

Rayat Shikshan Sanstha's

**YASHAVANTRAO CHAVAN INSTITUTE OF
SCIENCE, SATARA**

(An Autonomous College)

Reaccredited by NAAC with 'A+' Grade



New Syllabus for

Bachelor of Science

Part - I

Military Science and NCC

Syllabus

to be Implemented from June 2023 onward

Rayat Shikshan Sanstha's

Yashwantrao Chavan Institute of Science, Satara
(Autonomous)

Rayat Shikshan Sanstha's
Yashavantrao Chavan Institute of Science, Satara (Autonomous)

Department of Military Science and NCC

Syllabus for Bachelor of Science Part I

Syllabus for B. Sc. Part – I

- 1. TITLE:** Military Science and NCC
- 2. YEAR OF IMPLEMENTATION:** New Syllabi for the B.Sc. I Military Science and NCC will be implemented from June 2023 onwards.
- 3. PREAMBLE:** National Cadet Corps (Elective) course has been designed to develop student's proficiency, in leading, planning, executing and to face the complex operations, as well as to make them eligible to entry into armed forces. This course provides students with situational opportunities to assess risk and analysis of military history to make ethical decisions and to provide mentoring to fellow National Cadet Corps (Elective) students. Students enrolled in National Cadet Corps (Elective) will participate in army physical training once a week and field training exercise in each semester with five days classroom teaching in a week.
- 4. GENERAL OBJECTIVES OF THE COURSE:**
 - 1) To impart the knowledge of military science to the pupils.
 - 2) To make the pupils use the knowledge in their daily life.
 - 3) To make the pupils aware of natural disasters and environmental issues.
 - 4) Application of knowledge in military science for enrollment in entry in armed forces
 - 5) To provide practical experiences which form a part of their learning processes in the field area.
 - 6) To develop aptitude for scientific work & ability to face any natural calamity.
 - 7) To encourage the pupils to make a carrier in a armed forces and various jobs in MPSC, UPSC and various corporate sectors.
 - 8) To make the pupils fit for society.
- 5. DURATION:**

The course shall be a full-time course.
The duration of the course shall be three years.
- 6. PATTERN:** Pattern of Examination will be semester system.
- 7. MEDIUM OF INSTRUCTION:** English, Hindi, Roman English.

B.Sc. I Semester I (Military Science and NCC)

Sr. No.	Course Category	Name of Course	Course Code	Credits		Total Credits
1	Major I	Fundamentals of Military Science	BNCCT111	2	1	3
2	Major II	National Cadets Corps and Nation Development	BNCCT112	2	1	3
3	Minor I	Defence Organization of India	BNCCT114	2	1	3
4	Minor II	NCC for Community Development	BNCCT115	2	1	3
5	IKS	Military History	IKSNCCT101	2	-	2
6	CC	Disaster Management	CCDMT102	2	-	2
	CC	Introduction to National Cadet Corps and Communication	CCNCCT102	2	-	2
				14	04	18

B.Sc. I Semester II (Military Science and NCC)

Sr. No.	Course Category	Name of Course	Course Code	Credits		Total Credits
1	Major I	National Security of India	BNCCT121	2	1	3
2	Major II	Organization of Infantry Battalion and Weapons	BNCCT122	2	1	3
3	Minor I	National Security	BNCCT124	2	1	3
4	Minor II	National Cadets Corps Training	BNCCT125	2	1	3
5	VEC	Understanding India	VECNCCT104	2	-	2
6	SEC	SSB Interview Techniques	SECNCCT103	1	1	2
				11	05	16

• **Abbreviations:**

OE: Generic/ Open Electives

VSEC: Vocational Skill and Skill Enhancement Courses.

VSC: Vocational Skill Courses.

SEC: Skill Enhancement Courses.

AEC: Ability Enhancement Courses.

IKS: Indian Knowledge System.

VEC: Value Education Courses; FP: Field projects.

CC: Co-curricular Courses; RM: Research Methodology; RP: Research Project.

CEP: Community engagement and service; OJT: On Job Training; Internship/ Apprenticeship

8. STRUCTURE OF COURSE:

1. FIRST SEMESTER

Sr. No.	Subject Title	Theory			Practical		
		Course No & Course Code	No. of Lectures per week	Credits	Course No & Course Code	No. of Lectures per week	Credits
1	Military Science and NCC	Course I: BNCCT111	4	4	Practical Course I: BNCCP113	4	2
		Course II: BNCCT112					

2. SECOND SEMESTER

Sr. No.	Subject Title	Theory			Practical		
		Course No & Course Code	No. of Lectures per week	Credits	Course No & Course Code	No. of Lectures per week	Credits
1	Military Science and NCC	Course III: BNCCT121	4	4	Practical Course II: BNCCP123	4	2
		Course IV: BNCCT122					

3. Structure and Title of Courses for B. Sc. Curriculum:

- **B. Sc. I Semester I**

- Theory: 4 credits (2 Credits each)
Course I: Fundamentals of Military Science
Course II: National Cadets Corps and Nation Development
- Practical: 2 Credits
Practical Course I: Lab I

- **B. Sc. I Semester II**

- Theory: 4 credits (2 Credits each)
Course III: National Security of India
Course IV: National Cadets Corps Training
- Practical: 2 Credits
Practical Course II: Lab II

- **Attributions:**

BNCCT/Pxyz:

B: B.Sc.

