

NORTH MAHARASHTRA UNIVERSITY, JALGAON

Revised Syllabus for S.Y.B.A. Defence & Strategic Studies

(with effect from July 1998)

General Paper

Defence Organization of India (G-2)

OR

Science & Technology in National Security (Optional) (G-2)

Special Paper

S.1 : Indian Art of War

OR

S.1 Logistic Management in National Defence

Special Paper

S.2 Geopolitics & Military Geography

OR

S.2 International Organization

North Maharashtra University, Jalgaon  
Revised Syllabus for S.Y.B.A./B.Sc. General Paper (G-2)  
Title : Defence Organization of India (G-2)

PART-I

1. Principles of Defence Military Organization and Administration [6]
  - a. Principles of Defence Organization
    - i. Objectives
    - ii. Co-Operation
    - iii. Flexibility
    - iv. Balance
    - v. Economy
    - vi. Accuracy
    - vii. De-centralization
    - viii. Unity of Efforts.
  - b. Principles of Defence Administration
    - i. Foresight
    - ii. Flexibility
    - iii. Economy
    - iv. Simplicity
    - v. Co-operation
2. Reconstruction of Indian Armed forces After 1947 [6]
  - a. Reconstruction of Army
  - b. Reconstruction of Navy
  - c. Reconstruction of Air-Force.
3. Higher Defence Organizations [11]
  - a. President of India - Power of President in relation to Armed Forces.
  - b. Parliament and Armed Forces
  - c. Defence Committee of the Cabinet/Political affair committee of the cabinet composition - role and evaluation.
  - d. Ministry of Defence - Organization, Components and Functions.
  - e. National Defence Council - Composition, role and appraisal.
4. Organization of Indian Armed Forces [7]
  - a. Chief of a Staff Committee - Composition, role and appraisal.
  - b. Head Quarters - Army, Navy and Air Force Officers and their duties and functions.
  - c. Commands - Army, Navy and Air Force.

5. Organization of Intelligence in India [10]
- a. Introduction
  - b. Meaning and Principles of Intelligence
  - c. Role of Intelligence
  - d. Devices for Collecting Intelligence.
  - e. Counter Intelligence
  - f. Intelligence Organizations in India.

PART - II

6. Infantry [8]
- a. Characteristics of Infantry
  - b. Limitations of Infantry
  - c. Limitations of Infantry
  - d. Organizations of Infantry
  - e. Organizations of Infantry Division.
7. Armoured and Artillery [5]
- a. Utility of Armoured and Artillery
  - b. Characteristics of Armoured and Artillery.
  - c. Role and Limitations of Armoured and Artillery.
8. Signals and Engineers [5]
- a. Characteristics
  - b. Role
  - c. Limitations
9. Services [10]
- a. Army Supply Corps (ASC)
  - b. Army Ordnance Corps (AOC)
  - c. Army Medical Corps (AMC)
  - d. Electrical and Mechanical Engineering (EME)
- Role and functions in peace time and War time of all Services.

10. Indian Navy

[06]

- a. History and Importance.
- b. Characteristics role and Limitations
- c. Various type of Battleships and their role.

11. Indian Air Force

- a. History of Indian Air Force
- b. Importance of Indian Air Force
- c. Characteristics, role and Limitations of Indian Air Force.
- d. Various type of Aircrafts and their role.

Selected Reading

1. Defence Organization in India - A.L. Venkateshran.
2. Indian Army - A sketch of its History and Organization.  
- E.H.E. Cohen.
3. Defence Principles and Organization - M.G.
4. Ministry of Defence - Annual Reports
5. Journal - U.S.I. - Indian Defence Review - Strategic Analysis.
6. युद्ध तंत्र आणि मंत्र - बेंद्रे.
7. Organization and Administration in the Indian Army - Brigadier  
Rajendra Singh.
8. आधुनिक राज्यका रक्षातंत्र - जे.एम.ब्रिवास्तव.
9. वर्तमान रक्षा तंत्र - डॉ. परशुराम गुप्त.
10. आधुनिक राज्यका रक्षातंत्र - डॉ. लक्ष्मजी सिंह.
11. Security in a Challenging work - K. Subrahmanyam.

