

B.A/ B.Sc. I

AIM: The main idea behind this paper is to give a conceptual background of the events and factors which influenced the course of history and helped in developing the art and science of war in India

PAPER-I

Evolution of the Indian Art and Science of War (up to 1857)

Part I

1. Military system in Vedic and Epic Age
2. Comparative study of Indo-Greek art and science of war with special reference to the Battle of Hydaspes (326 B.C.)
3. Mauryan Military System as described by Megasthenes
4. Kautilya's philosophy of war, Concept of Defence and Security, military organization and inter-state relations
5. Decline of Chariots and the importance of Elephants and Cavalry up to 7th century A.D
6. Rajput and Turk pattern of warfare with reference to the Battle of Somnath and Terrain up to 12th century A.D
7. Army Organization during Sultanate Period
8. Mughal Military System with reference to the Battle of Panipat – 1526 AD. Military System under Akbar and Aurangzeb

Part II

9. Maratha Military system with reference to irregular warfare of Shiva Ji Battle of Panipat 1761
10. Anglo-Maratha war with reference to the Battle of Assaye 1803 AD
11. Military Organization under Guru Gobind Singh and Ranjit Singh
12. Progressive nationalization of the India Armed Forces with reference to the nationalist environment
13. Nationalization of Indian Army after Independence

Book Recommended:

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|-------------------------|--|
| 1. Singh, S. D. | Ancient Indian Warfare with Special Reference to Vedic Period. |
| 2. Majumdar, B.K. | Military System in Ancient India. |
| 3. Majumdar, P..K. | Bhartiya Sena Ka Itihas. |
| 4. Fuller, J.F.C. | Generalship of Alexander the Great. |
| 5. Kangle, R.P. | Kautilya Arth Shastra |
| 6. Sarkar, J.N. | Military History of India. |
| 7. Singh, Nagendra | The Theory of Force and Organisation of Defence. |
| 8. Venkateswaran, A. L. | Defence Organisation. |

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|---|---|
| 9. Erskil | Memoirs Baleer. |
| 10. Ervin,I | Army of Indian Moghul. |
| 11. Ervin,I | Bhartiya Mughalon Ki Sainya Vyavastha
(Translated by R. Tewari). |
| 12. Sen, S.N. | The Military System of Maratha. |
| 13. Duff Grant | Marathon ka Itihas. |
| 14. Bhajhawa, F.S. | The Military System of Marathas. |
| 15. Sen, S.N. | Military System of Sikhs. |
| 16. Tripathi, R.P. | Rise and Fall of the Moghul Empire. |
| 17. Longer, V. | Red Court of Olive Green. |
| 18. Fortesque | History of British Army. |
| 19. Maj. R.C.Kulshrestha | Kautilya's Philosophy of War. |
| 20. Maj. R.C.Kulshrestha
B.L.Sharma | Bhartiya Sainya Vigyan. |
| 21. Maj. R.C.Kulshrestha | An Introduction to Dhanurveda. |
| 22. Prasad R. and Singh
Singh, R. N. | Bhartiya Sainya Itihas Ki Ruprekha. |

(Other Books as recommended by teachers)

B.A/ B.Sc. I

PAPER-II

Evolution of the Indian Art and Science of War (1858 to date)

Part I

- 1. Post – 1857 period and re-organization of the Indian Army under the Crown**
2. Amalgamation of the Presidency Armies and Kitchener's Reforms
3. Indian Armed Forces during the World War II
4. Indianisation of the Armed Forces
5. Partition of the Armed Forces

Part II

6. Military Operations in Kashmir (1948)
 - a. Kashmir Dispute: Genesis and Progression
 - b. Military Operations
 - c. Politico-Military Lessons
7. Sino-Indian War(1962)
 - a. Background of the Sino-India Border dispute
 - b. Military Operations
 - c. Politico-military lessons
8. Indo-Pakistan War(1965)
 - a. Background and causes with reference to Kutch operations
 - b. Military Operations with special reference to the land battles
 - c. Role of Navy and Air Force
 - d. Politico-military lessons
- 9- Indo-Pakistan War (1971)
 - a. Genesis and Causes
 - b. Military Operations on the Western Front
 - c. Military Operations on the Eastern Front
 - d. Role of Air Force and Navy in the military operations
 - e. Emergence of Bangladesh
 - f. Politico-military lessons
- 10- Kargil Conflict (1999)
 - a- Genesis and causes
 - b- Military operations
 - c- Politico military lessons