NCC: Military Science and NCC

T: Theory

P: Practical

x: Semester 1 to 4

yz: 01 to 03

SEMESTER I

Major Course I

BNCCT111: Fundamentals of Military Science

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

Credits=2	SEMESTER I BNCCT111: Fundamentals of Military Science	Total No. of Lectures (30 Hrs.)
UNIT I	NCC Organization	(08)
	History, Aims, Objectives, Motto and Organization of NCC, NCC Flag and Song; Incentives to NCC cadets, Duties of NCC Cadets, NCC Camps: Types and Conduct.	
UNIT II	Higher Defence Organization	(08)
	Defence and Security Policies: 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 Organization of Ministry of Defence: 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	
UNIT III	Eligibility Criteria and Recruitment procedure in Armed Forces	(07)
	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	
UNIT IV	Para Military Forces and Intelligence Services of India	(07)
	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) Intelligence Services: History of India's Intelligence Agency, Role of Intelligence Agency, Intelligence Bureau (IB), Research and Analysis Wing, Military Intelligence, Defence Intelligence Agency (DIA)	
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- **Course Outcomes:** Student will be able to...
 1. Explore NCC organization and opportunities.
 2. Analyze and avail modes of entry in armed forces
 3. Present organization of Defence structure.
 4. Distinguish between Armed forces, Para Military Forces and Intelligence Services of India
- **Reference Books:**
 1. Dubal, R. S., Gaikwad M.N., (2020), Handbook of NCC, Pune, Tanvi Prakashan.
 2. Army Headquarter,(Every Year),Précis of OTA Nagpur,army headquarter
 3. Army Headquarter, (Every Year),Handbook of Defence studies , army headquarter
 4. [Sujit Dharmpatre](#), (2018), Adhunic Bhartacha Itihas, Shree Enterprises Publishers.
 5. Banerjee Gautan, (2016), India's National Defence Policy: Defining Defence Reform and Military Moderations, Nirali Prakashan, New Delhi.
 6. Pant Harish V, (2017), Handbook of India's Defence Policy: Theme structure and doctrine, Routledge India.
 7. Venkataraman R, (2011), India's Higher Defence Organization and Management, KW Publisher, New Delhi.
 8. **Online Resource:**
 Organization Structure: <https://mod.gov.in/dod/organizationstructure>

SEMESTER I

Major Course II

BNCCT112: National Cadets Corps and Nation Development

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

Credits=2	SEMESTER I BNCCT112: National Cadets Corps and Nation Development	No. of Lectures (30 Hrs.)
UNIT I	Social Service and Community Development	(07)
	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	
UNIT II	Social Services and Community Development Activities	(08)
	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 Environmental Awareness: Tree Plantation, Pollution, Waste Management, Swachh Bharat Abhiyan, Water and Energy Conservation	
UNIT III	Health Hygiene and First Aid	(08)
	Hygiene and Sanitation: (Personal and Camp) Personal Hygiene, Personal hygiene and preventive measures, Food Hygiene, Purification of water and its storage, Camp Hygiene First Aid: Common Medical Emergencies and Snake, Scorpion and Dog Bite; Asphyxia; Types of bandages, Different Type of Fractures; Treatment and Care of Wounds, Methods of hospitalization (Ghayal Vykati Ko Le Jane ka Tarika)	

UNIT IV	Human Rights	(07)
	Human Rights Meaning & Definition; Universal declaration of Human Rights progress in respect of Human Rights	

- **Course Outcomes:** Student will be able to...
 1. Participate in social services for Community Development
 2. Demonstrate in Social Service activities for Community Development
 3. Illustrate self and community hygiene as well as types of first aids after any incidents
 4. Classify human rights and social justice
- **Reference Books:**
 1. Dubal R.S., Capt. Gaikwad M.N., (August 2020), Handbook of NCC- Tanvi Prakashan.
 2. Army Headquarter (Every Year), Précis of OTA Nagpur, army headquarter
 3. Army Headquarter (Every Year), Handbook of Defence studies, army headquarter
 4. Jack Donnelly, (2003), Universal Human Rights in Theory and Practice, 3rd ed Ithaca.
 5. [Sujit Dharmpatre](#), (2018), Adhunic Bhartacha Itihas, Shree Enterprises Publishers.
 6. Buergenthal Thomas, (1995), International Human Rights in Nutshell, 2nd ed , West Publishing co.
 7. Scott Davidson, (1993), Human Rights, Open University Press, Buckingham.
 8. Jack Donnelly, (1985), The Concept of Human Rights, Croom Helm, London.
 9. Maurice Cranston , (1973), What are Human Rights? Journal Storage, London.
 10. Palmer and Perkins (1970) International Relations, 3rd Edn. Scientific Book Agency, Calcutta.

SEMESTER I

LAB I

BNCCP113: Basic Training of NCC Foot Drill

(Based on BNCCT111 and BNCCT112)

- **Course Objectives:** Students should be able to...
 1. Learn importance of discipline
 2. Understand the importance of unity
 3. Learn drill and importance of drill
 4. Inculcate the team spirit and leadership qualities among themselves

Credits=2	SEMESTER I BNCCP113: Basic Training of NCC Foot Drill	No. of Hours 60
	<ol style="list-style-type: none">1. Introduction to kit items2. Wearing of uniform3. Drill ki Aam Hidayaten aur Words of Command4. Savdhan, Vishram aur Aram se5. Dahine, Bayen, Peeche Mudna6. Kadwar Sizing, Teen Line Banana, Khuli Line aur Nikat Line7. Dahine, Baen, Aage aur Piche Kadam lena8. Tej Chal aur Tham9. Dhire Chal aur Tham10. Tej Chal se Mudna11. Tej Chal se Salute Karna12. Tej Kadam Taal aur tham,13. Tej Kadam Taal se Kadam Badalna14. Teenon Teen se Ek File banana15. Ek File se Teenon Teen banana	4 Hours for each Practical

- **Course Outcomes:** Student will be able to...
 1. Perform foot drill procedure
 2. Demonstrate leadership traits
 3. Demonstrate unity and discipline
 4. Create team spirit and leadership qualities among themselves