**S.Y.B.A./B.Sc. : G-2 : Defence Studies (Optional)**

**Science & Technology in National Security**

**SECTION-I**

1. **Scientific Age** : Definition of Science & Technology. Basic Concepts in scientific thinking, Scientific methods of study, observation, experiment, Analysis, Result. [07]
2. **Science and Society** : Brief History of Science and Technology and its impact on society, science and suprestions, scientific attitude and social development, Science & Technology in India in early period, Mediveral Period, and Recent development. [08]
3. **Power Resources** : Power resources, their types and use. Non-conventional power resources, Solar energy, wind Energy, Tidal Energy, Geothermal and Bio-energy system. [08]
4. **Science and Technology in India's Defence** : Resource base, DRDO, Electronics, Aeronautics, Naval Science engineering and Material Science etc. [10]
5. **Man and Environment Relationship** : Food chains, Carbon cycle and Nitrogen cycle, Pollution - air, Water, Sound, Soil (Causes effect and Solution). [07]

**SECTION-II**

6. **Communication** - Age of computers and T.V., utility of Computer, Remote Sensing. [06]
7. **Internate** : Introduction, Historical background, Sctructer, Protocols, Domain, Modern, E-mail, [07]
8. **Robots** : Introduction, Struture, use of Robots, Microbots. [08]
9. **Space Age** : Artificial Satellites, Types and uses, Utility and application, India's achievement. [09]
10. **Major Scientific and Technological Institutions in India** : (Introduction, Role and Research) [12]
  1. Bhabha Atomic Research Centre, Trombay.
  2. Tata Institute of Fundamental Research, Mumbai

3. Hafkin Institute, Mumbai.
4. India Agriculture Research Institute, New Delhi.
5. National Chemical Laboratory, Pune.
6. Dr. Sarabhai Space Research Center, Ahmadabad.
7. National Remote Sensing Agency Hyderabad.
8. NIIC.
9. Meteorological Institute.

**Selected Reading**

1. Thurner D.M. and Burfer - The book of Scientific Discovery.
2. Singer Charles - A short history of scientific India.
3. Singer C. - Hobny & E.S., Hall B.R. & William T.I. A history of Technology.
4. विमं कमांडर मनमोहन बात - रक्षा विज्ञान [दिल्ली].
5. Encyclopedia of Science & Technology.
6. मराठी विश्वकोष.
7. Military Year books.
8. Journal - Defence Science Journals.

N.B.:- [ ] Indicates Number of Periods.

Indian Art of War

PART-I

1. Military System in Vedic Period: [08]
  - a. General
  - b. Arya - Anarya Conflict
  - c. Military System - Selection of king and its duties.
  - d. Type of Armed Forces - Inphantry and Chariots.
  - e. Military Training.
  - f. Law of War
  - g. Causes of War
  - h. Forts
  
2. Military System in Epic period [08]
  - a. General
  - b. Type of Forces - Chariots, Elephants, Cavalry and Inphantry
  - c. Organization (Akshohini)
  - d. Types of War-Open battle-Law of open battle-Guerrilla War (K. etc)
  - e. Training.
  - f. Recruitment, pay and allowances
  - g. Weapons.
  - h. Espionage & doots
  - i. Wartactics (Vyuhas)
  - j. Use of aircraft and battleship.
  
3. Comparative studies of Indo-Greek Art of Warfare with special reference to battle of Zehlum (326 B.C.) [08]
  - a. Indo- Greek art of Warfare
    - i. Back-ground
    - ii. Alexander invention- Aim of invantionforces and its weapons.
    - iii. Poursas - Forces and its heapons
  - b. Battle of Zehlum - background, War planning - battle action, causes of deflect of Poursas.

4. Kantilya's Philosophy of War

[10]

a. Military Organization

- i. Cavalry - type, role, training, base, battle field of cavalry.
- ii. Elphantry - role, training, best battle field.
- iii. Chariots - type role, best battle - field.
- iv. Infantry - type, role, training battle field.
- v. Navy - Role.

b. Wapon's Types.

c. Forts - types

d. Pattern of War - Fare - type of War

e. Espionage and Ambasadtor - types

f. Defence and Security.

g. Interstate relations - Theory of Mandel.