Part III

- 11- Concept and the application of the Principles of War with special reference to the conflicts
- 12- Indian Defence: Contemporary scenario

Books Recommended:

- 1- Singh Nagendra – ‘The Theory of Force and Organization of Defence
- 2- Longer V. - ‘Red Coat to Olive Green ‘
- 3- Prasad B. –‘The Indian Armed Forces in World War Second’
- 4- Sen S.N. - ‘ Eighteen Fifty Seven’
- 5- Chopra M.K. – ‘ India in Search of Power’
- 6- Gupta Sisir - ‘Kashmir’
- 7- Singh Bhupendra – ‘Indo-Pak Conflict over Kashmir’
- 8- Akbar M. J. – ‘ india and Siege Within’
- 9- Cohen S.P. - ‘The Pakistan Army’
- 10- Cohen S.P. –‘ The Indian Army’
- 11- Delvi J.P. _ ‘Himalayan Blunder’
- 12- Kaul B.M. _ ‘ The Untold Story’
- 13- Sinha S. - ‘ The Chinese Aggression’
- 14- Maxwell N. _ ‘ India- China War of 1962’
- 15- Mankeker D.R. _ ‘ Twenty Two fateful Days’
- 16- Singh Harbaks _ ‘Indo-Pak Conflict 1965’
- 17- Palit D.K. _ ‘The Lightning Campaign’
- 18- Singh S. _ ‘ Liberation of Bangladesh’
- 19- Akhtar J.D. - ‘ The Sage of Bangladesh’
- 20- Thompson R. –‘War in Peace’
- 21- Kavic L.J. _ ‘India’s Quest for Security’
- 22- Saigal J.R. _ ‘Un-fought War of 1962’
- 23- Thomas,Raju G.C. –‘Defence of India-A Budgetary Perspective’

(Other books as recommended by teachers)

1. **B.A/ B.Sc. I**

PAPER-III

War and Peace in Contemporary World

1. Conceptual framework of War and Peace
 - a. War: Concept and Theories
 - b. Peace: Concept and Approaches
2. Modern /warfare: Conventional, Nuclear, Guerrilla and Irregular Warfare, Limited and Specialized Warfare with reference to Mountain, Desert and Jungle warfare, Terrorism as a new mode of conflict, Economic Warfare
3. Regional Cooperation and Collective Security
4. Disarmament and Arms Control: Preliminary Treatment
5. Role of United Nations in Peace-keeping and Peace Building
6. War as an Economic Problem
7. Defence and Development
8. Mobilization of Resources
9. Post-war Economy and Reconstruction
10. Arms Aid and Trade
11. Settlement of Disputes, Enemy character, Effects of the outbreak of war
12. Forces, Enemy Character, Effects of the Outbreak of war
13. Nuclear Warfare and Laws of War
14. Conventional warfare and Laws of war

Books Recommended:

- 1- Maurice Clark J. – ‘Reading in the Economics of War’
- 2- Charles,K.Hitch _ ‘Economics of Defence in the Nuclear Age’
- 3- Semour E. Morris _ ‘Post War Economic Problems’
- 4- Rajani Kothari _ ‘World Order’
- 5- Morgenthau -‘Politics Among Nations’
- 6- Gerald,J. –Defence Psychology’
- 7- Boring -‘ Psychology in the Armed Services’
- 8- Oppenheim, I. -‘Use of Force by States and International Law’
- 9- Pokrovsky, A. L.-‘ science and Technology in Contemporary War’
- 10- Knor Klaus -‘Science and Defence’
- 11- Hastings Carry L. P. –‘The Scientific Revolution and World Politics’

(Other books as recommended by teachers)

B.A/ B.Sc. I

Practical

Experimental Exercise Work	:	45 marks
Viva-voce	:	15 marks
Records	:	5 marks
Total	:	65 marks