- **Reference Books:**

1. OTA Kamtee, (Every Year), Drill and Weapon training, Army Headquarter, New Delhi.

2. Maj. R.C. Mishra, (2017), Handbook of NCC, Kranti Prakashan.

SEMESTER II
Major Course III
BNCCT121: National Security of India

- **Course Objectives:** Students should be able to...
 1. Study importance of National Integration
 2. Understand need of national security
 3. Study threats to national security
 4. Familiarize with approaches and Policies in Tackling Security Challenges

Credits=2	SEMESTER II BNCCT121: National Security of India	No. of Lectures (30 hrs.)
UNIT I	National Security	(08)
	<p>Meaning and Elements: Nation, State; Nationalism and National Security; National power and National Security; Key concepts of Regional, Collective and Comprehensive Security</p> <p>India's National Security: Understanding the nature of Internal and External Security Dimensions; Conceptual Framework of India's National Security; National Interest and National Security</p>	
UNIT II	Threats to National Security	(07)
	<p>Internal Threats: Insurgency and Naxalite Movement, Human and Drug Trafficking, Environment Issues: Water and Food Security</p> <p>External Threats: Cyber Security, Cross-border threats, Jihadi Terrorism.</p>	
UNIT III	Policies in Tackling Security Challenges	(07)
	Approaches of Armed Forces, Political Institutions, Civil Society, Media in Tackling Security Challenges	
UNIT IV	National Integration and Awareness	(08)
	National Integration, Importance and Necessity, Factors affecting National Integration, Measures to Achieve National Integration, Unity in Diversity.	

- **Course Outcomes:** Student will be able to...
 1. Define national integration and the role of students in maintaining it.
 2. Explore particulars of National security.
 3. Figure out threats to national security.

4. Utilize approaches and Policies in Tackling national security Challenges.

• **Reference Books:**

1. Dubal R.S., Capt. Gaikwad M. N., (August 2020), Handbook of NCC, Tanvi Prakashan.
2. Shevendra Sahni, (2016), Perspectives on India's National Security Challenges: External and Internal Dimensions, Pentagon Press, New Delhi.
3. BalchandranVappala, (Jan 2014), National Security and Intelligence Management: A New Paradigm, Indus Source Books, Mumbai.
4. Kumar Satish, (2016), India's National Security, Taylor & Francis Group, New Delhi.
5. Eugenie de Silva, (2016), National Security and Counterintelligence in the Era of Cyber Espionage, Advances in Digital Crime, Forensics, and Cyber Terrorism, Vargina Research Institute, USA.
6. Sing A. K. (ed), (2019), Military Strategy for India in the 21st Century, KW Publisher Pvt. Limited, New Delh.
7. BeharaLaxman K.(ed), (2016), India's Defence Industry an agenda for making in India, IDSA, New Delhi.
8. NayakNihar R., (2014), Understanding India's Maoist, IDSA, New Delhi.
9. Das Gautam, (2011), Insurgency in North East India, Pentagon Press, New Delhi.
10. Deshpande Vikrant, (2018), Hybrid Warfare: The Changing Character of Conflict, Pentagon Press, New Delhi.
11. Singh Priyanka, (ed), (2016), The Role of Media in Promoting Regional understanding in South Asia, IDSA: New Delhi.
12. Pandalai Shruti (ed), (2019), Combating Terrorism Evolving Asian Perspective, New Delhi, Pentagon Press, IDSA.
13. K. Subramanyam, (1972). Our National Security, Economic and Scientific Research Foundation, New Delhi.

SEMESTER II

Major Course IV

BNCCT122: Organization of Infantry Battalion and Weapons

- **Course Objectives:** Students should be able to...
 1. Study Tasks and Role of Fighting Arms
 2. Understand Tasks and Role of Supporting Arms and Services
 3. Study various weapons, firing range
 4. Learn modern weapons systems and their characteristics

Credits=2	SEMESTER II BNCCT122: Organization of Infantry Battalion and Weapons	No. of Lectures (30 Hrs)
UNIT I	Tasks and Role of Fighting Arms	(07)
	Infantry: meaning, Role and its Organization Mechanized Infantry: meaning, Role and its Organization Armoured Corps: meaning, Role and its Organization Artillery: meaning, Role and its Organization	
UNIT II	Task and Role of Supporting Services	(07)
	Corps of Engineers: meaning, Role. Corps of Signal: meaning, Role and its Organization Introduction to Other Corps: Army Service Corps; Army Ordnance Corps; Army Medical Corps etc.	
UNIT III	Weapon Training I	(09)
	.22 Rifle: Characteristics, Ammunition, Stripping, Assembling, Cleaning, Loading, Unloading, Firing Position: Aiming, Trigger Control and its operation. 7.62mm SLR Rifle: Characteristics, Ammunition, Stripping, Assembling, Cleaning, Loading, Unloading, Firing Position: Aiming, Trigger Control and its operation. Firing Range: Range procedure and Safety Precautions, Theory of group and Snap Shooting, Short range firing	
UNIT IV	Weapon Training II	(07)

	<p>Personal Weapons: LMG, INSAS Rifle, CMG, Pistol, Grenade</p> <p>Infantry Company Support Weapons: 7.62 mm Dragunov Sniper Rifle., 7.62mm Medium Machine Gun, 30 mm Automatic Grenade Launcher, 84 mm Rocket Launcher etc.</p> <p>Infantry Battalion Support Weapons: 81mm Mortars, ATMG etc.</p> <p>Missiles: Types and characteristics of Missiles: Indigenous and Exotic, Current Indian Missile programme.</p>	
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- **Course Outcomes:** Student will be able to...
 1. Present tasks and Role of Fighting Arms.
 2. Present tasks and Role of Supporting Arms and Services
 3. Explain types of infantry weapons
 4. Describe characteristics of modern Weapons