5. Rajput and Turk Military System:

[06]

- a. Rajputs - General - Organization and weapons - pay and promotions  
forts - Wartactics - reasons of down fall of Rajputs, merits and demerits.
- b. Turks - General-Organization payments-training, and wartactics.
- c. Battle of Ivrain - 1st battle - General - military power of Turks  
and Rajputs - Battle action - IInd Battle of Terrain - War  
Strategy of Mohmad Ghorl - battle action - Causes of defeat of  
Rajput.



PART-II

6. Military System of Sultan :

[08]

- a. General
- b. Organization - Type of Soldiers temporary - permanent - Cavalry - Elephants - Army - Organization
- c. Payments.
- d. Weapons.
- e. Wartactics
- f. Military reforms of Balban
- g. Military reforms of Allah - Uddin Khilji.
- h. Causes of downfall of sultans.

7. Military System Under Moghals :

[12]

1.
  - a. General
  - b. Military Organization - grades of Mansabdar.
  - c. Armed Forces
    - i. Infantry and its type.
    - ii. Cavalry and its type.
    - iii. Elephantry
    - iv. Artillery - Officers, types and role of Artillery
    - v. Navy
  - d. Recruitment of soldiers and officers
  - e. Training
  - f. Weapons
  - g. Payments
  - h. forts.
  - i. War tacts
  - j. Merits and demerits of Mansabdari.
  - k. Causes of downfall of moghals.
2. First battle of Panipat (1526) - General Military Strength of Babar and Ibrahimkhan War planing - battle action - effects of battle - causes of victory of Babar.

3. Battle of Haldighat - General military strength of Rajput and Mughals - War strategy - battle action.

8. Maratha Military System -

[10]

- a. General
- b. Organization - Army, Cavalry, Artillery, Navy.
- c. Weapons.
- d. Forts
- e. War tactics (Guerrilla)
- f. Third battle of Panipat - Background - Deployments of Forces - pre War movement military strength of Maratha and Afghans - battle action - Causes of defect in battle.

9. Sikh Military System -

[07]

- a. General
- b. Military Organization
- c. Armed Forces and Training
- d. Weapons.
- e. Pay and Pension.
- f. Ranjitsing and Gurugovindsingh.

10. Presidency army under east India Company

[05]

- a. Madras Presidy Bombay, Presidency Bengal Presidency.
- b. Reforms of Presidency Army

**Selected Books**

1. J.N. Sarkar - Military History of India.
2. Chakrawarti - War in a Ancient India
3. J.F.C. Fuller - Generalship of Alexander the Great
4. K.P.Kangly - Kautilyas Arthashastra
5. William Irvin - Army of Indian Mughals
6. S.W. Sen - Military System of Marathas

7. F.S. Bajwa - The Military System of Sikhs.
8. B.K. Mukundar - Military System of Ancient India
9. Sen Sharma - Kurukshetra War
10. V.R. Ramchandra Dixit - War in Ancient India
11. ब. रा. शिवरगावकर - कौटिल्याचे अर्थशास्त्र
12. चौधरी नरेंद्र सिंह - भारतीय सैन्य इतिहास.
13. पाण्डे, चौबे - भारतीय सैन्य इतिहास.
14. चौधरी, मांडरे - भारतीय सैन्य इतिहास.
15. सोनवणे, चौधरी, पाटील, तेंदाणे - भारतीय युद्धकला.
16. ज. द. जोगळेकर - युद्धशास्त्राची उपेक्षा.

[ ] Indicates Number of Periods

S.Y.B.A./B.Sc. : Special Paper-I (S-1) (Optional)

Logistic Management in National Defence

PART-I

1. Logistic Management : [07]  
Definition - Military background - scope - political and Economical  
Factors - Influence of Industrial revaluation - Need for study and  
research of logistic Management.
2. Logistics : [06]  
Principles and objectives of logistic management - Relation to the  
theory of War.
3. The Nature and Structure of War : [07]
  - a. Nature of War
  - b. Spectrum of Conflicts
  - c. Tools of Conflicts
  - d. Limitations of War.
4. Logistic Planing and Programming : [10]
  - a. War time and peace time
  - b. Pattern of Planning
  - c. Levels of Planning
  - d. Recruitment of Planning
  - e. Capabilities of Planning
  - f. Operational Planning.
  - g. Factors of Planning
  - h. Methods of Planning.
  - i. Logistic objectives of planning.
5. Mobilization of War : [10]
  - a. Potential of War Mobilization
  - b. Integrating strategy, Logistics and Tactics.
  - c. Feasibility and Calculated risk
  - d. Logistics requirements of the Armed Forces.

