space;</p> <p><b>Nuclear, Chemical and Biological Warfare:</b> Meaning and Concept Origin &amp; Development;</p> <p><b>Electronic Warfare:</b> Concept and Scope;</p> <p>Intelligence Based Warfare;</p> <p>C4 ISR (Command, Control, Communications, Computer, Intelligence, Surveillance and Reconnaissance)</p>	

- **Course Outcomes:** Student should be able to

1. Get acquainted about ch. Shivaji maharaj Guerrilla warfare.
2. Demonstrate Indian warfare history and implications
3. Evaluate various types of different warfare terrains of india
4. Explore learn modern warfare and also learn how to face them

- **References:**

1. Maj. Dubal, Capt. Gaikwad, Handbook of NCC- Tanvi Prakashan- August 2020
2. Army Headquarter - Précis of OTA Nagpur- Every Year-army headquarter
3. Army Headquarter -Handbook of Defence studies – Every Year-army headquarter
4. Dr. Paranjape – Vidhyan Tantradhyan- Akshardhara Prakashan 2019-
5. Adhunic Yudhakala- Dr. B. D. Todkar
6. Pitre K.G. War History of the Maratha, (K.G. Pitre, Pune,1998)
7. Anand A, Information Technology- The Future Warfare Weapons, Ocean Books, New Delhi, 2003
8. Anurag Dwivedi, Modern Information warfare, New Delhi: Pentagon Press, 2019.

9. Deepak Sharma, "Integrated Network Electronic Warfare: China's New Concept of Information Warfare", *Journal of Defence Studies*, Vol 4 (2): 36-49, 2010.
10. Dr. Lalit Mishra, *Understanding Information Warfare: All You Need to Know*, New Delhi: Alpha Publication, 2017.
11. P.A. Ghosh, *Camouflage warfare of Modern Era: The future of cyber warfare* Shiva Prakashan, Indore, 2017.
12. P. C. Karoch, *Indian Military and Network Centric Warfare*, New Delhi: Wisdom Tree, 2014.
13. *Journal of Information Warfare*: available at [www.jinforwar.com](http://www.jinforwar.com).

**Course IV: BNCCT202: Defence Management, Leadership and Personality Development**

- **Course Objectives:** Students will be able to
  1. Study various defense-corporate management techniques
  2. Understand techniques of personality development
  3. Develop leadership qualities of famous personalities.
  4. Make aware about SSB process and Adventure Training

<b>Credits (Total Credits 2)</b>	<b>SEMESTER - II BNCCT202: Defence Management, Leadership and Personality Development</b>	<b>No. of hours per unit/credits</b>
<b>UNIT – I</b>	<b>Defence Management and Leadership</b>	<b>(10)</b>
	Concept, Salient Features, Nature and scope; Principles of Management, Application of Management in the Armed Forces Difference between defence corporate and civil leadership Application and Strength of war Principles in corporate Management; Human Resource Management in Armed Forces; <b>Leadership:</b> Traits, Indicators, Motivation, Moral Values; Honour Code; Role of Leadership in the Defence Management and Development Team Building in armed forces Officer Like Qualities (OLQs)	
<b>UNIT – II</b>	<b>Personality Development and Communication Skills</b>	<b>(08)</b>
	<b>Personality Development:</b> Factors, Self- Awareness, Empathy, Critical and Creative Thinking, Logical Reasoning, Decision Making and Problem Solving	

	<p><b>Communication Skills:</b> Types of communication and Barriers of communications</p> <p><b>Group Discussions:</b> Coping with Stress and Emotions, Change your Mindset, Time Management, Social Skills, Team Work; Public Speaking; General Awareness</p>	
<b>UNIT – III</b>	<b>Case Studies</b>	<b>(10)</b>
	<p>Maharana Pratap, Chatrapati Shivaji Maharaj, Tipu Sultan, Jhansi Ki Rani, Rabindra Nath Tagore;</p> <p>APJ Abdul Kalam, Ratan Tata, N Narayan Murthy, Prakash Padukone, Kiran Majumdar, Deepa Malik</p> <p>Biographies of Renowned Generals: Field Marshal Sam Manekshaw, Field Marshal K. M. Cariappa, CDS General Bipin Rawat</p> <p>War Heroes: Param Veer Chakra Awardees</p>	
<b>UNIT – IV</b>	<b>SSB Procedure and Adventure Training</b>	<b>(08)</b>
	<p>Career Counselling</p> <p>SSB Procedure: Reporting Day, Stage-1 testing, Stage-2 Testing, GTO, Personal Interview, Conference, Interview Skills;</p> <p>Obstacle Training, and Adventure Training Activities</p>	

