

9) दीनदयाल गोखपुर विद्यालय, गोखपुर
रक्षा मध्येय

MODEL SYLLABUS for Defence and Strategic Studies

Objectives

1. Attainment of sound knowledge about the basics that the students is expected to imbibe in the subject.
2. Having a clear understanding of the key concepts related to the subject along with their applications in real life situations.
3. Development of analytical skills so as to be able to appreciate the importance of the subject and spread its awareness.
4. Inculcate a spirit of nationalism and develop good values contributing to building strong national character.

Programme learning outcomes relating to UG programme.

1. Upon completion of the programme of Bachelor's in Defence and Strategic Studies, a student should have acquired basic competency in strategic affairs covering a wide spectrum of interstate security to global security issues including non kinetic dimensions.
2. Shall develop capability in understanding the implications of use and threat of use of force in International relations.
3. Shall seek, identify and apply the acquired knowledge in defence and strategic studies on contemporary issues of strategic relevance.
4. Ability to move from LOTS (Lower Order of Thinking Skills) to HOTS (Higher Order of Thinking Skills) in Defence and Strategic Studies.
5. The learning of strategic studies shall arm the candidates to independently choose further course of action in his/her life whether pursuing higher education by taking specialized course in honours or identifying a career for himself or herself.

Format for U.G. Examinations

The entire curriculum is to be divided into four units and each question paper will have :

1. First question-compulsory-comprising of 10 short answer questions covering the entire curriculum. This question will carry 40% marks of the total marks.
2. The rest of the question paper will be divided into FOUR UNITS, comprising of two questions in each unit. Therefore ,the total number of questions in each paper shall be NINE.
3. Student will have to attempt one question from each unit.
4. All these Four questions will be of equal marks and will carry 60% marks of the total marks.
5. The minimum passing marks in each paper shall be 33% of the total marks. The candidate has to pass theory and practical separately. Total passing percentage to obtain the degree shall be 36%.
6. In the part-I and part-II there shall be two theory papers and one practical and for BA/BSc-III, there shall be 3 or 4 papers (**depending upon the committee's decision considering the uniformity issue**) and one practical.

B.A./B.Sc.-I

PAPER – 1

CONCEPTUAL ASPECTS OF WAR

Learning Outcomes - After undergoing this course a student will be in a position to –

- Clearly understand the definition, meaning and distinguish basic concepts of war;
- Various types of war and its various typologies, techniques and characteristics; and
- Grasp the concept and theories of nuclear war in detail.

CONTENTS

UNIT-1

i. Conceptual Formulation

- a. Meaning and definition of Defence and Strategic Studies – Its relevance and significance and relationship with other disciplines of study.
- b. War - Definition and meaning and basic concepts – War, Campaign, Battle, Strategy, Tactics, Security and Defence.

UNIT-2

ii. Modern Warfare

- a. Concept and definition
- b. Features of Modern Warfare
- c. Principles of warfare

UNIT-3

iii. War as an Instrument of Policy

iv. Guerilla Warfare

- a. Origin and concept.
- b. Principles, techniques and characteristics of guerrilla warfare.
- c. Counter guerrilla measures.

UNIT-4

v. Psychological Warfare

- a. Definition and concept.
- b. Functions and Limitations.

vi. Nuclear Warfare

- a. Beginning of nuclear era and effects of nuclear explosion.
- b. Nuclear strategies of 'Deterrence' and 'Massive Retaliation'.

SUGGESTED READINGS:

- Andreski S., (1968) Military Organization and Society, Univ. California Press, Berkeley.
- Anthony James Joes, (1996) Guerrilla Conflict before the Cold War, (Praeger Publishers,
- Aron R., (1966) Peace and War: A Theory Of International Relations, Praeger, New York.
- Barringer R., 1972) War: Patterns Of Conflict, MIT Press, Cambridge, Mass.
- Blainey G., (1973) The Causes Of War, Macmillan, London.
- Montgomery Viscount, (1983) A History of Warfare, William Morrow & Co, New York City.
- Mukherji and Shyam Lal, (1952) A Textbook of Military Science, Vol. II., Navayuga, New Delhi.
- Osanka, F.M., (1962) Modern Guerrilla Warfare, Free Press of Glencoe, New York.
- Sidhu, K.S., (1988) War and Its Principles, Atlantic, New Delhi.
- Tripathi, K.S., (1970) Evolution of Nuclear Strategies, Vikas, New Delhi
- Wright, Quincy, (1942) Study of War, University of Chicago Press.

