

Shri Vishwanath P. G. College Kalan, Sultanpur

(Affiliated)

DR. RAM MANOHAR LOHIA AVADH UNIVERSITY, AYODHYA

Structure of Syllabus for the Program: B.Sc.

Subject: DEFENCE AND STRATEGIC STUDIES



SEMESTER-WISE TITLES OF THE PAPERS IN UG PHYSICS COURSE

YEAR	SEME- STER	COURSE CODE	PAPER TITLE	THEORY/ PRACTICAL	CREDIT
CERTIFICATE					
FIRST YEAR	I	A120101T	Conceptual Aspect of war	THEORY	4
		A120102P	Basics of OperationalExercises-I	PRACTICAL	2
	II	A120201T	Military History of India	THEORY	4
		A120202P	Basics of OperationalExercises-II	PRACTICAL	2
DIPLOMA					
SECOND YEAR	III	A120301T	National Security - Conceptual Aspects	THEORY	4
		A120302P	Basics of OperationalExercises-III	PRACTICAL	2
	IV	A120401T	Strategic Though	THEORY	4
		A120402P	Basics of TEWTs/SandModel Exercises, Sketching, Discussion	PRACTICAL	2
DEGREE IN BACHELOR OF SCIENCE					
THIRD YEAR	V	A120501T	Indian DefenceMechanism	THEORY	4
		A120502T	National Security of India	THEORY	4
		A130503P	Military use of Electromagnetic Spectrum,Press Clipping, Tour	PRACTICAL	2
		A130504R	Research Project-1	PROJECT	3
	VI	A130601T	Science and Technology inRelation to Warfare	THEORY	4
		A130602T	Military Psychology	THEORY	4
		A130603P	Spotting Strategic Locations, Military Models, Presentation	PRACTICAL	2
		A130604R	Research Project-2	PROJECT	3

Semester I

Theoretical Paper

A120101T: Conceptual Aspects of war

Unit	Topics	Total No. of Lectures (60)
I	1. Conceptual Formulation a. Meaning and definition of Defense and Strategic Studies – Its relevance and significance and relationship with other disciplines of study. b. War - Definition and meaning and basic concepts – Understanding various causes of War. Basic Concepts - War, Campaign, Battle, Strategy, Tactics, Security and Defense. c. Ancient Indian War and Defense Strategies	08
II	3. Principles of War 4. War as an instrument of policy : Past, Present and Future	07
III	5. Modern Warfare a. Concept and definition b. Features of Modern Warfare	07
IV	6. Guerilla Warfare a. Origin and concept. b. Principles, techniques and characteristics of guerrilla warfare. c. Counter guerrilla measures.	08
V	7. Psychological Warfare a. Definition and concept. b. Functions and Limitations.	8
VI	8. Economic Warfare a. Concept and definition b. Basic dimensions c. Effects of war on National Economy	6
VII	9. Nuclear warfare a. Beginning of nuclear era and effects of nuclear explosion. b. Nuclear strategies of 'Deterrence' and 'Massive Retaliation'.	8
VIII	10. Chemical and Biological Warfare a. Definition and concept b. Agents, their effect and military use.	8

Suggested Readings:

1. Andreski S., (1968) Military Organization and Society, Univ. California Press, Berkeley.
2. Anthony James Joes, (1996) Guerrilla Conflict before the Cold War, (Praeger Publishers,
3. Aron R., (1966) Peace and War: A Theory of International Relations, Praeger, New York.
4. Barringer R., (1972) War: Patterns of Conflict, MIT Press,
5. Cambridge, Mass. 5. Blainey G., (1973) The Causes Of War, Macmillan, London,.
6. Montgomery Viscount, (1983) A History of Warfare, William Morrow & Co, New York City

Semester I

Prectical

A120102P: Basics of Operational Exercises-I

Unit	Topics	Total No. of Lectures (60)
I	1. Maps: Definition and Features; Classification and its utility for Military; Enlargement and reduction of Maps. 2. Conventional Signs: Military and Geographical	06
II	3. GRID System: Four Figure and Six figure Map References.	08
III	4. North: Types of North and finding out True North; The Pole Star Method; The equal altitude method; Watch method & Compass method.	06
IV	5. Scale: Definition, Methods of representing Scale: Inter-conversion of scale into Representative Fraction, construction of simple scale line and the comparative scale lines.	10
I	6. Maps: Definition and Features; Classification and its utility for Military; Enlargement and reduction of Maps. Conventional Signs: Military and Geographical	06
Suggested Continuous Evaluation Methods: Research Orientation Test with multiple choice questions/short and long answer questions, or Record, Viva Voce.		

