

# **Department of Defence and Strategic Studies**

University of Allahabad  
ALLAHABAD



## **Lecture List**

**B.A./B.Sc.  
(First Year)**

## **LECTURE LIST**

### **INSTRUCTIONS**

- The syllabus is divided into five units.
- The examinees will have to attempt Five Questions in all. All questions will carry equal marks. Two questions will be asked from each unit. The examinees will have to attempt one question from each unit.
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**B.A./B.Sc I**

**Ist PAPER**

**THE ART OF WAR IN INDIA**

**(UPTO 1947)**

**UNIT I**

1. Indo-Greek art of war with special reference to the Battle of Hydaspes, 326 B.C.
2. Kautilya's philosophy of war : Military organisation, art of war and inter-state relations.
3. Maurya Military System as described by Greek historians.

**UNIT 2**

4. Hindu Military System during the age of Guptas and Harsh with reference to the decline of chariots and the rise of cavalry upto 7th century AD.
5. Rajput Military System and Turk pattern of warfare with special reference to the battle of Somnath & Terrain upto 12th Century AD.

**UNIT 3**

6. Army organisation during Sultanate period. Military & Economic reforms of Allauddin Khilji.
7. Invasion of Babur with reference to battle of Panipat & Khanwa. A Mughal Military System under Akbar.

8. Maratha Military System under Shivaji and weaknesses of Maratha Military System after Shivaji with reference to the third battle of Panipat, 1761 AD.

#### UNIT 4

9. Development of Presidency Army under East India Company, Anglo-Maratha War with reference to Battle of Assaye, 1803 AD.
10. Sikh Military System under Dal Khalsa & Ranjit Singh, Battle of Sobraon 1846 AD.

#### UNIT 5

11. Amalgamation of Presidency Armies and Kitchner Reforms.
12. Indianisation and Partition of Armed Forces.

#### BOOKS RECOMMENDED

1. Singh, S.D. Ancient India Warfare with special reference to the Vedic Period.
2. Majumdar, B.K. Military system in Ancient India.
3. Majumdar, B.K. Bhartiya Sena Ka Itihas.
4. Fuller, J.F.C. Generalship of Alexander the Great.
5. Kangle, R.P. Kautilya Arthashastra.
6. Sarkar, J.N. Military History of India.
7. King Lucas Memoirs of India.
8. Irvin, I. Bhartiya Mughalon Ki Sainya Vyavashtha, translated by R. Tiwari.
9. Sen, S.N. Military System of Marathas.
10. Duff, Grant Marathon Ka Itihas.
11. Bajwa, F.S. Military System of Sikhs.

12. Tripathi, R.P. Rise and fall of the Moghals.
13. Gupta, H.R. Marathas & Panipat.
14. Sharma, Gautam Indian Army Through the Ages.
15. David, Alfred Indian Art of War.
16. Roy, S.N. Bharat Ka Sainya Itihas.
17. Bhatia, H.S. Military History of British India.
18. Sen, S.N. Eighteen Fifty Seven.
19. Singh, N. The theory of Force and Organisation of Defence in Indian Constitutional History.

Other books as recommended by the Teacher

**B.A./B.Sc I**  
**IInd PAPER**  
**STUDY OF WAR AND PEACE**  
**(since 1945)**

**UNIT 1**

1. Concept and definitions of War.
2. Causes of War : Political, Economic, Social, Psychological, Military and Allied aspects.
3. Types of War : Total, Limited, Revolutionary, Unconventional, Specialised Wars (Mountain, Desert and Jungle).
4. War as an instrument of National Policy.
5. Nuclear War : Development and Strategy.

**UNIT 2**

6. Emergence of World order after Second World War.
7. War and Economy : Problems of resource constraints, Defence Budgeting with special reference to India, Arms aid and trade.
8. War and Psychology : Role and importance of Psychology in the armed forces ; Psychological Warfare—Propaganda, Rumour and Brain Washing.

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**UNIT 3**

9. World Government, Liddel Hart's Eight Pillars of Peace.
10. Settlement of Disputes : Pacific and coercive methods.
11. Legal control of arms conflict.
12. Arms control and disarmament : concept and ways of disarmament, Non Proliferation Treaty (NPT), Comprehensive Test Ban Treaty (CTBT).