Course Contents of the practical-

1. Introductions and interpretation of topographical sheets, conventional signs and grid system
2. Scale construction and Inter-conversion
3. Bearing and Inter-conversion of bearings
4. Compass: Prismatic Liquid and its uses during day and night
5. Determination of Individual Compass Error
6. Determination of positions on gridded map
7. Inter-section and Re-section on Survey maps of hilly regions to determine inter-visibility between two points by Gradient method, Section-drawing and Proportion sum method
8. Traversing

Books Recommended:

- 1- Hazari Lal- 'Samarik Manchitra Pathan'
- 2- Chaudhary Nagendra Singh –' Manchitra Adhyayan'
- 3- J.M. Srivastava –' Manchitra Adhyayan'
- 4- Balwant Singh –' Manchitra Adhyayan Ki Saral Vidhi'
- 5- Gale and Polden-' Complete Guide to Map Reading'
- 6- Esson –'Map Reading Made Easy'

(Other books as recommended by teachers)

B.A/ B.Sc. II

PAPER-I

Modern Strategic Thought

(Machiavelli to the Nuclear Age)

Part I

- 1.**
 - a. Concept of war: its relationship with politics
 - b. Concept of Mass Army
 - c. Concept of Revolutionary War, Guerrilla and Counter-Guerrilla Warfare (The treatment of the above topics should be done with reference to the views of Machiavelli, Vauban, Clausewitz, Jomini, Engels and Marx, Mao-Tse-Tung)
- 2.** Concept of Strategy, Tactics and Logistics with special reference to Jomini and Clausewitz
- 3.** Theories of Land, Sea and Air Power
 - a. Theories of Sea Power, Naval Strategy, Heartland theory and Continental doctrines of Sea Power with special reference to the view of A.T. Mahan, Helford Mackinder
 - b. Theories of Air Power with special reference to Douhet, Mitchell and Seversky.
 - c. Theories of Land warfare, Mobile defence, Doctrine of limited liability, advent of Tanks and /Machine warfare with special reference of the views of Liddell-Hart, J.F.C. Fuller and De Gaulle

Part II

- 4-** German concept of Total War, German Strategy in Machine Age
- 5-** Allied Strategy in Europe (1939-45)
- 6-** Evolution of Soviet Military Strategy with reference to the views of Lenin, Stalin
- 7-** Concept of nuclear deterrence and defence with reference with the views of Andre Beaufre, Y. Harkabi, H. Kissinger
- 8-** Concept of disarmament and development Vs concept of defence and development
- 9-** Concept of Arms Control

Books Recommended:-

- 1- Beaufre,A. – ‘ An Introduction to Strategy with particular reference to problem of Defence,Politics,Economics and Diplomacy in Nuclear Age’**
- 2- Beaufre, A. –‘ Strategy of Action’**
- 3- Bordie,B. – ‘ Escalation and the Nuclear option’**

- 4- Bordie,B. –‘ Strategy in the Missile Age’
- 5- Burton,J. – ‘ Terrorism and War :The Process of Solving Unsolved Social and Political Problems’
- 6- Carlton,D. and Scheef –‘ Arms Control and Technological Innovations’
- 7- Churchill, W. –‘ Second World War’
- 8- Clausewitz, V. –‘ On War’
- 9- Dougherty, J. –‘ How to Think About Arms Control And Disarmament’
- 10- Earle, E. M./ -‘ Makers of Modern Strategy’
- 11- Emme, E. M. –‘ The Impact of Air Power’
- 12- Falls, C.- ‘ Art Of War’
- 13- Fuller, J. F. C. –‘ Armoured Warfare’
- 14- Fuller, J. F. C. –‘ The Conduct of War’
- 15- Gilbert, G. –‘ The Evolution of Strategy’
- 16- Halperin, M. H. –‘ Contemporary Military Strategy’
- 17- Harkabi, Y. –‘ Nuclear war and nuclear Peace’
- 18- Hart, B. H. L. –‘ Deterrent or Defence’
- 19- Hart, B.H. L. –‘ The revolution of Warfare’
- 20- Hart, B.H.L. –‘ Strategy: The Indirect Approach’
- 21- Peter, Paret, John Craig and Others –‘ makers of Modern Strategy : Machiavelli to Nuclear Age
(Other books as recommended by teachers)