- **Course Outcomes:** Student should be able to
  1. Present Defence - Corporate Management and Leadership skills
  2. Demonstrate personality and communication skills
  3. Develop qualities of famous personalities
  4. Apply SSB procedure and Adventure activities
- **References:**
  1. Maj. Dubal, Capt. Gaikwad, Handbook of NCC- August 2020- Tanvi Prakashan



2. Army Headquarter - Précis of OTA Nagpur- Every Year-army headquarter
3. Army Headquarter -Handbook of Defence studies – Every Year-army headquarter
4. Dr. Paranjape – Vidhyan Tantradhyan Akshardhara Prakashan Handbook of defense studies by army headquarter- 2019-
5. John Downey, Management in the armed Forces, EBD Educational Pvt Ltd, Dehradun India, 1987
6. Andre Beaufre, Strategy for Tomorrow, Mac Donald Press, London, 1974
7. Defence Management, An Annual Journal of College of Defence Management, Secunderabad
8. Mishra H B, Defence Management in India, Author Press, New Delhi, 2000
9. A L Venkateshwaran, Defence Organization in India, Publication Division, Government of India, New Delhi, 1967
10. Ron Mathews, Defence Production in India, ABC, New Delhi,1989
11. Raju G C Thomas, The Defence of India: A Budgetary Perspective of Strategy and politics, MacMillan Publication, New Delhi, 1978
12. Sam-C-Sarekesian, The Military Industrial Complex-A Reassessment, Sage publication, 1972
13. Maj. Gen Pratap Narain (Retd), Indian Arms Bazar, Shilpa Publication, New Delhi, 1998
14. Annual reports of The Ministry of Defence, Government of India
15. Brig. Pramod Sasius, Military Logistics-Third Dimensions, manas publication, New Delhi, 2000

## Practical II: BNCCP 203: Rifle Drill, Leadership and Personality Development

- **Course Objectives:** Students will be able to
  1. Study the importance of unity and discipline
  2. Understand the drill and its importance
  3. Enumerate the team spirit and leadership qualities among students
  4. Understand the SSB interview process

Credits (Total Credit 04)	SEMESTER – II Practical II Rifle Drill, Leadership and Personality Development	No. of hours per unit/credits
	<b>A. Weapon Drill</b>	
	1. Rifle ke Saath Savdhan, Vishram aur Aaram se 2. Rifle ke Saath Parade Par aur Saj 3. Rifle ke Saath Visarjan aur Line Tod 4. Bhumi Shastra aur Uthao Shastra 5. Bagal Shastra aur Baju Shastra	
	<b>B. Personality Development and Adventure Training</b>	
	1. SSB – Interview: Intelligence test 2. SSB Interview- PIQ (Personal Inquiry Questions) 3. SSB Interview- Intelligence test 4. SSB Interview-PPDT 5. Obstacle Training	

- **Course Outcomes:** Student should be able to
  1. Demonstrate foot drill procedure
  2. Get acquainted with leadership traits
  3. Construct the unity and discipline amongst them
  4. Apply the SSB procedure

- **References:**

1. OTA Kamtee - Drill and Weapon training- Every Year- Army Headquarter
2. Maj. R.C. Mishra - Handbook of NCC- Kranti Prakashan - 2017
3. Army Headquarter - Précis of OTA Nagpur- Every Year-army headquarter
4. Army Headquarter -Handbook of Defence studies – Every Year-army headquarter