**UNIT 4**

13. United Nations Organisation : Structure, Role of security council, achievements and maintenance of International peace and security.
14. Non aligned Movement : aim, approaches for peace, principles, conferences, validity in modern times.

**UNIT 5**

15. Impact of Globalisation of economy on peace and security.
16. Revolution in Information Technology as an instrument of peace and security.

**BOOKS RECOMMENDED**

1. Quincy Wright      Study of War.
2. David . Ziegler      War, Peace and International Politics.
3. L.L. Bernard      War and Its causes.
4. G. Blainey      Causes of War.

(5)

5. R.E. Bolton (Ed) Defence and Disarmament, the Economics of Transition.
  6. Thomas C. Schelling Strategy and Arms Control & Morton Helperin
  7. S.D. Bailly Prohibitions and Restraints in War.
  8. Hitch & Mckean Economics of Defense in the Nuclear Age.
  9. E.G. Boring Psychology for the Armed forces.
  10. M.Hill United Nations System.
  11. D.K. Palit Essentials of Military Knowledge.
  12. S.P. Pandey An Outline of Defence Economics.
- and Other books as recommended by the Teacher.

## **B.A./BSc. First Year**

### **PRACTICAL**

#### **Map Reading**

- (a) MAP—Definition. Types and Scope.
- (b) Marginal Informations of Topographical Map.
- (c) Conventional Signs.
- (d) Grid System
- (e) Map Reference—Four, Six and Eight Figure Reference.
- (f) Scale—Definition and Representation (By Statement, Representative Fraction and Scale Line)
- (g) Types of Scales—Distance and Time
- (h) Bearing—Definition and Types, Measurement on Topographical Sheet.
- (i) Inter-conversion of Bearings.
- (j) Resection and Intersection.
- (k) Ground Features—Contours and Slopes.
- (l) Gradient—Definition and its use.
- (m) Intervisibility.
- (n) Prismatic Compass.

**Note :** The students would be required to attempt the exercise on Topographical Sheets of Survey of India.

# **Department of Defence and Strategic Studies**

University of Allahabad  
ALLAHABAD



## **Lecture List**

**B.A./B.Sc.  
(Second Year)**

## **LECTURE LIST**

### **INSTRUCTIONS**

- The syllabus is divided into five units.
- The examinees will have to attempt Five Questions in all. All questions will carry equal marks. Two questions will be asked from each unit. The examinees will have to attempt one question from each unit.
- The questions will be of three types requiring short answers, medium answers and long/essay type answers. These instructions will be applicable for all the papers for theory examination.



## **B.A./B.Sc II**

### **Ist PAPER**

#### **INDIAN MILITARY HISTORY (FROM 1947 UPTO DATE)**

##### **UNIT-1**

- (1) Partition of India and the armed forces ; Background
- (2) Military operations in Kashmir (1948)
  - a. Kashmir dispute : Genesis and progression
  - b. Military Operations with special reference with the battle of Zojila
  - c. Role of Air Force

##### **UNIT-2**

- (3) Sino-Indian Conflict (1962)
  - a. Background of the Sino-India Border Dispute
  - b. Military operations with Special Reference to the battle at Nanka Chu River of Thagla Ridge
  - c. Politico-Military Lessons

##### **UNIT-3**

- (4) Indo-Pakistan Conflict (1965)
  - a. Background and causes with reference to Kutch operations
  - b. Military operations with special reference to the battle of Khem Karan
  - c. Role of Navy and Air Force
  - d. Politico-Military lessons

(1)

##### **UNIT-4**

- (5) Indo-Pakistan Conflict (1971)
  - a. Genesis and Causes
  - b. Military operations on the Western Front with special reference to the battle of Shakargarh
  - c. Military operations on the Eastern Front
  - d. Role of Air Force and Navy in the Military operations
  - e. Emergence of Bangla Desh
  - f. Politico-Military lessons

##### **UNIT-5**

- (6) Indian Defence: Contemporary scenarios with special reference to LIC and Terrorism