PAPER-II

National Security

Part I

1. Concept of National Security with reference to the contemporary thinking
2. Power Theories
 - a. The imprecision of power as a concept
 - b. The tangible elements of power: Geography , Industrial capacity, Military strength and Science and Technology
 - c. Intangible Elements of Power: Leadership, National Character, Bureaucratic Organizational efficiency, Type of government, Social cohesiveness, Foreign support
3. Alternative Models of International Security
 - a. Balance of Power
 - b. Collective Security
 - c. Collective Defence
 - d. Non-Alignment
4. Strategy of Deterrence: Concept and practice in conventional and nuclear context
5. Arms proliferation as a constraint in national, regional and international security, prospects for arms control

Part II

6. International Terrorism: Concept and Dimensions
7. Insurgency and Counter – Insurgency – Concept and Dimensions
8. Linkages between foreign and defence policies and the domestic developments
9. India's quest for security and problems of National Defence
 - a- Pakistan as a factor
 - b- China as a factor
 - c- Challenges from sub-continental countries
 - d- Role of super and major powers

Books Recommended:-

- 1- Kavic, L.J. – 'India's Quest for Security'
- 2- Khera, S.S. – 'India's Defence Problems'
- 3- Prasad, B. – 'India's Foreign Policy Legacy'
- 4- Chopra, M.K. – 'India's Search for Power'
- 5- Nayar, K. – 'India in the Critical Years'
- 6- Rao, P.V.R. – 'Defence Without Drift'
- 7- Pannikar, K.M. – 'Problems of Indian Defence'
- 8- Singh, N. – 'Defence Mechanism of the Modern State'
- 9- Venketeshwaran, A.L. – 'India's Defence Organization'

- 10- Kulshreshtha, R.C. – ‘ Yudh Ke Sadhan aur Sadhya (Hindi)
 - 11- Palsokar, R.D. – ‘ India’s Nuclear Answer to China’
 - 12- Kaul,R. – ‘ India’s Strategic Spectrum’
 - 13- Sisson, Richard – ‘ War and Succession : Pakistan and India’
 - 14- Rose, Leo E. – ‘ Creation of Bangladesh’
 - 15- Singh, S. Man – ‘ India’s Search for Power : Indira Gandhi’s Foreign Policy 1960-1982’
 - 16- Kukreja, Veena – ‘ Civil- Military Relation in South Asia- Pakistan, Bangladesh and India’
 - 17- Gupta, B. Sen – ‘Nuclear Weapons? policy Options for India’
 - 18- Rais, Rasul B. – ‘ The Indian Ocean and the Superpowers Economic, Political and Strategic Perspectives’
 - 19- Cohen, Stephen Philip –‘ The Security of South Asia : American and Asian Perspectives’
 - 20- Kodikara, S.U. – ‘ South Asian Strategic Issues : Sri Lankan Perspectives’
 - 21- Wignaraja,Ponna – ‘ The Challenges in South Asia : Development, Democracy and Regional Cooperation’
 - 22- Hazari, K.K. – ‘ The Indian Dilemma : Balancing Security Imperatives with Resources’
 - 23- Karim, Afsir –‘ Transnational Terrorism :The Danger in the South’
 - 24- Nair, V.K. – ‘ Implications of India Going Nuclear’
 - 25- Palit, D. K. – ‘ War in High Himalaya : The Indian Army in Crisis 1962’
 - 26- Nair, V.K. – ‘ India’s Internal Security Environment ‘
 - 27- Rao, Gen. K. V. Krishna – ‘ Prepare or Perish : A Study of National Security’
- (Other books as recommended by teachers)

PAPER-III
India's Security and Higher Defence Structure

Part -I

1. India's Nuclear Policy
 - a. Evolution and Development
 - b. India's nuclear relations with Major Powers
2. Internal Security of India:
 - a. Socio-economic, political, scientific and technological, military and allied aspects
 - b. Security Problems in different regions of India with special reference to the insurgency and terrorism
3.
 - a. Strategic environment in India Ocean region
 - b- Indian and the problems of security in the Indian Ocean
 - c. India's strategy for Maritime Security
4. India's current Security perspective- Defence, Military and Research and Development Preparedness

Part-II

5. Evolution of National Defence Policy.
6. Higher Defence Organization in India.
 - a. Power of President in relation to Armed Forces.
 - b. Parliament and the Armed Forces.
 - c. Cabinet Committee of the Security Affairs- Composition, Methods of Working during War and Peace.
 - d. Organization and function of Ministry of Defence.
 - e. Chief of Staff Organization, its relation to defence and individual services, organization and equipment of individual services.
 - f. Joint Services organizations.
7. Intelligence: Organization and role of intelligence agencies and their problems.
8. National Security Management, Future Challenges and need for reform in the Higher Defence Organization of India.