PAPER – 2

INDIAN MILITARY HISTORY

Learning Outcomes - After undergoing this course a student will be in a position to –

- Become familiar in evolution of art of warfare in India;
- Learn and understand the Strategy, tactics, application of principles of war and causes of defeat and victory of various Indian, Mughal, Maratha and Sikh Generals.
- Besides, in a position to appreciate and understand evolutionary changes in the art and science of war in India through ages.

CONTENTS

UNIT-1

i. Macedonian and Indian Military Organisations and techniques of fighting with particular reference to the Battle of Hydaspes, 326 B.C.:

- a. Military Organisations and techniques of fighting of Macedonian and Indians; Opposing forces and their deployment.
- b. Analysis (strategy, tactics, application of principles of war and causes of defeat and victory).

ii. Kautilya's Philosophy of War:

- a. Diplomacy and Strategy; The institution of Spies; Army Organisation; Mode of Warfare.
- b. Forts- Types & Role.

UNIT-2

iii. Military organisations and techniques of fighting of Rajputs and Turks with particular reference to the Battle of Tarain, 1192 A.D.:

- a. Military organisations and techniques of fighting of Rajputs and Turks; Opposing forces and their deployment.
- b. Analysis (strategy, tactics, application of principles of war and causes of defeat and victory.)

iv. Military organisations and techniques of fighting of Mughals with particular reference to the First Battle of Panipat, 1526 A.D.:

- a. Military organisation of Mughals; Opposing forces and their deployment
- b. Analysis (Strategy, tactics, application of principles of war and causes of defeat and victory).

UNIT-3

vi. Military organisations of Marathas under Shivaji and his techniques of fighting:

- a. Shivaji as a military leader.
- b. Military organisation.
- c. Techniques of fighting.

vii. Military organisation of Sikh Army and its fighting techniques under Maharaja Ranjit Singh:

- a. Maharaja Ranjit Singh as a Military leader.
- b. Growth and development of the Sikh Army from 1799-1849
- c. Organisation of the Army d. Fighting techniques of the Sikh Army (Strategy and tactics).

UNIT-4

viii. Anglo-Maratha and Anglo-Sikh Warfare with particular reference to the Battle of Assaye, 1803 A.D. and Battle of Chillianwala

A. Battle of Assaye :

- a. Introduction - Opposing forces and their deployment; Description of the battle.
- b. Analysis (Strategy, tactics, application of principles of war and causes of defeat and victory).

B. Battle of Chillianwala:

- a. Introduction - Opposing forces and their deployment; Description of the battle
- b. Analysis (Strategy, tactics, application of principles of war and causes of defeat and victory).

SUGGESTED READINGS - • Alfred, David., (1953) Indian Art of War, Atma Ram , Delhi. • Bajwa F.S., (1964) Military System of the Sikhs, Moti Lal, Banarsi Dass, Delhi. • Bruce, George., (1969) Six Battles of India, Rupa & Company, Calcutta. • Das, S.T., (1969) Indian Military - Its History and Development, Sagar, New Delhi. • Dikshitar, Ramachandra V. R. (1999) War in Ancient India. Cosmo, New Delhi. • Fuller, J.F.C., (1958) Generalship of Alexander The Great, Natraj Publishes, Dehradun. • Gustav Oppert, (1967) Weapons, Army Organisation and Political Maxims of Ancient Hindus, R.F Patel Rajratan Press, Ahmedabad. • Kangle, R.P., (1963) Kautilya`s Arth Shastra, University of Bombay, Mumbai. • Majumdar, B.K., (1960) Military System in Ancient India, Firma K.L. Mukhopadhyoy, Calcutta. • Majumdar, B.N., (1963) Study of Indian Military History. Army Educational Store, Delhi. • Roy, Kaushik, (2004) From Hydaspes to Kargil: A History of Warfare in India from 326 BC to AD 1999. Manohar, New Delhi.

PRACTICAL

B.A./B.Sc.-II

PAPER – 1

KEY CONCEPTS OF SECURITY AND DIPLOMACY

Learning Outcomes - After undergoing this course a student will be in a position to –

- Develop core competencies in national security affairs by building his/her capacity on essentials of National Security through theory and practice.
- understand the basic concepts of Diplomacy, international relations and how nation-state system works;
- Acquire competency in military and state - centric aspects of international relations; and
- Understand the Contemporary security environment in the world.