#### **BOOKS RECOMMENDED**

1. Singh, Nagendra The theory of force and organisation of Defence in Indian Constitutional History
2. Longer, V.Red Coat to Olive green
3. Prasad, B.The Indian Armed Forces in World War II
4. Sen, S.N. Eighteen Fifty Seven
5. Chopra, M.K. India-The search for power
6. Gupta, Shishir Kashmir
7. Singh, Bhupinder Indo-Pak Conflict over Kashmir
8. Akbar, M.J. India-The siege within the Indian Army
9. Cohen, S.P. The Pakistan Army
10. Dalvi, J.P. Himalayan Blunder

(2)

11. Kaul, B.M. The Untold Story
12. Sinha, S. The Chinese Aggression
13. Maxwell, N. India and China war of 1962
14. Mankekar, D.R. Twenty two fateful days
15. Singh, Harbaks Indo-Pak Conflict 1965
16. Palit, D.K. The lightening campaign
17. Singh, S. Liberation of Bangladesh
18. Akhtar, J.D. The Saga of Bangladesh
19. Thompson, J. War and Peace
20. Kavic, L.J. India's Quest for Security
21. Saigal, J.R. Unfought War of 1962
22. Kaul, T.N. Diplomacy in Peace and War

23. Subrahmanyam, K. Indian Security Perspectives  
Other books as recommended by the teacher.

## **B.A./B.Sc II IIInd PAPER**

### **WORLD ART OF WAR SINCE 1786**

#### **UNIT-1**

1. Impact of Science and Technology on warfare with special reference to the reforms of Gustavus Adolphus and Frederick the Great.
2. Principles and defects of Napoleonic warfare with special reference to battle of Trafalgar (1805) and Waterloo (1815).
3. American Civil War (1861-65) and new military trends.

(3)

#### **UNIT-2**

4. First World War :
  - (a) Causes
  - (b) Strategy, Stalemate, Restoration of mobility with special reference to the battles of Ypres and Somme.
  - (c) Role of air Force and navy.

#### **UNIT-3**

5. Second World War :
  - (a) Causes
  - (b) Allied and Axis objective and strategy.
  - (c) Armoured and Mechanised Warfare with special reference to Gazala Line and E1-Alamien.
  - (d) Role of Air Power with special reference to the battle of Britain.
  - (e) Role of Navy with special reference to the battle of Leyte Gulf (1944).
6. Advent of Nuclear Weapons and its impact on warfare.

#### **UNIT-4**

7. (c) War in Indo-China with special reference to the battle of Dien Biein Phu.
  - (d) Causes of the French defeat and political and military lessons.
8. Emergency in Malaya 1948-60.
  - (a) Causes of communist insurgency.

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- (b) Counter insurgency Operations.'
- (c) Political and Military lessons.

### UNIT-5

9. Middle East Conflict ;
  - (a) Causes with reference to Suez Crisis and Arab-Israel Conflict (1956).
  - (b) Six Day War (1967).
  - (c) Yom Kippur War (1973).
  - (d) Current developments.
10. Iran-Iraq Conflict :
  - (a) Causes, Strategy and Tactics during the military operations.
  - (b) Political and Military lessons.
11. Gulf Conflict (1991).

### SELECTING READINGS

1. Agwani, M.S. Politics in the Gulf
2. Agwani, M.S. The West Asian Crisis
3. Alexander, F. International Terrorism, National, Regional and Global Perspective
4. Barnaby, C.F. Preventing the Spread of Nuclear Weapons
5. Bealo and Maddox, J. The Spread of Nuclear Weapons
6. Dewan, B.N. War and Peace in West Asia
7. Bellock, H. The French Revolution
8. Belgrami, S.J.R. Arms Race and Disarmament
9. Bryant, A. The Turn of the Tide-1939-43
10. Bryant, A. Triumph in the West-1943-46
11. Butter, J.R.M. History of the World War II