Semester II

Theoretical Paper

A120201T: Military History of India

Unit	Topics	Total No. of Lectures (60)
I	1. Military System in Vedic and Epic Age. 2. Macedonian and Indian art of war with particular reference to the battle of Hydaspes (326 B.C.)	08
II	3. Kautilya's Philosophy of War : State Craft, Military Organisation, Weapon, Intelligence System and the Art of War	07
III	4. Turk and Rajput Military System with particular reference to the Battle of Tarran (1192 AD) 5. Military Organisation and Pattern of Warfare during the Sultanate period with particular reference to Ala-uddin Khilji	07
IV	6. The Mughal Military System with particular reference to the First Battle of Panipat (1526 AD) 8. The Rajput Military Organisation, Weapon system and art of fighting with particular reference to the battle of Kanwah (1527 AD)	08
V	9. The Maratha Military System with special reference to the third battle of Panipat (1761 AD)	8
VI	10. Sikh Military System with special reference to the battle of Sobraon (10 Feb. 1846 AD)	6
VII	11. Military System of East India Company, Evolution of Indian Armed forces from 1858 to 1947 A.D., Growth of Indian Navy and Air Force	8
VIII	12. India's Wars post independence (In Brief) a. The First India-Pakistan War (1947- 1948) b. India-China War of 1962 c. The India Pakistan War of 1965 d. Liberation of Bangladesh of 1971 e. The Kargil Conflict of 1999	8

Suggested Readings:

1. Alfred, David., (1953) Indian Art of War, Atma Ram, Delhi.
2. Bajwa F.S., (1964) Military System of the Sikhs, Moti Lal, Banarsi Dass, Delhi.
3. Bruce, George., (1969) Six Battles of India, Rupa & Company, Calcutta.
4. Das, S.T., (1969) Indian Military - Its History and Development, Sagar, New Delhi.
5. Dikshitar, Ramachandra V. R. (1999) War in Ancient India. Cosmo, New Delhi.
6. Fuller, J.F.C., (1958) Generalship of Alexander The Great, Natraj Publishes, Dehradun.
7. Gustav Oppert, (1967) Weapons, Army Organisation and Political Maxims of Ancient Hindus, R.F. Patel Rajratan Press, Ahmedabad.
8. Kangle, R.P., (1963) Kautilya's Arth Shastra, University of Bombay, Mumbai.

Semester II

Practical

A120202T: Basics of Operational Exercises-II

Unit	Topics	Total No. of Lectures (60)
I	1. Bearing: Definition, Inter conversion of Bearing in detail.	06
II	2. Liquid Prismatic Compass (LPC): Features and functions of its various parts: Attempt following exercise on the LPC: To determine magnetic north; Setting of the Map.	08
III	3. To find out the bearing of a point from other point situated on the ground.	06
IV	4. To determine one's and enemy's position on the map by resection and intersection methods with the help of compass.	10
Suggested Continuous Evaluation Methods: Test with multiple choice questions/ Research Orientation/ short and long answer questions, or Record, Viva Voce		

Semester III

Theoretical Paper

A120301T: National Security-Conceptual Aspects

Unit	Topics	Total No. of Lectures (60)
I	1. Introduction (a) Concepts of Nation, State and Nation – State, Security and Defence (b) Origin, Concept, and objectives of National Security.	08
II	2. National Security Analysis Concept, Components and formulation of Security and Defence Policies and their linkages	07
III	3. National and International Security related Concepts a. National Power and its elements, National Interest, Foreign	