- **Reference Books:**
 1. Dubal R. S., Capt. Gaikwad M.N., (August 2020), Handbook of NCC Tanvi prakashan.
 2. Army Headquarter, (Every Year), Précis of OTA Nagpur, army headquarter.
 3. India's Strategic Nuclear and Missile Programmes, (2017), A baseline study for non-proliferation compliance Public Release Project Alpha Centre for Science and Security Studies King's College London.
 4. Rear Admiral Sr Mohan, vsm (retd), (2016), Fundamentals of Guided Missiles, Defence research and Development Organization, Ministry of Defence, New Delhi.
 5. Harsh Pant, (2012), the rise of the Indian Navy, Ashgate Publishing Limited, England.
 6. Lt. Col. M. D. Sharma, (2008) Paramilitary Forces of India, Kalpaz publications, New Delhi.
 7. Ashok Kapur, (2006), India to regional to world power, Routledge Taylor and Francis group, New Delhi.
 8. Simone Payment, (2004), Frontline Marines, The Rosen Publishing Group Inc, New York.
 9. Lt. Col. Gautam Sharma, (1996), Nationalism of the Indian Arin (1885-1997), Allied publishers limited, Mumbai
 10. William Wild, (1990), Supporting Combined Arms Combat Capability with Shared Electronic Maintenance Facilities, Rand Corporation, Fort Belvoir. VA.
 11. Major Praval K. C., (1987), Indian Army After Independence, lancer publishers and distributors, New Delhi.
 12. **Readings:**
 - Ministry of Defense, Annual Reports
 - Defense Yearbook (Annual)
 - <https://nptel.ac.in/courses/101108056/module4/lecture8.pdf>

SEMESTER II

LAB II

BNCCP123: Rifle Drill and Weapon Training

(Based on BNCCT121 and BNCCT122)

- **Course Objectives:** Students should be able to...
 1. Learn importance of unity and discipline
 2. Understand importance of drill
 3. Inculcate the team spirit and leadership qualities among themselves
 4. Know the SSB interview process

Credits=2	SEMESTER II BNCCP123: Rifle Drill and Weapon Training	No. of Hours 60
	<ol style="list-style-type: none">1. Rifle ke Saath Savdhan, Vishram aur Aaram se2. Rifle ke Saath Parade Par aur Saj3. Rifle ke Saath Visarjan aur Line Tod4. Bhumi Shastra aur Uthao Shastra5. Bagal Shastra aur Baju Shastra6. Rifle Ke Sath Tej Chal aur Tham7. Introduction, Stripping, assembling aur care of .22 Rifle8. Cleaning and sight setting of .22 Rifle9. Lying Position and Hold10. Kneeling Position and Hold11. Standing Position and Hold12. Study of Aiming: range and Targets13. Study of Aiming: Alteration of sight14. Study of Range procedure15. Range safety Precautions	4 Hours for each Practical

- **Course Outcomes:** Student will be able to...
 1. Apply Weapon drill procedure
 2. Inculcate leadership traits.
 3. Demonstrate unity and discipline
 4. Present and Participate in SSB procedure.

- **Reference Books:**

1. OTA Kamtee, (Every Year), Drill and Weapon training, Army Headquarter, New Delhi.
2. Maj. R.C. Mishra, (2017), Handbook of NCC, Kranti Prakashan.

SEMESTER I

Minor Course I

BNCCT114: Defence Organization of India

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

Credits=2	SEMESTER I BNCCT114: Defence Organization of India	Total No. of Lectures (30 Hrs.)
UNIT I	Higher Defence Organization	(08)
	Defence and Security Policies: 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	
UNIT II	Organization of Ministry of Defence	(08)
	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	
UNIT III	Para Military Forces and Intelligence Services of India	(08)
	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) Intelligence Services: Intelligence Buru (IB), Research and Analysis Wing, Military Intelligence, Defence Intelligence Agency (DIA)	
UNIT IV	NCC Organization	(06)
	History, Aims, Objectives, Motto and Organization of NCC, NCC Flag and Song; Incentives to NCC cadets, Duties of NCC Cadets,	

	NCC Camps: Types and Conduct.	
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- **Course Outcomes:** Student will be able to...
 1. Explore NCC organization and opportunities.
 2. Analyze and avail modes of entry in armed forces
 3. Present organization of Defence structure.
 4. Distinguish between Armed forces, Para Military Forces and Intelligence Services of India
- **Reference Books:**
 1. Dubal, R. S., Gaikwad M.N., (2020), Handbook of NCC, Pune, Tanvi Prakashan.
 2. Army Headquarter,(Every Year),Précis of OTA Nagpur,army headquarter
 3. Army Headquarter, (Every Year),Handbook of Defence studies , army headquarter
 4. [Sujit Dharmpatre](#), (2018), Adhunic Bhartacha Itihas, Shree Enterprises Publishers.
 5. Banerjee Gautan, (2016), India's National Defence Policy: Defining Defence Reform and Military Moderations, Nirali Prakashan, New Delhi.
 6. Pant Harish V, (2017), Handbook of India's Defence Policy: Theme structure and doctrine, Routledge India.
 7. Venkataraman R, (2011), India's Higher Defence Organization and Management, KW Publisher, New Delhi.
 8. **Online Resource:**
Organization Structure: <https://mod.gov.in/dod/organizationstructure>