CONTENTS

UNIT-1

i. National Power and National Security:

Conceptual Aspects.

ii. Elements of National Security

UNIT-2

iii. National Interest

a. Concept and Definition

b. Vital and Non-Vital Components

c. Instruments to secure National Interest.

iv. International Relations:

Concept and its Historical Evolution.

UNIT-3

v. Balance of Power

- a. Meaning and concept
- b. Historical development of the system

vi. Collective Security

- a. Meaning and Concept
- b. Role of the UN in maintaining Collective Security

UNIT-4

vii. Diplomacy:

Definition, Types and uses

viii. Contemporary security environment in the world in brief.

SUGGESTED READINGS • Booth, Ken, (2007), Theory of World Security: Cambridge University Press, Cambridge. • Buzan, Barry., (1987), People, State and Fear, Trans Asia Publications. New Delhi. • Das, S.T., (1987), National Security in Perspective, Gyan Publishing House, New Delhi. • Frankel, Joseph, (1970), National Interest, Macmillan London. • Military Balance., Latest Edition (IISS) • Morgenthau, Hans J., (1969), Politics Among Nations, Scientific Book Agency, Calcutta. • Palmer, Norman D. and Perkins, Howard C., (1968), International Relations, Scientific Book Agency, Calcutta. SIPRI Year Book Latest Edition. Chandra, P., (1979) International Politics, Vikas Publications, N. Delhi • Kumar, Mahendra, (1967) Theoretical Aspects of International Politics, Shiv Lal Agarwal, Agra. • Sprout and Sprout, (1962) International Politics, Princeton, NJ. • Wright, Quincy, (1980) A Study of International Relations, Irvington Publishers.

PAPER-II

STRATEGIC THOUGHT

Learning Outcomes - After undergoing this course a student will be in a position to –

- Acquaint them with the concepts of strategic thinking as propounded by prominent classical and modern thinkers.
- Students will also develop analytical thinking regarding relevance of such thought to contemporary period.

CONTENTS

UNIT-1

i. Sun Tzu- The Art of war.

ii. Kautilaya's Philosophy of war.

iii. Kamandak and Shukra-Their views on State, King, Forts and Military System

UNIT-2

iv. Clausewitz's theories on war.

v. Jomini's views on Strategy, Tactics and Logistics

vi. J.F.C. Fuller and Liddell Hart: Their views on warfare

UNIT-3

vii. Mahan's Views on Sea Power and Naval Warfare.

viii. Douhet and Mitchell: Their views on the Role of Air Power in Modern Warfare.

UNIT-4

ix. John Foster Dulles and Andre Beaufre - Theories of Nuclear War and Deterrence.

x. Mao-Tse-Tung's views on Guerrilla warfare.

xi. Mahatma Gandhi's views on Conflict Resolution and World Peace.

SUGGESTED READING • Beaufre Andre ., (1965) Deterrence and Strategy, Faber & Faber, London. • Dass, S.T., (1987) An Introduction to the art of war, Sagar Publishers, New Delhi. • Earl, E.M., (1943) Makers of Modern Strategy, Princeton University Press, Princeton. • Fuller, J.F.C., (1992) The Conduct of war: : A Study of the Impact of the French, • Fuller, J.F.C., (1998) Armament and History: The Influence of Armament on History • from the Dawn of Classical Warfare to the End of the Second World War, Da Capo Press, New York • Mao-Te-Tung., (1967) On the protracted War: Selected works, Foreign Language Press, Peking. • Nasution, Abdul Haris., (1965) Fundamentals of Guerrilla Warfare, Fredrick A Praeger, New York. • Reid, Brian Holden., (1987) J.F.C.Fuller: Military Thinker, Palgrave MacMillan, UK. • Shyama Shastri., (2012) Kautilya's Arthashastra, Low Price Publications, New Delhi. • Tzu, Sun., (2015) The Art of War, Grapevine India Publishers, New Delhi.

PRACTICAL

B.A./B.Sc.-III

There shall be 3 or 4 theory papers (**depending upon the committee's decision considering the uniformity issue**) and one practical in UG third year. First two papers will be CORE PAPERS while one or two others may be selected from the cluster of Optional papers.