12. Calvooressi, P. & Wiend, G. Total War
13. Car, E.H. 20 years Crisis 1919-1939
14. Car, E.H. International Relations Between the two war 1919-39
15. Carver, M. War since 1945
16. Chalfort Montgomery of Alamein
17. Chandler, D.G. Campaigns of Napoleon
18. Collier, B.A Short History of the World War II
19. Curtis, L. World War, Its Causes and Cure
20. Donelly, D. Struggle for the World, The Cold war from its origin
  - 21. Duppy, T.N. Military History of World War II
  - 22. Churchill, W.S. American Civil War
  - 23. Esposito, V.J. ed Concise History fo World War II
24. Fairbairn, G. Revolutionary warfare and communist strategy, The threat to South East Asia.
25. Fuller, J.F.C. Decisive Battle of the Western war.
26. Gilbert, M. Arab-Israeli Conflicts ; its History of Maps.
27. Gupta, BB. Arab-Israeli Relations.
28. Harkabi, Y. Arab Strategies and Israeli Response.
29. Hart, L. Defence of Britain
30. Hart, L. History of the World War I.
31. Hart, L. History of the World War II.
32. Hart, L. Romma papers.
33. Hart, L. North African Campaign in 1940-43.
34. Hart, L. The Other Side of the Hill.
  - 35. Harluck, E.L. The World War II.
  - 36. Hayes, G.P. Middle East Politics : The Military Dimension.
37. Jacobson, H & Decisive Battles of World War II. others Ed.
38. Koch, H.W. ed Origins of World War I.

## **PRACTICAL**

### **B.A./BSc. Second Year**

39. Langsam, W.C. & Mitchell, O.C. The World Since 1919.
40. Montgomery, V. A History of Warfare.
41. O'Ballance, E. The War in Vietnam 1954-73.
42. O'Ballance, E. The Third Arab-Israeli War.
43. Tachinene, D.R. Arab-Israeli Military Ballance Since Oct. 1973.
44. Taylor, A.G.P. World War II.
45. Taylor John, W.R. History of Aerial Warfare.
46. Vagts, A. Landing Operation.

Other books as recommended by the teacher.

#### **1—Sand Model Exercises**

- (a) Battle of Panipat, 1526 A.D.
- (b) Battle of Assaye, 1803 A.D.

#### **2—Sketching of the Charts of Indian Battles**

- (a) Battle of Zojilla, 1948.
- (b) Battle of Thagla Ridge, 1962.
- (c) Battle of Khem Karan, 1965.
- (d) Battle of Shakargarh, 1971.
- (e) Kargil Conflict, 1999

#### **3—Sketching of Charts of Western Battles**

- (a) Battle of Trafalgar, 1805.
- (b) Battle of Somme, 1919.
- (c) Battle of El-Alamin,, 1942.
- (d) Arab-Israel War, 1967.

#### **4.—TEWTs**

- (a) Organization of an Infantry Batallion.
- (b) Organisation and tactical use of weapons and Equipment upto Platoon level.
- (c) Elementary knowledge of modern tactics— Fieldcraft and Patrolling
- (d) Appreciation on the Sand Model of Attack and Defence.

# **Department of Defence and Strategic Studies**

University of Allahabad  
ALLAHABAD



## **Lecture List**

**B.A./B.Sc.  
(Third Year)**

## **LECTURE LIST**

### **INSTRUCTIONS**

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## B.A./B.Sc. III

### Ist PAPER

#### MODERN STRATEGIC THOUGHT : MACHIAVELLI TO NUCLEAR AGE

##### UNIT-I

1. Machiavelli The Renaissance of the Art of War.
2. Clausewitz On War  
War its relationship with politics Strategy  
Tactics.
3. Jomini Concept of Mass Army  
Strategy  
Tactics & Logistics.

##### UNIT-2

4. Moltke & Schlieffen The Prussian-German School of Strategic Thought.
5. Foch Principles of War, The French School
6. Allied Strategy in W.W.II
7. Ludendorff German Concept of Total War.
8. V.D. Sokolovski The Making of Soviet Strategy.

##### UNIT-3

9. Liddell Hart The doctrine of limited liability and Mobile Defence.
10. J.F.C. Fuller Concept of Mobile Warfare, Advent of Tanks and decline of Trench warfare.
11. A.T. Mahan Theory of Sea Power.

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Continental doctrine of Sea Power.  
Naval Strategy.

12. Halford Mackinder Heartland Theory
13. Douhet, Mitchell Theories of Air Warfare and Sevversky
14. Hitler The Nazi concept of War.