SEMESTER I

Minor Course II

BNCCT115: NCC for Community Development

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

Credits=2	SEMESTER I BNCCT115: NCC and Community Development	No. of Lectures (30 Hrs.)
UNIT I	Social Service and Community Development	(07)
	Basics of Social Service, Rural Development Programs, Social Security Schemes of Government: APY, PMJJY, PMSBY; Non-Government Organizations (NGO's), Contribution of NGOs; Role of NCC in Community Development	
UNIT II	Social Services and Community Development	(08)
	Social Services: 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, Environmental Awareness	
UNIT III	Health Hygiene and First Aid	(08)
	Hygiene and Sanitation: Personal Hygiene, Personal hygiene and preventive measures, Food Hygiene, Purification of water and its storage First Aid: Common Medical Emergencies, Snake, Scorpion and Dog Bite; Asphyxia; bandages, Fractures, Treatment and Care of Wounds, Methods of hospitalization	
UNIT IV	Human Rights	(07)
	Human Rights Meaning & Definition; Universal declaration of Human Rights progress in respect of Human Rights	

- **Course Outcomes:** Student will be able to...
 1. Participate in social services for Community Development
 2. Demonstrate in Social Service activities for Community Development
 3. Illustrate self and community hygiene as well as types of first aids after any incidents
 4. Classify human rights and social justice
- **Reference Books:**
 1. Dubal R.S., Capt. Gaikwad M.N., (August 2020), Handbook of NCC- Tanvi Prakashan.
 2. Army Headquarter (Every Year), Précis of OTA Nagpur, army headquarter
 3. Army Headquarter (Every Year), Handbook of Defence studies, army headquarter
 4. Jack Donnelly, (2003), Universal Human Rights in Theory and Practice, 3rd ed Ithaca.
 5. [Sujit Dharmpatre](#), (2018), Adhunic Bhartacha Itihas, Shree Enterprises Publishers.
 6. Buerghenthal Thomas, (1995), International Human Rights in Nutshell, 2nd ed , West Publishing co.
 7. Scott Davidson, (1993), Human Rights, Open University Press, Buckingham.
 8. Jack Donnelly, (1985), The Concept of Human Rights, Croom Helm, London.
 9. Maurice Cranston , (1973), What are Human Rights? Journal Storage, London.
 10. Palmer and Perkins (1970) International Relations, 3rd Edn. Scientific Book Agency, Calcutta.

SEMESTER I

LAB I

BNCCP116: Basic Training of NCC Foot Drill

(Based on BNCCT114 and BNCCT115)

- **Course Objectives:** Students should be able to...
 1. Learn importance of discipline
 2. Understand the importance of unity
 3. Learn drill and importance of drill
 4. Inculcate the team spirit and leadership qualities among themselves

Credits=2	SEMESTER I BNCCP116: Basic Training of NCC Foot Drill	No. of Hours 60
	<ol style="list-style-type: none">1. Introduction to kit items2. Wearing of uniform3. Drill ki Aam Hidayaten aur Words of Command4. Savdhan, Vishram aur Aram se5. Dahine, Bayen, Peeche Mudna6. Kadwar Sizing, Teen Line Banana, Khuli Line aur Nikat Line7. Dahine, Baen, Aage aur Piche Kadam lena8. Tej Chal aur Tham9. Dhire Chal aur Tham10. Tej Chal se Mudna11. Tej Chal se Salute Karna12. Tej Kadam Taal aur tham,13. Tej Kadam Taal se Kadam Badalna14. Teenon Teen se Ek File banana15. Ek File se Teenon Teen banana	4 Hours for each Practical

- **Course Outcomes:** Student will be able to...
 1. Perform foot drill procedure
 2. Demonstrate leadership traits
 3. Demonstrate unity and discipline
 4. Create team spirit and leadership qualities among themselves

- **Reference Books:**

3. OTA Kamtee, (Every Year), Drill and Weapon training, Army Headquarter, New Delhi.
4. Maj. R.C. Mishra, (2017), Handbook of NCC, Kranti Prakashan.

SEMESTER II
Minor Course III
BNCCT124: National Security

- **Course Objectives:** Students should be able to...
 1. Study importance of National Integration
 2. Understand need of national security
 3. Study threats to national security
 4. Familiarize with approaches and Policies in Tackling Security Challenges

Credits=2	SEMESTER II BNCCT124: National Security	No. of Lectures (30 hrs.)
UNIT I	National Security	(08)
	<p>Meaning and Elements: Nation, State; Nationalism and National Security; National power and National Security.</p> <p>India's National Security: Understanding the nature of Internal and External Security Dimensions; Conceptual Framework of India's National Security; National Interest and National Security</p>	
UNIT II	Threats to National Security	(07)
	<p>Internal Threats: Insurgency and Naxalite Movement, Human and Drug Trafficking, Environment Issues: Water and Food Security</p> <p>External Threats: Cyber Security, Cross-border threats, Jihadi Terrorism.</p>	
UNIT III	Policies in Tackling Security Challenges	(07)
	Approaches of Armed Forces, Political Institutions, Civil Society, Media in Tackling Security Challenges	
UNIT IV	National Integration and Awareness	(08)
	National Integration, Importance and Necessity, Factors affecting National Integration, Measures to Achieve National Integration, Unity in Diversity.	

- **Course Outcomes:** Student will be able to...
 1. Define national integration and the role of students in maintaining it.
 2. Explore particulars of National security.
 3. Figure out threats to national security.
 4. Utilize approaches and Policies in Tackling national security Challenges.