	Policy and Diplomacy. b. Balance of Power, Collective Security and Collective Defence, Non-Alignment, Deterrence, Disarmament and arms control	07
IV	4. Challenges and Threats to National Security a. Military Threats/Challenges :Internal and External b. Non-Military Threats/Challenges:Internal and External	08
V	5. Concept of Defence: Threat Perception, Defence Planning and Reforms, Military ,Nuclear and Missile Capabilities of India, China and Pakistan	8
VI	6. Proliferation of weapons of Mass Destruction(WMD)and NPT, CTBT, MTCR, NMD and FMCT	6
VII	7. Armaments: Arms Race, Arms Aid, Arms Trade and Small Arms Proliferation	8
VIII	9. Measures to address the challenges of National Security :a. One-sided initiative , and b. Collaborative approach 10. Relevance of Science & Technology in National Security	8
Suggested Readings: 1. Booth, K., (2007) Theory of World Security: Cambridge University Press, Cambridge, 2. Buzan, Barry., (1987) People Fear and State: New Delhi, Trans Asia Publications. 3. Das, S.T., (1987) National Security in Perspective: Delhi, Gian Publishing House. 4. Frankel, Joseph., (1970) National Interest: London, Macmillan. 5. Military Balance., Latest Edition (IISS) 6. Morgenthau, Hans J., (1969) Politics Among Nations, Calcutta, Scientific Book Agency. 7. Palmer, Norman D. and Perkins, Howard C., (1968) International Relations: Calcutta, Scientific Book Agency 8. Chowdhury, Subrata Roy., (1966) Military Alliances and Neutrality in War and Peace: New Delhi, Orient Longman. 9. Singh, Nagendra., (1974) The Defence Mechanism and the Modern State: New Delhi, Asia Publishing House.		

Semester III

Practical

A114302P: Drawing and Sketching

Unit	Topics	Total No. of Lectures (60)
I	1. Relief Features and their representation on the map.	06
II	2. Types of slopes and their representation on the map	08
III	3. Gradient – Determination of gradients.	06
IV	4. Inter visibility – Determination of inter visibility in case of rise or fall of slope.	10
Suggested Continuous Evaluation Methods: Test with multiple choice questions/ Research Orientation/short and long answer questions, or Record, Viva Voce		

Semester IV

Theoretical Paper

A120401T: Strategic Thought

Unit	Topics	Total No. of Lectures (60)
I	1. Kautilaya's Philosophy of war.	10
II	2. Sun Tzu- The Art of war.	05
III	3. Clausewitz's theories on war and politics.	06
IV	4. Mao-Tse-Tung's views on Guerrilla warfare.	08
V	5 .J.F.C. Fuller and Liddell Hart: Their views on Mechanizedwarfare	08
VI	6. Mahan's Views on Sea Power and Naval Warfare.	8
VII	7. Douhet and Mitchell: Their views on the Role of Air Power in Modern Warfare.	5
VIII	8. Y.Harkabi, John Foster Dulles and Andre Beaufre - Theories of Nuclear War and Deterrence. 9.Thoughts of Mahatama Gandhi and Nehru on Peace, Security and Development.	10

Suggested Readings:

- 1.Dass, S.T., (1987) An Introduction to the art of war 2.Earl, E.M., (1943) Makers of Modern Strategy, Princeton.
- 3.Fuller, J.F.C., (1998) Armament and History, Da Capo Press.4.Fuller, J.F.C., (1992) The Conduct of war, Da Capo Press.
- 5.Shama Shastri., (2012) Kautilya's Arthshastra, Low price Publications.6.Tzu, Sun., (2015) The Art of War, Grapevine, India.
- 7.Duffy, Christopher., (1987) Siege Warfare, Routeledge Kegenpaul.8.Ropp, Theodore., (2000) War in the Modern World, John Hopkins.9.Beaufre Andre., (1965) Deterrence and Strategy, Faber & Faber.
- 10.Mao-Te-Tung., (1967) On the protracted War: Selected works, Foreign Language Press, Peiking.
- 11.Nasultion, Abdul Haris., (1965) Fundamentals of Guerrilla Warfare, Fredrick A Prager.

Semester IV

Practical

A120402P: Basics of TEWTs/Sand Model Exercises, Sketching, Discussion

Unit	Topics	Total No. of Lectures (60)
I	1.Elementary knowledge of- a.Rank structure of the three services b.Study and description of ground c.Judging distance d.Section formation e.Patrolling Or 1.Sand Model Exercises Battle of Panipat, 1526 A.D.Battle of Assaye, 1803 A.D.	08
II	2. Sketching of the Charts of Indian Battles a.Battle of Thagla Ridge, 1962. b.Kargil Conflict, 1999	05
III	3. Sketching of the Charts of Western Battles a..Battle of Trafalgar, 1805. b.Battle of Somme, 1919.	05
IV	4. Lecture and group discussion on current defence topics.	12
Suggested Continuous Evaluation Methods: Test with multiple choice questions/ Research Orientation/ short and long answer questions, Record , VivaVoce		

