

UNIVERSITY OF PUNE

syllabus for F.Y.B.A.

Defence and Strategic Studies

(w.e.f. June – 2008)

New Syllabus Structure

- F.Y.B.A.G-1 (A) - War & Warfare
G-1 (B) - Defence Organisation of India
G-1 (C) - Military System of India
(upto Revolt of 1857)

F.Y.B.A. G-1 (A)

War and Warfare

1. War :-
 - 1) Meaning and concept.

- 2) Nature and scope of war.
 - 3) Causes of War.
 - 4) Functions of War.
 - 5) Principles and consequences of War.
2. Conventional Warfare
- 1) Meaning and concept
 - 2) Evolution
 - 3) Limited War
3. Modern War
- 1) Meaning and concept.
 - 2) Features
 - 3) Total War.
4. Revolutionary War and Low Intensity Operations
- a) Guerilla War/Asymmetric warfare
 - 1) Meaning and concept.
 - 2) Principles and characteristics.
 - 3) Guerilla strategy and Tactics.
 - 4) Contributors to the Guerilla War.
 - b) Insurgency and Counter Insurgency
 - 1) Meaning and concept.
 - 2) Basic characteristics.
 - 3) Causes.
 - 4) Counter Measures.
- 5) Nuclear Warfare
- 1) Meaning and concept.
 - 2) Origin and development.
 - 3) Effect of Nuclear War.

- 4) Nuclear strategy.
 - 5) Arms race and its effects.
 - 6) Theory of Nuclear Deterrence.
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- 6) Psychological warfare
 - 1) Meaning and Nature.
 - 2) Objectives.
 - 3) Means and methods.
 - 4) Mental health problems of soldiers.
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- 7) Chemical and Biological warfare
 - 1) Meaning and Nature.
 - 2) Objectives.
 - 3) Types, Methods and Effects.
 - 4) Preventive measures.
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- 8) Economic warfare
 - 1) Meaning and concept.
 - 2) Objective.
 - 3) Nature and Means.
 - 4)
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- 9) Changing Perspectives of War

Reference Books :-

1. Samuel B. Payne - The conduct of war – An Introduction to Modern Warfare.
2. Gander T.J. – Nuclear Biological and chemical warfare, London – 1987.
3. Montgomery – A History of warfare.
4. Howard Michael – The theory and practice of war.
5. Liddell Hart B.H. – Strategy : The Indirect Approach.
6. Chaudhari J.N. – Arms, Aims and Aspects.
7. Palit D.K. – Essential of Military Knowledge.
8. Ropp Theodare – War in the Modern world.
9. Palit D.K. – War in the Deterrent Age.
10. Paret Peter (Ed.) - Makers of Modern strategy (Oxford-1986)
11. Garnett John (Ed.) - Theories of Peace and Security (Bristol-McMillan-1976)
12. Bordie B. – Strategy in the missile age.
13. Halperin Morton – Contemporary Military strategy.
14. Khan S.A. Probing war and war fare – A.P.H.Publishing corp. New Delhi-2005.
15. परांजपे श्रीकांत – सामरिकशास्त्र, कॉन्टीनेन्टल प्रकाशन, पुणे
16. चौधरी अर्चना – आधुनिक युध्दपध्दती
17. चौधरी ए.पी., चौधरी अर्चना – आधुनिक युध्दकला, निराली प्रकाशन, पुणे

F.Y.B.A. G-1 (B)

Defence Organisation of India

1. Military organization and principles of Administrations.
2. Reconstruction of Indian Armed forces after 1947.
 - a) Reconstruction of Indian Army.

- b) Reconstruction of Indian Navy.
 - c) Reconstruction of Indian Air force.
3. Higher Defence Organisation in India.
- a) Powers of the President in relation to the Armed forces.
 - b) Parliament and Armed forces.
 - c) Defence committee of the cabinet.
 - d) Ministry of Defence.
 - e) National Security Council
4. Defence Mechanism of the Indian Armed forces.
- a) Chiefs of staff committee.
 - b) Organisation of Army Head-Quarters, Naval Head-Quarters and Air Head-Quarters. (Integrated HQ, Ministry of Defence)
 - c) Organization of Army, Navy, Air commands and Nuclear commands.
5. Second line of Defence / Para Military Forces
- a) Border Security Force
 - b) Coast Guard
 - c) Territorial Army
 - d) Civil Defence
 - e) Home guards.
 - f) Central Reserve Police Force
 - g) State Reserve Police
6. Organisation of Intelligence in India
- a) Introduction and History of Intelligence.
 - b) Principles and process of Intelligence.
 - c) Role of Various Agencies.
 - d) Devices for collecting Intelligence.
 - e) Counter Intelligence.