- **Reference Books:**

1. Dubal R.S., Capt. Gaikwad M. N., (August 2020), Handbook of NCC, Tanvi Prakashan.
2. Shevendra Sahni, (2016), Perspectives on India's National Security Challenges: External and Internal Dimensions, Pentagon Press, New Delhi.
3. Balchandran Vappala, (Jan 2014), National Security and Intelligence Management: A New Paradigm, Indus Source Books, Mumbai.
4. Kumar Satish, (2016), India's National Security, Taylor & Francis Group, New Delhi.
5. Eugenie de Silva, (2016), National Security and Counterintelligence in the Era of Cyber Espionage, Advances in Digital Crime, Forensics, and Cyber Terrorism, Vargina Research Institute, USA.
6. Sing A. K. (ed), (2019), Military Strategy for India in the 21st Century, KW Publisher Pvt. Limited, New Delh.
7. Behara Laxman K.(ed), (2016), India's Defence Industry an agenda for making in India, IDSA, New Delhi.
8. Nayak Nihar R., (2014), Understanding India's Maoist, IDSA, New Delhi.
9. Das Gautam, (2011), Insurgency in North East India, Pentagon Press, New Delhi.
10. Deshpande Vikrant, (2018), Hybrid Warfare: The Changing Character of Conflict, Pentagon Press, New Delhi.
11. Singh Priyanka, (ed), (2016), The Role of Media in Promoting Regional understanding in South Asia, IDSA: New Delhi.
12. Pandalai Shruti (ed), (2019), Combating Terrorism Evolving Asian Perspective, New Delhi, Pentagon Press, IDSA.
13. K. Subramanyam, (1972). Our National Security, Economic and Scientific Research Foundation, New Delhi.

SEMESTER II
Minor Course IV
BNCCT125: National Cadets Corps Training

- **Course Objectives:** Students should be able to...
 1. Study Tasks and Role of Fighting Arms
 2. Understand Tasks and Role of Supporting Arms and Services
 3. Study various weapons, firing range
 4. Learn modern weapons systems and their characteristics

Credits=2	SEMESTER II BNCCT125: National Cadets Corps Training	No. of Lectures (30 Hrs)
UNIT I	Tasks and Role of Fighting Arms	(07)
	Infantry: meaning, Role and its Organization Mechanized Infantry: meaning, Role and its Organization Armoured Corps: meaning, Role and its Organization Artillery: meaning, Role and its Organization	
UNIT II	Task and Role of Supporting Services	(07)
	Corps of Engineers: meaning, Role. Corps of Signal: meaning, Role and its Organization Introduction to Other Corps: Army Service Corps; Army Ordnance Corps; Army Medical Corps etc.	
UNIT III	Weapon Training I	(09)
	.22 Rifle: Characteristics, Ammunition, Stripping, Assembling, Cleaning, Loading, Unloading, Firing Position: Aiming, Trigger Control and its operation. 7.62mm SLR Rifle: Characteristics, Ammunition, Stripping, Assembling, Cleaning, Loading, Unloading, Firing Position: Aiming, Trigger Control and its operation.	
UNIT IV	Weapon Training II	(07)
	Personal Weapons: LMG, INSAS Rifle, CMG, Pistol, Grenade Firing Range: Range procedure and Safety Precautions, Theory of	

	group and Snap Shooting, Short range firing	
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- **Course Outcomes:** Student will be able to...
 1. Present tasks and Role of Fighting Arms.
 2. Present tasks and Role of Supporting Arms and Services
 3. Explain types of infantry weapons
 4. Describe characteristics of modern Weapons

- **Reference Books:**
 1. Dubal R. S., Capt. Gaikwad M.N., (August 2020), Handbook of NCC Tanvi prakashan.
 2. Army Headquarter, (Every Year), Précis of OTA Nagpur, army headquarter.
 3. India's Strategic Nuclear and Missile Programmes, (2017), A baseline study for non-proliferation compliance Public Release Project Alpha Centre for Science and Security Studies King's College London.
 4. Rear Admiral Sr Mohan, vsm (retd), (2016), Fundamentals of Guided Missiles, Defence research and Development Organization, Ministry of Defence, New Delhi.
 5. Harsh Pant, (2012), the rise of the Indian Navy, Ashgate Publishing Limited, England.
 6. Lt. Col. M. D. Sharma, (2008) Paramilitary Forces of India, Kalpaz publications, New Delhi.
 7. Ashok Kapur, (2006), India to regional to world power, Routledge Taylor and Francis group, New Delhi.
 8. Simone Payment, (2004), Frontline Marines, The Rosen Publishing Group Inc, New York.
 9. Lt. Col. Gautam Sharma, (1996), Nationalism of the Indian Arin (1885-1997), Allied publishers limited, Mumbai
 10. William Wild, (1990), Supporting Combined Arms Combat Capability with Shared Electronic Maintenance Facilities, Rand Corporation, Fort Belvoir. VA.
 11. Major Praval K. C., (1987), Indian Army After Independence, lancer publishers and distributors, New Delhi.
- 12. **Readings:**
 - Ministry of Defense, Annual Reports
 - Defense Yearbook (Annual)
 - <https://nptel.ac.in/courses/101108056/module4/lecture8.pdf>

SEMESTER II

LAB II

BNCCP126: Rifle Drill and Weapon Training

(Based on BNCCT124 and BNCCT125)

- **Course Objectives:** Students should be able to...
 1. Learn importance of unity and discipline
 2. Understand importance of drill
 3. Inculcate the team spirit and leadership qualities among themselves
 4. Know the SSB interview process

Credits=2	SEMESTER II BNCCP126: Rifle Drill and Weapon Training	No. of Hours 60
	<ol style="list-style-type: none">1. Rifle ke Saath Savdhan, Vishram aur Aaram se2. Rifle ke Saath Parade Par aur Saj3. Rifle ke Saath Visarjan aur Line Tod4. Bhumi Shastra aur Uthao Shastra5. Bagal Shastra aur Baju Shastra6. Rifle Ke Sath Tej Chal aur Tham7. Introduction, Stripping, assembling aur care of .22 Rifle8. Cleaning and sight setting of .22 Rifle9. Lying Position and Hold10. Kneeling Position and Hold11. Standing Position and Hold12. Study of Aiming: range and Targets13. Study of Aiming: Alteration of sight14. Study of Range procedure15. Range safety Precautions	4 Hours for each Practical

- **Course Outcomes:** Student will be able to...
 1. Apply Weapon drill procedure
 2. Inculcate leadership traits.
 3. Demonstrate unity and discipline
 4. Present and Participate in SSB procedure.