CORE PAPER – 1

INDIA'S NATIONAL SECURITY

Learning Outcomes - After undergoing this course a student will be in a position to –

- Equip the students with specific knowledge of India's threat perceptions;
- Assess at both internal and external level besides fair idea of problems the country faces as a nation state; and
- Understand the Non Traditional Threats India facing nowadays.

CONTENTS

UNIT-1

i. National Security

- a. Meaning and Definition
- b. Threat Perceptions
- c. Types of threats to India

ii. India's Security Problems since independence.

- a. Geo-political effects of partition.
- b. Effects of Armed Forces

UNIT-2

iii. External Dimensions of India's security

- a. Security problems related to Pakistan including Indo-Pak wars.

b. Security problems related to China including 1962 Sino-Indian war.

iv. Internal dimension of India's security

a. State Sponsored Terrorism in Jammu & Kashmir

b. Insurgency in North eastern states

c. Naxalism

UNIT-3

v. Cyber Threat and National Security

a. Threat typology

b. Impact on Armed Forces & Law enforcement Agencies' Information Systems –

c. Impact on National Economy/Market - Impact on Citizen Security.

UNIT-4

vi. Environment Security – Definition, concept and threats

vii. Energy Security – Definition, concept and threats

SUGGESTED READING • Bajpai, U.S., (1986) India and its Neighbourhood, Lancer International, New Delhi. • Bobbing, Ross and Gordon, Sandy, (1992) India's Strategic Future, Oxford University Press. Delhi • Chatterjee, R.K. (1978) India's Land Borders- Problems and Challenges: New Delhi, Sterling Publishers. • Chaudhury, Rahul Roy, (1995) Sea Power and India's Security, Brassey's, London, • Dass, S.T., (1987) National Security in Perspective Gyan Publishers, Delhi. • Kavic, Lorne J., (1967) India's Quest For Security: Defence Policies 1947-1965, University of California Press, Los Angeles.. • Nayar, V.K., (1992) Threats From Within, Lancer Publications, New Delhi,.. • Rao, Ramakrishna and Sharma, R.C., (1991) India's Borders, Scholars' Publishing Forum, New Delhi. • Singh, Jaswant (1999) Defending India, Palgrave Macmillan India Ltd, New Delhi.

CORE PAPER – II

SCIENCE , TECHNOLOGY AND WARFARE

Learning Outcomes - After undergoing this course a student will be in a position to –

- Acquire knowledge on how significant the role of science and technology is to Society and to National Security.
- The paper also provides realization in contemplating on the military-industrial complex (MIC) of a nation; besides
- Understanding the concepts and applications of Electronics Warfare and Ballistic Missile Defence (BMD).

CONTENTS

UNIT-1

- i. Science, Technology and National Security.**
- ii. Impact of Science and Technology on warfare in Napoleonic era.**
Weapons and Tactics

UNIT-2

- iii. Impact of Science and Technology on warfare in world war-I.**
Weapons and Tactics
- iv. Impact of Science and Technology on warfare in World War-II.**
Weapons and Tactics

UNIT-3

- v. Revolution in Military Affairs and its impact on warfare**
Technologies, Low Intensity Conflicts, New Weapons
- vi. Electronics Warfare: Concept and applications**

vii. **Ballistic Missile Defence (BMD):** Concept and applications.

UNIT-4

viii. **Information Warfare:** Concept and applications

ix. **Technology Transfer**

- a. International interdependence
- b. Role of multinational corporations.

SUGGESTED READING • Anand. A. (2003) Information Technology: The future warfare weapons, Ocean Books, New Delhi. • Arcangelis, Mariode, (1990) Electronics Warfare, Ratna , New Delhi. • Jasbir R.K, (1987) Handbook of military science and Armament Technology, Natraj publications, Dehradun. • Johan Erickson (Ed.) (1966) The Military Technical Revolution: Its Impact on strategic and Foreign Policy, Frederick A Praeger, New York. • Macksey, Kenneth (1986) Technology in War: The impact of Science on weapon development and modern battle, Prentice Hall, New York. • Mann T.S., (1982) Transfer and Technology, Himalaya Publications House, Bombay. • Rajan,Y.S. (2001) Empowering India (with Economic Business & Technological strengths for the twenty First Century), Har Anand Publications, New Delhi,.