Books Recommended:-

- 1- Venketeshwaran, A.L. – ‘ Defence Organization in India’
 - 2- Singh, Nagendra – ‘ Defence Mechanism of the Modern State’
 - 3- Ministry of Defence Annual Report, Govt. of India
 - 4- IDSA Publications – strategic analysis and Strategic Digest
 - 5- National Security Management Publications
 - 6- IISS publications, London
 - 7- Indian Defence Review, Lancer International ,New Delhi
- (Other books as recommended by teachers)**

B.A/ B.Sc. I

Practical

Written	:	45 marks
Viva-voce	:	15 marks
Record	:	5 marks
Total	:	65 marks

Course Contents of the practical-

1. Organization, weapons and equipment at Platoon level
2. Elementary knowledge of modern tactics
 - a. Field craft: study and description of ground, judging distance, indication and recognition of targets, personal concealment, camouflage and deception, fire control order, section formations, fire and movement tactics by a Section
3. Patrolling
 - a. General Introduction
 - b. Preparation
 - c. Conduct
 - d. Debriefing
4. Appreciation on the Sand Model on the following: The narrative will be at Platoon level and students would be required to attempt the exercise at SECTION LEVEL on the following –
 - a. Attack

b. Defence

Books Recommended:-

- 1- Valatine Col. – ‘ Sand Model Exercises’**
 - 2- Kearsy - ‘ Simple Tactics’**
 - 3- Ward, G.R. –‘ Section training Exercises’**
 - 4- Gamble, Lt.Col. – ‘ Simplified Tactical Instruction’**
 - 5- Barlow – ‘ Small Arms Manual’**
 - 6- Liddell Hart –‘ Elements of Tactics’**
- (Other books as recommended by teachers)**

B.A/ B.Sc. III

PAPER-I

Arab-Israel Wars of 1967 and 1973

Part I –

Arab-Israel War 1967

1. Historical background of the hostility, Middle-East in global strategy 1967: Impact of terrain and geographical location on military, relative strength of opposing forces of 1967, War in the air.
2. The Sinai Theatre – Rival strategies and tactics, break-through at Raffah, military operations and analysis of the tactics, breakthrough at Raffah, military operations and analysis of the battle, battle of ABU Ageila, Analysis of first, second and third day's fighting: final days fighting, an evaluation of Sinai fighting.
3. The Jordanian Front-Rival dispositions and plans; Battles on 5-8 June 1967; military operations on 7,8 June 1967 over all- analysis of war on the Jordanian front.
4. The Syrian Front – Rival dispositions and strategies ; operations during 5-8 June 1967; Israeli Plan of attack and the operations on 9 June 1967;operation on 10 June 1967and capture of Golan Heights; An evaluation of fighting of the Syrian front.
5. The navel fighting in 1967- Rival naval balance and strategies; course of naval events; comments of naval fighting.
6. Lesson of the 1967 war.

Part II-

Arab-Israeli War 1973

1. Background to the 1973 war- Event after 1967 war; Post-1967 boundaries in the Middle East: genesis and causes of 1973 war.
2. Preparatory stage of war- Strategic aims of Arabs and Israeli preparations and planning, at by Arab and Israelis Military balance.
3. The war between Egypt and Israel- The Bridgehead battle and the Egyptian crossing of Suez- Canal; Stalemate in Sinai; Israeli counter offensive; salient lessons emerged from these operations.
4. The war between Syrian and Israel- Rival dispositions and plans; Syrian offensive of Golan front, Israeli counter- offensive Lessons on the Golan front.
5. The Air War- Rival air strategies; conduct of air operations; lessons of the air war.

6. The Naval War – Rival naval strategies ; conduct of naval operations; lessons of the naval war.
7. Lessons of the 1973 war.
8. Post- 1973 development and the peace process.