- **Reference Books:**

3. OTA Kamtee, (Every Year), Drill and Weapon training, Army Headquarter, New Delhi.
4. Maj. R.C. Mishra, (2017), Handbook of NCC, Kranti Prakashan.

SEMESTER I

Indian Knowledge System (IKS) Course I

IKSNCCT101: Military History

- **Course Objectives:** Students will be able to...
 1. Study Traditional Defence Knowledge system.
 2. Learn Defence as a Contributor to India's Development
 3. Understand Challenges Faced in Indian Defence sector.
 4. Understand Future of Indian Military

Credits = Credits 2	SEMESTER I IKSNCCT101: Indian Knowledge System	No. of hours (30 Hrs.)
Unit – I	Introduction of Traditional Knowledge	6
	Overview of Traditional Military in India, Emergence of traditional Indian Military System	
Unit – II	Military and Development	8
	Technologies Developed and Applied, Requirements of Defence sector, Research, and Industry	
Unit – III	Challenges in Military Organization	8
	Economic and Technical, Regulatory, Legal and Social	
Unit – IV	Prospects	8
	Enhancing Access and Availability of Resources, Impact of New Technologies and Applications, Technology Trends, Innovative Approaches, Digital Transformation	

- **Course Outcomes:** Students will be able to...
 1. Describe the basics of traditional military in Indian knowledge system.
 2. Analyse the importance in Indian development.
 3. Identify the major challenges faced in the Indian Defence sector.
 4. Assess the rapidly changing technology landscape and its implications for Indian Defence.
- **Reference Books:**
 1. Army Headquarter,(Every Year),Précis of OTA Nagpur,army headquarter
 2. Army Headquarter, (Every Year),Handbook of Defence studies , army headquarter

3. Banerjee Gautan, (2016), India's National Defence Policy: Defining Defence Reform and Military Moderations, Nirali Prakashan, New Delhi.
4. Pant Harish V, (2017), Handbook of India's Defence Policy: Theme structure and doctrine, Rutledge India.
5. **Online Resource:**
Organization Structure: <https://mod.gov.in/dod/organizationstructure>

SEMESTER I

Cocurricular Course (CC) Course I

CCDMT102: Disaster Management

- **Course Objectives:** Students will be able to:
 1. Study various disasters and their impacts on mankind as well as nature.
 2. Make aware about risks, Vulnerability of any disasters
 3. Familiarize with various natural and human-made disaster causes and impacts
 4. Study the potential risks and vulnerabilities of communities, infrastructure

Credits=2	SEMESTER-I CCDMT102: Disaster Management	No. of Lectures per unit
UNIT I	Study of Disasters	(07)
	<p>Natural Disasters: Meaning and Types: Wind, Water, Earth Related Disasters; Endemic Emergency, Drought, Flood, Cyclone, Earthquakes, Landslides Avalanches, Volcanic Eruptions, Tsunami, Heat and Cold Waves and Climate Change</p> <p>Manmade disasters: Man-Made Disasters meaning and types: Accident, Industrial Mishap, Fire, Contamination/ Poisoning, Terrorist Activity, Ecological, Warfare</p>	
UNIT II	Disaster Risk, vulnerability, and Preparedness	(08)
	<p>Meaning and Concept of Hazard, Risk, Vulnerability and Disaster Preparedness. Risk: Assessment & Analysis; Vulnerability: Natural, Social & Economical; Disaster Preparedness Plan: Districts, State, National and Community Based Disaster Preparedness Planning; Urban and Rural Preparedness approaches</p>	
UNIT III	Integrating physics in disaster management	(08)
	<p>Geophysical Disasters: Earthquakes: Seismic waves, magnitude, intensity, faulting mechanisms, Tsunamis: Wave generation, propagation, and impact. Volcanic Eruptions.</p> <p>Technological and Industrial Disasters: Nuclear Accidents: Radioactive decay, contamination, containment. Industrial Accidents: Chemical reactions, hazardous material handling, risk assessment.</p>	
UNIT IV	Case studies and practical application	(07)
	<p>Fukushima Daiichi nuclear disaster(2011): Physics of nuclear reactors, containment failures. Chernobyl nuclear disaster (1986). Causes, effects, and failures Indian Ocean Tsunami (2004): Tsunami wave propagation, warning system improvements. Hurricane Katrina (2005): Storm dynamics, levee failures, disaster response.</p>	

- **Course Outcomes:** Student should be able to:
 1. Classify types of disasters and their impacts.
 2. Assess the risk of any disaster and prepare for any disaster.
 3. Demonstrate disaster management skills.
 4. Demonstrate the ability to respond effectively during disasters

- **Reference Books:**

1. Maj. Dubal, Capt. Gaikwad, Handbook of NCC- August 2020- Tanvi Prakashan
2. Army Headquarter - Précis of OTA Nagpur- Every Year-army headquarter.
3. Gautam, Siddhartha (et. al.), Disaster management: Programmes and policies, New Delhi: Vista International Publishing House, 2012.
4. Kapucu, Naim and Kuotsai Tom Liou (eds.), Disaster and Development: Examining Global Issues and Cases, Switzerland: Springer, 2014.
5. Marathe, P. P., Concepts and practices in disaster management, Pune: Diamond Publications, 2006.
6. Moral, Roger & Lawrence R. Walker, Environmental Disasters, Natural Recovery and Human Responses, UK: Cambridge University Press, 2007.
7. Miller, Joshua L., Psychsocial Capacity Building in Response to Disasters, New York: Columbia University Press, 2012.
8. Pal, Indrajit and Tuhin Ghosh, Natural Hazards Management in Asia, Sage: New Delhi, 2018.
9. Reyes, Gilbert and Gerard A. Jawabos, Handbook of International Disaster Psychology, Praeger: U. K., 2006.
10. Roy, Thrthankar, Natural Disasters and Indian History, Oxford: Oxford University Press, 2012.