B.A./B.Sc.-III

OPTIONAL PAPERS

OPTIONAL PAPER – 1

MILITARY PSYCHOLOGY

Learning Outcomes - After undergoing this course a student will be in a position to –

- To understand and appreciate psychological aspects of war making, military leadership and emotional issues that is faced by soldiers during war and peace.
- Apart from this, they will also learn the importance of leadership, discipline man management, motivation and morale factors in a soldiers' life.

CONTENTS

UNIT-1

i. Military Psychology:

Definition, Scope, Significance and its role during war and peace.

ii. Psychological Weapons of War:

Propaganda, rumor and indoctrination.

UNIT-2

iii. Fear and Panic in War:

Causes, Consequences and management.

iv. Military Leadership:

Meaning, attributes, importance and role of training.

UNIT-3

v. Discipline:

Definition, purpose and tools of maintaining discipline.

vi. Motivation and Morale factors and their utilization in the armed forces.

UNIT-4

vii. **Man Management:-**Concept, importance and strategy vis-à-vis armed forces.

viii. **Emotional problems and adjustment during war and peace.**

SUGGESTED READING • Bartlett, F.C., (1927) *Psychology and the Soldier*, Cambridge University Press, Cambridge. • Baynes, John., (1967) *Morale: A study of Men and courage*, Cassell, London. • Boring, Edward G., (ed.), (1945) *Psychology for the Armed Services*, Natraj Publishers, Dehradun. • Chibber, M.L. (1986) *Military Leadership to Prevent Military Coup*, Lancer International, New Delhi. • Copeland, Norman, (1967) *Psychology and the Soldier*, English Book Depot, Dehradun. UGC Document on LOCF Defence Studies 38 • Hasnain Qamar, (1967) *Psychology for the fighting man*, English Book Depot, Dehradun. • Linebarger, P.M.A., (1954) *Psychological Warfare*, Combat Press, Washington, D.C. • Nidhi Maheshwari, (2016) *Military Psychology: Concepts, Trends and Interventions*, Sage Publication India Pvt Ltd, New Delhi. • Raj Narain, (1979) *Military Psychology*, National Psychological Corporation, Agra.

OPTIONAL PAPER – 2

INSURGENCY AND COUNTER INSURGENCY

Learning Outcomes - After undergoing this course a student will be in a position to –

- Differentiate between insurgency and other types of conflicts.
- Assess the causes for the successes and failures of several insurgency movements; and
- How counter insurgency operations are carried out worldwide and India in particular.

CONTENTS

UNIT-1

i. Unconventional warfare in the Nuclear Age.

ii. Revolutionary war and Guerilla Warfare

UNIT-2

iii. Theory of Guerilla warfare: Mao – Tse -Tung and Che Guevara.

iv. History of Guerilla Warfare

UNIT-3

v. Characteristics, strategy and tactics of Guerrilla warfare

vi. Modern concepts -Urban Guerrilla warfare and its philosophers.

UNIT-4

vii. Counter- insurgency: Basic principles of success of counter insurgency in the Mountains of Greece and in the jungles of Malaya.

viii. Counter Insurgency Operation in India.

SUGGESTED READING • Das, S T (1970) An Introduction to the Art of War, Sagar Publications, New Delhi. • Galula, David (1971) Counterinsurgency Warfare, Sagar Publications, New Delhi. • Guevara, Che (1969) Guerrilla Warfare, Penguin, London. • Laqueur, Walter, (1977) Guerrilla: A Historical and Critical Study, Weidenfeld and Nicolson, London. • Lawrence, T.E. (1927) Revolt in the Desert, Jonathan Cape, London. • Osanka, Franklin Mark (ed.,) (1962) Modern Guerrilla Warfare, The Free Press of Glencoe, New York. • Palit, D.K. (1970) The Essentials of Military Knowledge, The English Book Depot, Dehradun. UGC Document on LOCF Defence Studies 76 • Pye, Lucian W., (1956) Guerrilla Communism in Malaya, Princeton University Press, Princeton, New Jersey. • S T Das, (1970) An Introduction to the Art of War, Sagar Publishers, New Delhi. • David Galula, (1971) Counterinsurgency Warfare, Sagar Publishers.

OPTIONAL PAPER – 3

CONTEMPORARY STRATEGIC ENVIRONMENT

Learning Outcomes - After undergoing this course a student will be in a position to –

- Learn contemporary challenges to peace and stability in the world.
- The contemporary problems of international threats like ISIS, Uyghers, Jaish e Mohammed, Islamic fundamentalism and other issues threatening international peace and security; and
- The course also makes them learn to contemplate response mechanisms to solve conflictual issues.