Semester V

Theoretical Paper -I

A120501T: Indian Defence Mechanism

Unit	Topics	Total No. of Lectures (60)
I	1. Introduction and Differences between Army , Military and Defence Forces 2. Second line Defence [introduction to Paramilitary Forces in brief]	08
II	2. 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.	07
III	3.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.	08
IV	4.Army Organization a.Organization of army Headquarters (Role of COAS and PSOs). b.Static and Field formation of Indian Army. c. Arms and Services.	07
V	5. Air Force Organization a. Organization of Air Force Headquarters (Role of CAS and PSOs). b. Static and Field formation of Indian Air Force.	7
VI	6.Navy Organization a. Organization of Naval Headquarters (Role of CNS & PSOs). b. Static and Field formation of Indian Navy.	7
VII	7.Cooperation Between Armed Forces and Civil Authorities a. Maintenance of Law and Order b.Flood Relief Operations c .Rescue and Relief Operation	8
VIII	8.Indian's Defence Cooperation with Foreign Countries a. Defence Diplomacy.	8

	<p>b. Cooperation on Capacity Building and Training</p> <p>c. Defence Partnerships with Major Powers</p>	
<p>Suggested Readings:</p> <p>1.Venkateswaran, A.L., (1967) Defence Organisation in India, New Delhi: Government of India.</p> <p>2.Government of India, (1924) The Army of India and its Evolution, Calcutta.</p> <p>3.Ministry of Defence, Government of India, Indian Armed Forces Year Book, (Annual).</p> <p>4.Palit, D.K., (1989) Essentials of Military Knowledge, New Delhi</p> <p>5.Singh, Nagendra., (1967) Defence Mechanism of Modern State, New Delhi.</p>		

Theoretical Paper-II

A120502T: National Security of India

Unit	Topics	Total No. of Lectures (60)
I	1. India's Geo-Strategic Location and significance. a. India's Borders- Nature and characteristics of land borders. b. Indian ocean territory and its strategic significance	08
II	2. Indian Concept of National Security a. Meaning and Definition b. Threat Perceptions c. Types of threats to India	07
III	3. India's Security Problems since independence. a. Geo-political effects of partition. b. Effects on Armed Forces	08
IV	4. Determinants of Indian Foreign Policy - Basic Determinants: Objectives of Indian foreign policy; global and regional perspective.	07
V	4. 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. c. Regional Security challenges. d. India's Maritime Security Challenges	07
VI	5. Internal dimension of India's security a. Terrorism in Jammu & Kashmir b. Insurgency in North eastern states c. Naxalism	07
VII	6. Defence Organization in India: - Structure, Objectives, Role, and Problems.	08
VIII	7. National Security Council: Structure and Role 8. National Security Management and Future Challenges	08

Suggested Readings:

1. Bajpai, U.S., (1986) India and its Neighbourhood: New Delhi, Lancer International.
2. Baranwal, S.P., (1984) Measures of Civil Defence in India: New Delhi, Guide Publications.
3. Bobbing, Ross and Gordon, Sandy, (1992) India's Strategic Future: Delhi, Oxford University Press.
4. Chatterjee, R.K. (1978) India's Land Borders- Problems and Challenges: New Delhi, Sterling Publishers.

Practical -I

B014503P: Military use of Electromagnetic Spectrum,Press Clipping,Tour

Unit	Topics	Total No. of Lectures (60)
I	1.Thermal Imaging and Sensors. 2.Radars and its significance.	10
II	3.Introduction to Electronic Warfare in terms of Lasers, ECM, ECCM	08
III	4.Press Clippings on allotted current topics with a brief assignment	06
IV	6.Educational Tour and its report.	06
Suggested Continuous Evaluation Methods: Test with multiple choice questions/ Research Orientation/short and long answer questions,orShort Presentation/Lecturer,Record ,Viva Voce		

Practical -II

B014504R: Research project- I

Unit	Topics	Total No. of Lectures (60)
I	The Candidate has to select and give inputs in any one of the following. It may include 1. Indo-Nepal Border Security and Management 2. Study and assessment of potential cyber threats in your area.	10
II	Involving application of knowledge in solving/analyzing/exploring real life situation/difficult issues related to Defence and Strategic Studies	11
III	Develop a tool for conducting a survey of the selected area and collect data from the area/ seek permission to conduct short training in the area.	12
IV	A detailed Report to be prepared and submitted.	12
Suggested Continuous Evaluation Methods: Prepare Survey or tool on any one of the above areas Research Orientation-Collection of data related to the area. A letter certifying the authenticity of work done from the mentor Report of the identified problems and survey conducted.		