11. **Websites:**

1. The National Institute of Disaster Management (NIDM) <http://nidm.gov.in/default.asp>
2. National Disaster Management Authority (India) <http://www.ndma.gov.in/en/>
3. United Nations International Strategy for Disaster Reduction <https://www.unisdr.org>
4. The National Institute of Disaster Management (NIDM) <http://nidm.gov.in/default.asp>
5. National Disaster Management Authority (India) <http://www.ndma.gov.in/en/>
6. United Nations International Strategy for Disaster Reduction <https://www.unisdr.org>
7. United Nations International Strategy for Disaster Reduction UNISDR strategic framework 2016-2021 <http://www.unisdr.org/we/inform/publications/51557>

SEMESTER I

Cocurricular Course (CC) Course I

CCNCCT102: Introduction to National Cadet Corps and Communication

- **Course Objectives:** Students should be able to...
 1. Study objectives of Nation Cadets Corps.
 2. Understand complete NCC training structure.
 3. Understand importance of communication.
 4. Learn the operation of handheld communication device.

Credits=2	SEMESTER-I CCNCCT102: Introduction to National Cadet Corps and Communication	No. of Lectures (30 hrs.)
UNIT I	Introduction to NCC	(07)
	History and Introduction to NCC, NCC Motto, How to join NCC, Aims and Objectives of NCC, NCC flag, NCC Song Organisational Structure of NCC	
UNIT II	NCC Training	(08)
	Introduction to NCC training activities, Need for and Importance of NCC training, Types of NCC training: Institutional Training Camps and Attachment Training, Social Service and Community Development Activities, Youth Exchange Programme (YEP), Adventure Training and Sports. Cadet Induction in NCC, Eligibility Conditions for Certificate Examination	
UNIT III	Communication	(08)
	What is Communication, Need of Communication, Electromagnetic Spectrum, Wired Communication, Wireless Communication, Types of Communication: Half Duplex, Full Duplex, Parallel & Series, Importance of communication in defence sector	
UNIT IV	Handheld Communication Device	(07)
	Introduction to handheld communication device, Study of Walkie Talkie, Concept, Diagram, Working, Important commands and Operation, Applications, Advantages and Disadvantages	

- **Course Outcomes: Student will be able to...**
 1. Apply NCC knowledge and Objectives.
 2. Develop their interest in NCC and social servicing and its.
 3. Explore types of communication.
 4. Analyse and operate handheld communication device.

- **Reference Books:**

1. Dubal, R. S., Gaikwad M.N., (2020), Handbook of NCC, Pune, Tanvi Prakashan.
2. Army Headquarter, (Every Year), Précis of OTA Nagpur, army headquarter.
3. Army Headquarter, (Every Year), Handbook of Defence studies, army headquarter.
4. Modern digital and analog communication systems / B. P. Lathi, Zhi Ding. —4th ed.
5. Fundamentals of Communication Systems – John G. Proakis and Masoud Salehi

SEMESTER II

Value Education Course

VECNCT104: Understanding India

- **Learning objectives:** Students should be able to:
 1. Understand India's geographical, social, and economic scenario.
 2. Comprehend the Cultural heritage and literary traditions of India.
 3. Familiarize with the phases of making of contemporary India.

Credits 1	SEMESTER II VECNCT104: Understanding India	No. of hours per unit
Unit I	Introducing India	6
	The Land of India: landscape, mountains, and rivers The People of India: demography, religion, and languages The Name of our Country: Jambudvipa, Sindhu (Indus), Inde, Hind, Hindustan, Bharat, India	
Unit II	Understanding Cultural heritage	8
	Architecture and Sculpture: Indus Valley town planning, rock cut architecture, major styles of temples, Mughal architecture, modern and contemporary architecture, stone and metal sculpture Painting: Ajanta murals, Mughal paintings, Madhubani paintings, paintings of Jharkhand (Kohbar, Sohrai, Jadopatia, etc.). Music, Theatre and Dance: Overview of various forms of music and dances in India Science, Technology and Medicine: A general survey of the progress of science, Technology, and Medicine in ancient India	
Unit III	Understanding Literary Traditions	8
	Panini, Kalidasa, Veda Vyasa, Valmiki Regional literary traditions, Bhakti Poetry, Folk literature	
Unit IV	Making of contemporary India	8
	Political and Social Movements in Pre and Post Independent India	

- **Learning outcomes:** Students will be able to:
 1. Explain the Unity in diversity in India
 2. Evaluate the cultural heritage of India
 3. Describe the literary traditions of India
 4. Apply the theories and practices concerning the movements in making of contemporary India

- **References:**

1. Basham A. L., (1997), A Cultural History of India, Oxford University Press, UK.
2. Lahiri Nayanjot, (2012) Marshaling the Past: Ancient India and its Modern Histories, Permanent Black, Ranikhet, India.
3. Ray Tirthankar, (2006) The Economic History of India 1857-1947, Oxford University Press, UK.
4. Braj, B. Kachru, et.al.,(2013) Languages in South Asia, Cambridge University Press.
5. Herman Kulke and Deitmar Rothermund, (2016), A History of India, Taylor & Francis Group, New Delhi.
6. Krishna Chaitanya,(1976), A Profile of Indian Culture, The Indian Book Company, New Delhi,.
7. N.R. Ray, (1974), An Approach to Indian Art, Publication Bureau, Chandigarh.
8. Sharma R.S., (2020), India's Ancient Past, Oxford University Press, UK.