##### UNIT-4

15. Mao Tse Tung Chinese Concept of War.  
Strategy & Tactics of Guerilla Warfare.
16. Development of the Concept of Urban Guerrilla Warfare.

##### UNIT-5

17. Concept of Nuclear Deterrence and Defence with special reference to Recent Thinking.
18. Development of Concept of Disarmament & Arms Control.

#### BOOKS RECOMMENDED

1. Adie, W.A.C. Chinese Strategic Thinking under Mao-Tse-Tung.
2. Alperovitz, G. Atomic Diplomacy : Hiroshima and Potsdam.
3. Anand, M.K. Terrorism and Security.
4. Appadorai, A. The Use of force in International Relation.
5. Aspray, R.P. War in the Shadow : The Guerrilla in History.
6. Beaufre, A. An Introduction to Strategy with Particular reference to Problem of Defence, Politics, Economics and diplomacy in Nuclear Age.

(2)

7. Beaufre, A. Strategy of Action.
8. Brien, Bond Liddel Hart : A Study of his Military Thought.
9. Brodie, B.A Guide to Naval Strategy.  
Brodie, B.Strategy in Missile Age.
10. Burton, A.Revolutionary Violence.
11. Churchill, W. Second World War.
12. Clausewitz, V. On War
13. Cohan, A.A. The Communism of Mao Tse Tung
14. Dixon, C.A. and Communist Guerrilla Warfare  
Heilburn, D.
15. Dougherty, J.How to think About Arms Control and  
Disarmament.
16. Earle, E.M. Makers of Modern Strategy.
17. Ellis, J. Guerrilla Warfare.
18. Emme, E.M. The Impact of Air power
19. Falls, E. Art of War
20. Fay, S.B. The Origin of the World War I
21. Fisher, H.A.L. Napoleon
22. Fuller, J.F.C. Government and History
23. Fuller J.F.C. Armoured Warfare
24. Fuller, J.F.C. The Conduct of War
25. Galula, David Counter Insurgency Warfare : Theory &  
Practice.
26. Gensen,E.A.V. Arms Control and Disarmament.
27. Gibbs, N.H. Grand Strategy.
28. Gilbert, G.The Revolution of Strategy.
29. Goldblat, T.Agreement for Arms Control : A Critical Survey.
30. Goltz V.The Conduct of War.
31. Gompert, D.C. Nuclear Weapons and World Politics.
32. Rall R.A. Studies in Napoleonic Strategy.

(3)

33. Halperin, M.H. Contemporary Military Strategy.
  34. Harkabi, Y. Nuclear War and Nuclear Peace.
  35. Hart B.H.L. Deterrence or Defence.
  36. Hart, B.H.L. The Revolution in Warfare.
  37. Hart, B.H.L. Strategy : The indirect approach.
  38. Herington, J.Air War Against Germany and Italy-1939-40.
  39. Hart, B.H.L. Air Power Over Europe 1944-45.
  40. Hittle, J.D. Jomini and His Summary of the Art of War.
  41. Howard, M. Grand Strategy.
  42. Howard, M.Theory and Practice of War.
  43. Howard, M.War in European History.
  44. Howard, M. Clausewitz.
  45. Hurd, A. The Command of the Sea.
  46. Kahn, J.M. Security in the Nuclear Age.
  47. Mao Tse Tung & Guerrilla Warfare.  
Che Guevera
  48. Martin, L.W. Sea in Modern Strategy.
  49. Tedder, L. Air Power in War.
- Other books as recommended by the teacher.

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**B.A./B.Sc. III**  
**IIInd PAPER**  
**NATIONAL SECURITY**

**UNIT-I**

1. Conceptual framework of National Security in the contemporary strategic thinking.
2. Theories of National Power:
  - a. Definitive framework of National Power.
  - b. The imprecision of power as a concept.
  - c. Power profile of Nation-states.
  - d. Non-power influence.
3. Elements of National Power
  - (i) *Tangible Elements* :  
Geography, Population, Extent of territory, National Resources, Industrial Capacity, Agricultural Capacity, Financial capability, Scientific and technological capability, Military capability.
  - (ii) *Intangible Elements* :  
Leadership, Bureaucratic Organisational Efficiency, Type of Government, Societal and Ethnic Cohesiveness, National Character and Reputation, National Morale, Foreign Support, and Dependency, Accidents.