Books Recommended;

- 1- A. Braun (ed.) – The Middle-East in Global Strategy, London Masell Pub., 1987
- 2- D. Banerjee and A.A.Athale, Arab-Israeli Wars 1967 and 1973, Pune 1980
- 3- A.H. Cordesman, The Gulf and the Search for Strategic Stability, London Mansell Pub. Ltd.,1984
- 4- Sasd El-Shazly, The Arab Military Option, London Mansell Pub., 1986
- 5- Col. B. K. Narayan, Lessons and Consequences of October war
- 6- Rajendra Prasad & S.P.Yadav, Arab-Israel Yudh (1967 &1973)
- 7- Col. B. K. Narayan, Arab-Israeli War 1973
- 8- Moshe Dayan, Story of My Life
- 9- R. Churchill, Six Days War

(Other books as recommended by teachers)

PAPER-II –

Military Psychology:

- 1-
 - a- Dimensions of behavior, motivation, affective and cognitive process, Relevance of Psychology in Defence Problems.
 - b- Personnel selection and classification for defence services , use of intelligence tests, group testing procedures and elementary personality testing.
 - c- Application of the Principles of Psychology in military training, motivation, learning transfer of training group and individual training.
 - d- Factors in adjustment of the ex- soldiers.
- 2-

Group Dynamics in Military Life:

 - (a) **Group-** Structure, types and their functions, formation of social norms, groups problems solving.
 - (b) **Leadership-** Nature of leadership. Function of a leader, Emergency of a leader, typing of leadership , Leadership training.
 - (c) **Morale-** Nature, determinants and techniques of morale, its significance in Defence.
 - (d) **Attitude-** Attitude organizations. Impact of military life of the formation of attitudes, attitudes channel.
- 3-

Psychological Warfare:

- (a) Nature type organization and techniques of military propaganda.
- (b) Structure, theories and techniques of coercive persuasion, determinant of brain washing effects.
- (c) Psychological of rumor, nature techniques and its merits and demerits its impact on war and society.

Books Recommended:

- 1- Boring, E.G. – ‘ Psychology for the Armed Services’
 - 2- Lienbarger – ‘ Psychological Warfare’
 - 3- Mao Comich – ‘ Human factor Engineering’
 - 4- Barlett, F.C. – ‘ Psychology and the Soldier’
 - 5- Herrings – ‘ air war and Emotional Stress’
 - 6- Mann. J. – ‘ Frontiers of Psychology’
 - 7- Lifon, R.J. – ‘ Through Reform and Psychology of Totalism’
 - 8- Sehein, E.H. – ‘ Coercive Persuasion’
 - 9- Second and Bachman –‘ Social Psychology’
 - 10- ICSSR Publication – A Survey of Research in Psychology
 - 11- Grinker, R.R. – ‘ Man under Stress’
- (Other books as recommended by teachers)**

PAPER-III –

Insurgency and Counter Insurgency

- 1- Revolutionary war and Guerilla Warfare
- 2- History of Guerilla Warfare
- 3- Theory of Guerilla warfare,
- 4- Unconventional warfare in the Nuclear Age.
- 5- Three intangible factor- Time, Space and will.
- 6- Characteristics of Guerilla warfare. Special criteria governing guerilla warfare Environment. Unit of functions and proximity.
- 7- Strategy and tactics of Guerrilla warfare. Thoughts of Lenin, Mao-tse-Tung and Che-Guevara
- 8- Modern concepts -Urban Guerrilla warfare and its philosophers.

- 9- Counter- insurgency: Basic principles of success of counter insurgency in the Mountains of Greece and in the jungles of Malaya .
- 10- Defeat in the jungles of Indo-China and Vietnam
- 11- Problems in insurgence in the developing countries(Special reference of South East Asia)

Books Recommended:

- 1- **Guerrilla: A Historical and Critical Study, Walter Laqueur, Weidenfeld Nicolson, London, 1977**
- 2- **Revolt in the Desert, T.E. Lawrence, London, 1927**
- 3- **Guerrilla Communism in Malaya, Lucian W. Pye, Princeton, 1956**
- 4- **Guerrilla Warfare, Che Guevara, London, 1969**
- 5- **Modern Guerrilla Warfare, Edited by Franklin Mark Osanka, The free press of Glencoe, 1962**
- 6- **The Essentials of Military Knowledge, D.K. Palit, The English Book Depot, 1970**
- 7- **Guerrilla Warfare, Mao Tse- Tung & Che Guevara, Cassell, London, 1969**
- 8- **An Introduction to the Art of War, S T Das, Sagar Pub., New Delhi, 1970**
- 9- **Counterinsurgency Warfare, David Galula, Sagar Pub. 1971**