CONTENTS

UNIT-1

- i. Conflict in Korean Peninsula:** Genesis and Contemporary Trends.
- ii. Arab-Israel Conflict:** Genesis and Contemporary Trends.

UNIT-2

- iii. Afghanistan** in Post Taliban Period and Contemporary Trends.
- iv. Islamic Fundamentalism in Af-Pak region:** Challenges and Responses.

UNIT-3

- v. ISIS and Conflict in Iraq and Syria:** Challenges and Responses.
- vi. Conflict in South China Sea:** Contemporary Trends.

UNIT-4

- vii. State sponsored terrorism in Jammu & Kashmir:** Genesis and Contemporary Trends.
- viii. Uyghur Crisis in China:** Genesis and Contemporary Trends.

SUGGESTED READING • Buzan, Barry and Waever, Ole (eds) (2003) Regions and Powers, Cambridge. • Chauhan, Sharad S., (2003) War on Iraq:, APH Publishers, New Delhi. • Cooley, John K., (2000) Unholy Wars, Penguin Books, New Delhi. • Gilbert, Adrian, (2000) The Encyclopedia of Warfare, Grange Books, Kent. • Goldstein, Joshua S, (1994) International Relations, Harper-Collins New York. • Hiro, Dilip, (2002) War without End, Routledge, London. • Laqueur, Walter, (2003) No End to War, Continuum, New York. • Midlarsky, Manus I. (ed.) (1989) Handbook of War Studies, Unwin Hyman, London. • Moore, John Norton (ed) (1977) The Arab-Israeli Conflict, Princeton University Press.

OPTIONAL PAPER – 4

INDIA'S DEFENCE MECHANISM

Learning Outcomes - After undergoing this course a student will be in a position to –

- Learn the Rank Structure of the Three Services and Recruitment methods for Defence Services.
- Know the Higher Defence Organizations of India; and
- Learn about the defence mechanism of India and evaluate its strengths and weaknesses.

CONTENTS

UNIT-1

i. The Indian Defence Forces

- a. Rank Structure of the Three Services.
- b. Recruitment methods for Defence Services.
- c. Important training Institution of the Three Services.
- d. Second line defence [introduction to Paramilitary Forces in brief]

UNIT-2

ii. Higher Defence Organizations of India

- a. Power of the President of India in relation of Defence.
- b. Role and function of Ministry of Defence.
- c. Composition and function of Defence Committees/NSC.
- d. Chief of Staff and joint service Organization.

UNIT-3

iii. Army Organization

- a. Organization of army Headquarters (Role of COAS and PSOs).
- b. Static and Field formation of Indian Army.
- c. Arms and Services.

UNIT-4

iv. Air Force Organization

- a. Organization of Air Force Headquarters (Role of CAS and PSOs).
- b. Static and Field formation of Indian Air Force.

v. Navy Organization

- a. Organization of Naval Headquarters (Role of CNS & PSOs).
- b. Static and Field formation of Indian Navy.

SUGGESTED READING ♣ Government of India, (1924) The Army of India and its Evolution, Calcutta. ♣ Ministry of Defence, Government of India, Indian Armed Forces Year Book, (Annual). ♣ Palit, D.K., (1989) Essentials of Military Knowledge, New Delhi. ♣ Singh, Nagendra., (1967) Defence Mechanism of Modern State, New Delhi. ♣ Venkateswaran, A.L., (1967) Defence Organisation in India, New Delhi: Government of India.

OPTIONAL PAPER – 5

REMOTE SENSING AND NATIONAL SECURITY

Learning Outcomes - After undergoing this course a student will be in a position to –

- know the Significance of Remote Sensing for National Defence.
- Build capacity on the technical arena of remote sensing application to National Security and impart knowledge on benefits and pitfalls.
- Students will also get the feel of various remote sensing equipments.

CONTENTS

UNIT-1

i. Significance of Remote Sensing for National Defence.

UNIT-2

ii. Remote Sensing:

Basic principles of remote sensing; aerial photography definition, scope, application.

UNIT-3

iii. Concept of remote sensing:

Generation of electromagnetic radiation; imaging system; interaction with atmospheres and Earth surface; sensing platform sensor system.