PART-II

6. Problems of Logistic in different terrains : [07]  
i. Requirements of Logistics  
ii. Transportation by - land air, and Sea.
7. Flexibility and Momentum: [07]  
i. Flexibility is rooted in command  
ii. Effect of command and control  
iii. Momentum and mobility  
iv. Logistic momentum  
v. Control of momentum  
vi. Relation to momentum control
8. Logistics of and Industries : [10]  
i. Logistic channel and industrial structure  
ii. Economic resources and industrial base  
iii. Public Sector industries - Logistic channel for Armed Forces.  
iv. Private Sector Industries - Logistic Channel for Armed Forces.
9. Command and Control of Logistic Management : [08]  
i. Factors  
ii. Implication  
iii. Board Command responsibilities  
iv. Logistics and Functions of command in an area.  
v. Practical Problems  
vi. Personal Problems  
vii. Exercise
10. Logistics in the field board Outline : [08]  
i. Army supply corps (ASC)  
ii. Army Ordnance Corps (ADC)  
iii. Army Medical Corps (AMC)  
iv. Electrical & Mechanical Engineer (EMC)

Books

1. Henry E. Ecoles - Logistics in the national Defence
2. Rear Admiral B. Bureau - The Organization of Logistics support system.

[ ] Indicates Number of Periods.

S.Y.B.A./B.Sc.: Special Paper II (6-2)

Geopolitics and Military Geography

PART-I

1. Military Geography Introduction [04]
  - (1) Introduction, (2) Definitions, (3) Scope of the subject, (4) approaches to military Geography, Environmental Matrix, Operational Matrix, section of operational matrix - Transport and Communication system, Military organization and logistics, civil co-operation, (5) Principles of Military Geography, (6) Uses of Military Geography, (7) Military Geography and Political Geography.
2. National Power and Military Geography [06]
  - a. Concept of National Power
  - b. Elements of national Power -
    - i. Geography, Natural Resources.
    - ii. Industrial Development, Military preparedness, population, Science & Technology National moral, Political and Social System etc.
3. Frontiers and Boundries [06]
  - a. Introduction, b. Meaning of Frontiers, c. Meaning of Boundries,
  - d. Types of Boundries : i) Nature, ii) Artificial obstacles, cultural division, Religion, Political Boundries. f. Role of Boundries.
4. Maritime Boundries :
  - a) General, b) Concept of territorial sea, Range, role of territorial water, c) Concept of continental shelf and exclusive economic zone.
  - d) Concept of open sea.
5. Buffer Zone : [06]
  - a) General, b) Land Locked state, - Concept, Problems of Land Locked state, International river, corridor, transit.

6. India's land Boundries and their importance : [11]

- a) Western Border - i) Strategic Importance ii) Sectors - Kashmir, Punjab, Rajasthan, Gujrat, iii) Tactical problems, iv) Kashmir problem
- b) Northern Border - i) Strategical importance ii) Sectors - North West, Central, East. iii) Mac-Mohan Line. c) Eastern Border - i) Geostrategical importance ii) Outer Border internal Border.

PART-II

7. Geopolitics : [05]

- 1. a. Meaning, b. Importance of Geopolitics, c. Scope of Geopolitics. d. Geopolitics and military Geography.

8. Historical evolution of Geopolitical thoughts: [12]

- a. Machinder's Heartland theory - Generalheart land - theory - Objections on theory effect of theory.
- b. Mahan - General - Naval Power theory - affecting factors on naval power-
  - i. Geographical situation of nation
  - ii. Physical structure of nation
  - iii. Physical structure of nation
  - iv. Population
  - v. National Interest and Government Policy.
- c. Haushofer - General - basic principles of theory.
  - i. Economic self sufficiency
  - ii. Living Area
  - iii. Outer Zone
  - iv. Land power Vs. Sea Power
  - v. Boundries
  - vi. Haushofers role through Geopolitical theory.