**UNIT-2**

4. Concept and Models of International Security :
  - (i) Balance of Power.
  - (ii) Collective Security.
  - (iii) Collective Defence.
  - (iv) Non-alignment.

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5. Concept and theories of conventional and nuclear deterrence.
6. (i) Arms proliferation as a constraint to National, Regional and International Security.  
(ii) Prospects for arms control.
7. International Terrorism : Concept and dimensions.
8. Co-relation between foreign, defence and domestic policies

**UNIT-3**

9. Historical legacy, Geo-political and Geo-strategical considerations of India's security.
10. National security problematics and India's quest for security
  - a. India in the world strategic arena : Contemporary trends.
  - b. (i) India's quest for security vis-a-vis Pakistan (till date)  
(ii) Pakistan's nuclear and missile programmes and their impact on India's defence, India's options.
  - c. India-China boundary dispute : Positions and Polemics: Effort for the settlement of the boundary disputes : Framework for co-operative security between India and China.

**UNIT-4**

11. Science and Technology in India's Security :
  - a. India's Defence Industrialisation and achievements.
  - b. India's Research and Development (R & D).

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12. India's Nuclear Policy and options :  
     India's need for Nuclear power.  
     India's Nuclear Breakthrough world.  
     India's Nuclear options in a nuclearised world.

### UNIT-5

13. Indian Ocean and India's security considerations :  
     Strategic milieu in and around Indian Ocean.  
     India's security problems in relation to the Indian Ocean region.  
     India's maritime security and its need for Naval power projections.
14. India's overall security perspectives and defence preparedness.
15. Internal security of India :  
     Harmful internal threats and challenges.  
     Low intensity conflicts (LIC) in India with special reference to J & K  
     Security problems in the north-eastern region of India.  
     Identification of the problems of internal security and the use of military pros and cons.
16. Imperatives of a comprehensive National Security Strategy.

### BOOKS RECOMMEND

1. Adi, W.A.C.           Oil Politics and Sea, The Indian Ocean Ports.
2. Agrawal, R.K.       Defence Production & Development.
3. Anand, V.K.         Insurgency & Counter-Insurgency.
4. Bajpai, S.C.         Northern frontier of India.
5. Bajpai, U.S.         Non-Alignment, Perspective and Prospective.
6. Bandopadhyaya, J. Making of India's Foreign Policy.
7. Brines, R.           Indo-Pak Conflict.
8. Chaudhary, J.N.     India's Problem of National Security in the 70s.

9. Frankel, J.           National Interest.
10. Khera, S.S.         India's Defence Problem.
11. Kohli, S.N.         Sea Power and the Indian Ocean.
12. Kumar, M. Theoretical Aspects of International Politics.
13. Maxwell, M.         India's China War.
14. Misha, K.P.         Non-alignment Frontier & Dynamics.
15. Mogenthau, H.J.    Politics Among Nations.
16. Panikkar, K.M.     India and the Indian Ocean.
17. Panikkar, K.M.     Problems of Indian Defence.
18. Panikkar, K.M.     Problems of Indian Defence.
19. Prasad, B.          India's Foreign Policy.
20. Poullose, T.T.     Indian Ocean Rivalry.
21. Rahman, M.W.     Politics of Non-alignment.
22. Rao, P.V.R.         Indian Defence Policy and Organisation Since Independence.
23. Rao, P.V.R.         Defence Without Drift.
24. Saigal, J.R.         Unfought War of 1962.
25. Shah, A. India's Defence and Foreign Policy.
26. Singh, S. Defence of the Western Border.
27. Singh, K.R.         Indian Ocean.
28. Singh, R. Aspects of Indian Defence.
29. Subrahmanyam, K. India's Security Perspectives.
30. Venkateswar, A.L. Defence Organization in India.
31. Subrahmanyam, K. Defence & Development
32. Thomas, Raju        Defence of India.

Other books as recommended by the teacher.