UNIT-4

iv. Photogrammetry and its significance in remote sensing:

Steps of image interpretations; image displacement, orientation etc.

SUGGESTED READING • C. S. Agarwal and P. K. Garg , (2002) Textbook on Remote Sensing, A.H Wheeler Publishing. • Cracknell A.P. (1990) Introduction to Remote Sensing, Taylor & Francis, London. • Curran, P.J. (1985) Principles of Remote Sensing, Longman, London. • Lueder, D.R., 1959 Aerial Photographic Interpretation, McGraw-Hill, New York. • Thomas M. Lilles and, Ralph W. Kiefer and Jonathan W. Chipman, (2015) Remote Sensing and Image Interpretation 7th edition, Wiley.

OPTIONAL PAPER – 6

GEO POLITICS AND MILITARY GEOGRAPHY

Learning Outcomes - After undergoing this course a student will be in a position to –

- Learn the concepts and relevant attributes of geo politics and military geography for national security.
- Concept and difference between Frontiers and Boundaries, its various types; and
- They shall be in a position to comprehend strategic policies for a nation state and most especially India in our case.

CONTENTS

UNIT-1

i. Introduction

- a. Concept and meaning of Geo-politics
- b. Scope and importance of Geo-politics

ii. Meaning, nature and scope of Military Geography.

UNIT-2

iii. Elements of Military Geography - size, shape, location, climate, topography & population etc.

UNIT-3

iv. Evolution of Military Geography.

- a. History & Development.
- b. Founders of Military Geography - A.T. Mahan, Mackinder, Karl Haushofer.

v. Inter-State relations & Geographical factors.

- a. Frontiers and Boundaries - meaning & differences; types; boundary making & function.
- b. Communication routes- land, sea and aerial- strategic scope.

UNIT-4

vi. Geography and Foreign Policy of India.

- a. India's Geo - strategic significance-location, size, shape, climate, topography, resources etc.
- b. India's borders - nature and characteristics of land border; maritime boundary.
- c. Indian Ocean territory and strategic significance.

SUGGESTED READINGS : ♣ Das, S.T., (1985) Geo-Strategies, Kitab Mahal, Allahabad. ♣ Black, Jeremy, Cambridge Illustrated Atlas, (1996) Warfare, Renaissance to Revolution: 1492-1792, Cambridge University Press, Cambridge. ♣ Chandler, David G., (1996) Atlas of Military Strategy : The Art, Theory and Practice of War, 1618-1878, Arms and Armour London. ♣ William D Puleston, (1939) The Life and Work of Alfred Thayer Mahan, U.N.S. (New Haven, CT,) ♣ Earl Meade, Edward, (1948) Makers of Modern Strategy: Military Thought from Machiavelli to Hitler, Princeton University Press, Princeton, NJ.

PRACTICAL

CONTENT FOR PRACTICALS

Note – The respective university/college are at the liberty to choose or decide the content for practicals as per the decision of Board of Studies in the discipline, however a tentative framework has been suggested for their perusal.

B.A./B.SC.- I

1. Maps: Definition and Features; Classification and its utility for Military;
2. Conventional Signs: Military and Geographical
3. GRID System: Four Figure and Six figure Map References.
4. North: Types of North and finding out True North;
5. Scale: Definition, Methods of representing Scale: Inter-conversion of scale into Representative Fraction, construction of simple scale line and the comparative scale lines.
6. Bearing: Definition, Inter conversion of Bearing in detail.
7. Liquid Prismatic Compass (LPC): Features and functions of its various parts:
8. Slopes and Gradient – Determination of gradients.
9. Inter visibility – Determination of inter visibility in case of rise or fall of slope.
10. Route-Sketching
10. VIVA-VOCE
11. RECORD

B.A./B.Sc-II

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.VIVA-VOCE

5.RECORD

B.A./B.Sc.-III

1. Strategic Maps of India:

India and her neighbours; Indian States and Union Territories with Capitals; Strategic Raw Materials and Defence Industries and Atomic Reactors.

2. Strategic Maps of World:

World Map in 1945, Countries of NATO, Non-Aligned Countries, Countries of South Asia, South East Asia, Far East and West Asia; Nuclear Nations, Indian Ocean Littoral States and World Sea Routes.

3. PAPER CLIPPINGS / SHORT PROJECT / FIELD REPORT

4. VIVA VOCE