8. Geostrategy : [05]
- a. Meaning
  - b. Importance of Geostrategy
  - c. Important factors of Geostrategy physical Geography, Land and people culture and Government of state, Binderies of the Nation, climate, Water and communication.
10. Geostrategical Minerals : [05]
- i. Iron, ii. Copper, iii. Boxiet, iv. Mangnies, v. Coal, vi. Uranium etc.
  - Strategic importance of West Asia.
  - Importance of Oil during wartime and peace time.
11. Geostrategic position and importance of : [06]
- a. Di - go - Garcia.
    - General
    - Geographical location
    - Strategical importance
    - India and Di- e go- garcia.
  - b. Andaman and Nicobar Islands
    - General
    - Geographical location
    - Strategical importance
    - Indian and Di- e go- garcia.
  - c. Lakshwadeep Island -
    - Geographical location
    - Strategical importance
    - Indian and Di- e go- garcia.
12. Geographical Factors effecting War : [02]
- i. Boundries wall, strength, Natural obstacles cultural, division, religion.
  - ii. Topography
  - iii. Size and shape - Merits



iv. climatic examples.

v. Location - mathematical, strategical

13. Impact of Geography on Operations :

a. Sea Warfare - main factors of naval operation. i. Open Sea

ii. Restricted Water, iii. Ports & Routs of Communication

b. Air Warfare - General - meaning of Air power.

i. Physical Element -

a. Geographical, Location, size & shapes, Topography, Weather, & Climate.

b. Political realities.

ii. Political realities

iii. Human Elements.

iv. Aviation & Military Technology.

14. Characteristics of :

[02]

a. Plain

b. Desert

c. High Altitude

d. Jungle

Logistics problems in these area during war.

Selected Reading Books

1. Military Geography - Peter Loclis and P.G. Else.
2. Geography and National Power - Jefferies Williams
3. Defence Strategy - S.T. Das.
4. Air Power - Air Commander Jagjit Sing.
5. Systematic Political Geography - Harm Jdi Blj.
6. Political Geography - Ponds.
7. लष्करी भूगोल - चौधरी, परांजपे, तिरतीकर चौधरी.
8. सैनिकी भूगोल - डॉ. परशुराम गुप्त.
9. राजकीय भूगोल - उ. वि. भागवत.
10. ] Indicate Number of Periods.

Section-II  
प्रात्यक्षिक पेटी

१] माहिती संकलन

- १] सीमा व सरहद्द.
- २] बफरझोन.
- ३] पुरवठा व्यवस्था [आखाती युद्ध].
- ४] मूराजनीती.
- ५] लष्करी खनिजे.
- ६] लष्करी संघटना.

२] नकाशा

- १] सांकेतिक चिन्हे.
- २] नकाशावाचन.
- ३] आघातप्रतिबंधक देश.
- ४] लष्करी खनिजे.
- ५] जगातील भूगोळित देश, भूवेष्टीत देश.
- ६] प्रादेशिक [लष्करी] संघटना.
- ७] हिंदी महासागर - नौदल.
- ८] वाहतूक व दळणवळण.
- ९] प्रमाण.
- १०] स्थाननिर्देशक नकाशे.

३] भेट ग्रहवाल

- १] लष्करी छावण्या.
- २] लष्करी कारखाने.
- ३] लष्करी प्रशिक्षण केंद्रे.
- ४] किल्ले.

४] केस स्टडिज्

- १] भारतातील दहशतवादी संघटना.
- २] भारतीय राजकीय प्रश्न.
- ३] भारतीय वायुदलातील विमाने.
- ४] भारतीय नौतेनेतील जहाजे.
- ५] भारतीय स्थलसेनेतील रणगाडे.
- ६] भारतीय क्षेपणास्त्रे.
- ७] EEZ

५] प्रोजेक्ट

- १] प्रत्यक्षनियंत्रण रेषा व अस्त्रनियंत्रण रेषा
- २] तीयाचीन अॅग्रेसिव्हर.
- ३] मॅकमोहन रेषा.
- ४] फराकटा धरण.
- ५] तीन बिघा जमीन [बांगला].
- ६] द्रव्यम संरक्षण संघटना.