**B.A./B.Sc. III**  
**IIIrd PAPER**

**Science Technology and National Security**

**UNIT-1**

1. Science and Society
  - (a) Science, Technology and Society in different historical context.
  - (b) Technological breakthrough and Social changes.
2. Technology and Interdependence
  - (a) Structure.
  - (b) Magnitude.
  - (c) Transfer of Technologies.
  - (d) Military-Industrial Complex in developing & developed countries.

**UNIT-2**

3. Civilian & Military aspects of technology
  - (a) Nuclear technologies.
  - (b) Space.
  - (c) Communication.
  - (d) Marine.
4. Automation of Weapons and its impact on Warfare.

**UNIT-3**

5. Role of Chemical and Biological technology and its linkage with military uses.

**UNIT-4**

6. Electronic Warfare : Systems and Techniques
  - (a) Command, Control and Communication.
  - (b) Electronic Counter Measures (ECM).
  - (c) Jamming and its Types, modes of Jamming.
  - (d) Electronic Counter-Counter Measures (ECCM).
7. Search for alternative sources of energy.

**UNIT-5**

8. Indian Policy and Problems of National Security
  - (a) Resource base.
  - (b) Science and Technology and Industrial Growth.
  - (c) Defence and Development.
  - (d) Defence Research & Development (R & D).
  - (e) Military Industrial Complex.

**SELECTED READINGS**

1. John G. Collier & Introduction to Nuclear Power.  
Geoffery E. Hewitt
2. Jack Dannis                      The Nuclear Almanac Confronting the  
Atom in War and Peace.
3. L.W. Mc Naught                Nuclear Weapons & Their Effects.
4. Joseph Rotblat & Nuclear Strategy & World Security.  
Steven Eliman
5. Robert Jastrow                 How to make Nuclear Weapons  
Obsolete.
6. Girish Mishra                   Economic Effects of Militarism.
7. Jasjit Singh                     Air Power in Modern Warfare.
8. Rajesh K. Agarwal             Defence Production & Development
9. Philip Mullenbach              Civilian Nuclear Power

## PRACTICALS

### B.A./BSc. Third Year

10. Edgar O' Ballance      The Electronic War in the Middle East  
1966-70
11. Kenneth Macksey      Technology in War
12. Maric Ruive Marine    Pollution and Sea Life
13. Bhupendra Jasani      Space Weapons and International  
Security
14.                              The Problem of Chemical and Biological  
Warfare.
15. D. Gopal &              Science, Technology & Development in  
M.A. Qureshi              Afghanisatan
16. Maurice Basieni &    Operations Research Methods and  
Arthur Yaspal              Problems
17. Albert Parry            Russia's Rockets and Missiles
18. S. Bhatt                 Aviation, Environment & World Order
19. Richard Munson        Countdown to a Nuclear Moratorium  
Environmental Action Foundation.
20. SIPRI                    Outer Space Battlefield of the future
21. SIPRI                    CBW and the Law of War
22. Peter Delson            Development and Diffusion of the  
Nuclear Power Reactor : A Comparative  
Analysis
23. Osman Remal           Nuclear Energy and Alternative  
Radiroglu
24. Arthur J. Downey      The Emerging role of the US Army  
SPACE
25. Roger E. Rasperson    Nuclear Risk Analysis in Comparative  
Perspective

Other books as recommended by the teacher.

1— Sketching of the Strategic Maps of :

#### India

- (a) India and her neighbours.
- (b) Indian States and Union Territories with Capitals.
- (c) Strategic Raw Materials.
- (d) Defence Industries and Atomic Reactors.

#### World

- (a) World Map in 1945.
- (b) Countries of NATO, SEATO and CENTO.
- (c) Countries of Warsaw pact.
- (d) Non-Aligned Countries.
- (e) Developed Nations.
- (f) Countries of South Asia, South East Asia, Far East and West Asia.
- (g) Countries of Asian Continent.
- (h) Nuclear Nations.
- (i) Indian Ocean Littoral States.
- (j) U.N. Organisation.
- (k) World Sea Routes.

2— (a) Higher Defence Organisation of India.

(b) Army, Navy and Air Force Commands and its

Area. 3— Spoting of :

Tanks, Bombers, Fighters, Helicopters, Air Craft Carriers and Naval Ships.

4— Press Clippings on allotted current topics with a brief covering note.

5— Educational Tour and its report.