Semester VI

Theoretical Paper- I

A130601T: Science and Technology in Relation to Warfare

Unit	Topics	Total No. of Lectures (60)
I	1.Science, Technology and National Security.	07
II	2.Impact of Science and Technology on Society and warfare.	07
III	3.Transfer of Technology: a .International interdependence b. Role of Multinational Corporations.	08
IV	4.Armament technology (in brief): Armoured vehicles: Tanks and APC`s Aircrafts, UAV's and Missile Submarine and Aircraft carrier	08
V	5. Electronics Warfare: Concept and applications	07
VI	6.Ballistic Missile Defence (BMD): Concept and applications.	07
VII	7.Revolution in Military Affairs (RMA)	08
VIII	8.Defence R&D and Defence Production in India	08

Suggested Readings:

- 1.Arcangelis, Mariode, (1990) Electronics Warfare, Ratna , New Delhi.
- 2.Rehman, A. (1972) Science Technology and Society: New Delhi, People's Publishers House.
- 3.Anand. A. (2003) Information Technology: The future warfare weapons: New Delhi, Ocean books,.
- 4.Baranson, Jack. (1978) Technology and the Multinationals: Lexington, Lexington Books.
- 5.Johan Erickson (Ed.) (1966) The Military Technical Revolution: Its Impact on strategic and ForeignPolicy: New York, Frederick A Prager.

Theoretical Paper-II

A130602T: Military Psychology

Unit	Topics	Total No. of Lectures (60)
I	1. Military Psychology: Definition, Scope, Significance and its role during war and peace.	08
II	2. Psychological Weapons of War: Propaganda, rumor and indoctrination.	07
III	3. Fear and Panic in War: Causes, Consequences and Management.	08
IV	4. Military Leadership: Meaning, attributes, importance and role of training.	07
V	5. Discipline: Definition, purpose and tools of maintaining discipline	7
VI	6. Motivation and Morale factors and their utilization in the armed forces.	7
VII	7. Man Management: -Concept, importance and strategy vis-à-vis armed forces.	8
VIII	8. Emotional problems and adjustment during war and peace.	8

Suggested Readings:

1. Bartlett, F.C., (1927) Psychology and the Soldier, Cambridge, Cambridge University Press..
2. Baynes, John., (1967) Morale, : A study of Men and courage London, Cassell.
3. Boring, E.G., (ed.), (1945) Psychology for the Armed Services, Dehradun, Natraj Publishers.
4. Chibber, M.L. (1986) Military Leadership to Prevent Military Coup, New Delhi, Lancer International
5. Copeland, Norman., (1967) Psychology and the soldier, Dehradun, English Book Depot..
6. Hasnain Qamar., (1967) Psychology for the fighting man, Dehradun, English Book Depot, Publishing Company.

Practical-I

B013603P: Defence and Strategic Studies

Unit	Topics	Total No. of Lectures (60)
I	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.	08
II	2. 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.	08
III	3. Making of Models - a. Fighter Plane. b. Battle Ship. c. Radar d. Submarine e. Tank f. Missile g. Helicopter	08
IV	4. Presentations on current defence topic	06
Suggested Continuous Evaluation Methods: Test with multiple choice questions/short and long answer questions, or Short Presentation/Lecturer, Record , Viva Voce/ Research Orientation		

Practical -II

B013604P: Research Project-II

Unit	Topics	Total No. of Lectures (60)
I	The Candidate has to select and give inputs in any one of the following. It may include..... 1..Any Natural/Man Made disaster of your area and its management. 2.potential there acts to the city security and its management	10
II	An intervention plan would be developed based on problem identified in the area/a field visit is mandatory to develop an understanding of the whole process.	12
III	The planned intervention to be carried in the selected area Based on the i pre- intervention state and post intervention data has to be collected and compared/based on visit and interaction the detailed in depth data has to be collected.	11
VI	A detailed Report is to be submitted and evaluated.	12
<p>Suggested Continuous Evaluation Methods: Prepared intervention plan on any one of the above areas Collection of data related to the area-Research Orientation</p> <p>A letter certifying the authenticity of work done from the mentor Report of the implemented plan and impact/experience of intervention.</p>		