(Other books as recommended by teachers)

PAPER-I PAPER-IV-

Remote Sensing and National Defence

- 1- Significance of remote sensing for National Defence.
- 2- Remote Sensing: Basic principles of remote sensing; aerial photography definition, scope, application the types; basic information for aerial photography, mission, aerial camera- components and functions; completion of photography task and production of positive copies; procurements of aerial photography in India.
- 3- Concept of remote sensing ; generation of electromagnetic radiation; imaging system; interaction with atmospheres and Earth surface; sensing

platform sensor system; optical, mechanical scanner, MSS Thermal ,imagery types.

- 4- Photogrammetry; geometry of aerial photography, tilt, swing, image interpretation; visibility of objects and image quality ;elements, techniques and steps of image interpretations; image displacement , orientation and rectification .

Books Recommended:

- 1- C. S. Agarwal and P. K. Garg , 'Remote Sensing'
- 2- Thomas M. Lillesand, Ralph W. Kiefer and Jonathan W. Chipman, ' Remote Sensing and Image Interpretation'
- 3- Leuder, D.R., ' Aerial Photographic Interpretation' 1959, McGraw-Hill
- 4- Curran, P.J. ' Principles of Remote Sensing', 1985, Longman, London
- 5- Cracknell A.P. ' Introduction to Remote Sensing' 1990, Taylor & Francis, London

PAPER-IV –

Strategic Geography

- 1-
 - a. Strategic Geography and its principles
 - b. The Planning Process.
 - c. Geography of Land, sea and air warfare.
 - d. Frontiers and boundaries.
 - e. Maritime boundaries and strategic geography.
- 2- Geographic and strategic polarity and multiplicity of interests.
- 3- Strategic geography and India
 - a. India in the world strategic arena.
 - b. Strategic geography of India and her geo-strategic problem with special reference to China and other neighbors in South Asia.
 - c. India's resource base; problem and prospects of the conversions of resources.
 - d. India's atomic energy and space development

- e. Enlargement of space, outer space, sea-bed and ocean floor and Antarctica; Impact of Sea on the environment of man; oceanic resources and measures of their exploration and use.
- f. Indian Ocean
- I. India and Indian Ocean: patterns of strategic reality and external powers presence.
 - II. Indian Ocean resources and India's growing interests.
 - III. India's present and future responsibilities.
- 4- Geo-Strategy: international relations and foreign policy-making.

Books Recommended:

- 1- S.B. Cohen – ' Geography and Politics in Divided World'
- 2- Ravi Kaul –' India's Strategic Spectrum'
- 3- J. Fairgrieve,-' Geography and World Power'
- 4- K.M. Pannikar,- ' Geographical Factors of Indian History'
- 5- M.K.Singh, - ' India's defence Strategy and Tactics'
- 6- Sisir Gupta, - ' Kashmir: A Study in India- Pakistan Relations'
- 7- Hari Saran & H.K.Sinha' Hind Mahasagar : Chunautiya evam vikalp (Hindi)

(Other books as recommended by teachers)

B.A/ B.Sc. III

Practical

Understanding Strategic Locations and Defence Installations

1- Spotting on the map with a short note-

(A) India-

a- India and her neighbours- Land and Maritime

b- Places of strategic importance- DRDO, ISRO, Ports, Shipyards, Nuclear reactors, Offshore Installations

(B) World-

a - Countries of South Asia, Central Asia, Southeast Asia and Gulf states

b - Suez, Panama and Kiel Canal

c - Nuclear countries of the world

d - Countries of

NATO,EU,ASEAN,SAARC,SCO,GCC,APEC,AU,BIMSTEC,ARF,IOR-ARC

2- Indian Army, Navy and Air Force Commands and Head Quarters

3- Paper clippings on allotted current topics with a brief covering note.

Or

Educational tour and its report