६] प्रायदलातीन लष्करी शस्त्रास्त्रे

- १] बंदुका
- २] तोफा
- ३] रणगाडे.
- ४] क्षेपणास्त्रे

७] पेपरकटिंग

- १] सामूहिक
  - २] आर्थिक
  - ३] राजकीय
  - ४] लष्करी
  - ५] धार्मिक इ.
- प्रश्न.

८] समुहचर्चा

- १] रशिया विघटन.
- २] मध्यपूर्वेचे धार्मिक प्रश्न.
- ३] आखाती युध्द
- ४] DRCC
- ५] अत्यडिस्त्राइन युध्द.
- ६] औषेक संघटना.
- ७] मा. अंतर्गत सुरक्षा.
- ८] सुरक्षा प्रश्न.
- ९] मुलाखती व प्रश्नावली.

९] मुलाखती व प्रश्नावली.

[नियुक्त लष्करी अधिकारी].

१०] आलेख/आराखडे

- १] युध्द योजना.
- २] प्रमाणरेखाटन,
- ३] उत्पादन आलेख व आकृत्षा.

११] मॉडेल

- १] भारतीय बनावटीची विमाने.
- २] भारतीय बनावटीची रणगाडे.
- ३] भारतीय जहाजे.

[संरक्षणत्मक माहिती व निरिक्षणासाठी वैश्विक अभ्याससह अत्यावश्यक आहे].

[सविस्तर माहिती लष्करच दाखल करण्यात येईल].

**S.Y.B.A./B.Sc. (8-2) Optional Paper**  
**International Organization**

**PART-I**

- |           |   |              |
|-----------|---|--------------|
| <b>1.</b> | <b>International Organization :</b>   | <b>[12]</b>  |
|           | i. Evaluation, nature and concept.  |              |
|           | ii. Presidents to international Organization  |              |
| <b>2.</b> | <b>League of Nations :</b>  | <b>[12]</b>  |
|           | i. Formation and Organization and the nature of the covenant.                             |              |
|           | ii. Working of the League in the area of Peace & Security Evaluation.                     |              |
| <b>3.</b> | <b>United Nations :</b>   | <b>[16]</b>  |
|           | i. Origin, structure and Principle origins of UN.   |              |
|           | ii. Powers and functions of General Assembly.   |              |
|           | iii. Provisions in the charter for Peace and Security.                                    |              |
| <b>4.</b> | <b>The UN at work for International Peace and Security :</b>                              | <b>[20]</b>  |
|           | i. Peace making and peace keeping, preventive Diplomacy/ use of military force by the UN. |              |
|           | ii. Disarmament   |              |
|           | iii. Outerspace.  |              |
|           | iv. Law of the Sea  |              |
|           | v. Apartheid.   |              |
| <b>5.</b> | <b>U.N. and decolonization :</b>  | <b>[05]</b>  |
| <b>6.</b> | <b>U.N. and Human rights :</b>  | <b>[05]</b>  |
| <b>7.</b> | <b>International Law :</b>  | <b>[10]</b>  |
|           | i. Extradition  | ii. Asylum   |
|           | iii. Intervention   | iv. Treaties |
|           | v. Neutrality.  |              |

[ ] Indicate Number of Periods.

### Selected Reading

1. Good speed : The nature and function of International Organization.
2. Good sped : Stephen S. : The Nature and function of International Organization (2nd edn. ) New York. (Oxford, Uni. Press, 1967).
3. Wood, Robert, S. (ed.) : The process of International Organization (New York Random House 1971).
4. अंतरराष्ट्रीय संबंध आणि राजकारण - प्रा. वराडकर.
5. अंतरराष्ट्रीय संबंध - डॉ. बी.एल. फडिया (हिन्दी माध्यम)
6. Outerspace & Military supremacy - Kailash Thakar

[ ] Indicates Number of Periods.

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