- f) Indian Intelligence organization.
7. Fighting Arms (Combat Arms)
- a) Infantry
 - I) Characteristics, Role and limitations.
 - II) Infantry Divisions and Battalion organization.
 - b) Armored Corps
 - I) Characteristics.
 - II) Role and limitations.
8. Supporting Arms – Artillery, Engineers & Signal Corps
- a) Characteristics.
 - b) Role and limitations.
9. The Administrative Services – Role in peace and war time
- a) Army service corps.
 - b) Army ordnance corps.
 - c) Army Medical corps.
 - d) Electrical and Mechanical Engineers.
 - e) Judge Advocate Generals Branch
10. Indian Navy
- a) Organisation of the Indian Navy
 - b) Characteristics, Role and limitations.
 - c) Various types of Battleships in Indian Navy.
 - d) Role during war (after independence)
11. Indian Air force
- a) Organisation of the Indian Air Force
 - b) Characteristics, Role and Limitations
 - c) Various types of Aircrafts, in Indian Air force.
 - d) Role during war (after independence)

Reference Books :-

- 1) Venkateshwaram A.L. – Defence Organisation in India, India Pub. Divisional – 1967, Delhi-6.
- 2) Nagendra Singh – Defence Mechanism of Modern state.
- 3) Stephan Cohen – Indian Army – A sketch of it's History and Organisation.
- 4) Brig. Rajendra Singh – Organisation and Administration in the Indian Army.
- 5) Lt.Col.Abhyankar M.G. – Defence, Principles and Organisation (Usha Prakashan, Pune-7, 1974)
- 6) Ministry of Defence – Annual reports.
- 7) वेंकटेश्वरन ए.एल. – भारत का रक्षा संघटन, मध्यप्रदेश हिंदी ग्रंथ अकादी, भोपाळ १९७३.
- 8) ले.के.अभ्यंकर एम.जी. – संरक्षणशास्त्र आणि संघटना, उषा प्रकाशन, पुणे-७, १९७४.
- 9) चौधरी, जाधव, सैदाणे अर्चना चौधरी – भारतीय लष्करी संघटना, निराली प्रकाशन, पुणे
- 10) श्रीवास्तव जे.एम. – आधुनिक राज्यका रक्षातंत्र.
- 11) डॉ.लल्लनजी सिंह – आधुनिक राज्य का रक्षातंत्र.
- 12) डॉ.पुरुषोत्तम गुप्त – वर्तमान रक्षातंत्र.

F.Y.B.A. G-1 (C) **Military system of India** **(Up to Revolt of 1857)**

[India, right from its ancient period, had organized systems of warfare, even though its war over smarted by foreign aggressors often. This paper attempts to familiarize the military system of selected monarchs/era.]

1. Meaning, Scope and sources of Military History.
2. Military System In Ancient India

- a) Military system of vedic period
 - b) Alexander's invasion of India (Battle of Hydaspes).
 - c) Mauryan military system (Kautilya's philosophy of war organization, Art of war etc.)
 - d) Guptas' military System.
3. Military System In Medieval India
- a) Rajputs Military system
 - b) Turkish military system (Battle of Somnath & Battle of Terrain I & II)
 - c) Sultanate Military system & military reforms.
 - d) Mughal Military system – (Battle of Panipat I & Battle of Haldighat)
4. Military System In Maratha Period
- a) The rise and the conquest of Shivaji
 - b) Shivaji's art of warfare
 - c) Organisation of Maratha Army and Navy in the 17th century.
 - d) The decline of Marathas
5. The Sikh Military System
- a) Rise of Sikh militarism (rise of Guru Gobind Singh)
 - b) Military system of Maharaja Ranjit Singh
 - c) Introduction of Anglo – Sikh wars
 - d) Causes of decline of Sikh militarism
6. Rise Of Presidency Army
- a) British conquest of Bengal (Battle of Plassey)
 - b) Military causes of Revolt of 1857
 - c) Causes of failures of the revolt.

Reference Books :-

- 1) R.C.Dikshitar – War in Ancient India, Madras, 1948
- 2) K.B.Kangley – Kautilya Arthshastra, Bombay – 1922
- 3) J.N.Sarkar – Military History of India, New Delhi – 1973
- 4) S.N.Sen – The Military system of Marathas, New Delhi – 1977
- 5) Brig. K.G.Pitre – War History of the Marathas, Pune – 1988
- 6) A.R.Kulkarni – The Marathas, New Delhi – 1996

- 7) Chopra, Puri, Das & Pradhan – A New Advanced History of India, New Delhi – 1996.
- 8) का.ग.पिले – हिंदुस्थानचा संक्षिप्त युद्धेतिहास. (मुंबई, नवचैतन्य प्रकाशन – १९९२)

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syllabus for F.Y.B.Sc.

Defence and Strategic Studies

(w.e.f. June – 2008)

New Syllabus Structure

- F.Y.B.Sc. – D.S.-1 - War & Warfare
- D.S.-2 - Defence Mechanism &
Military Career in India
- D.S.-3 - Evolution of Defence
Science & Technology

F.Y.B.Sc. D.S.-1 **War and Warfare**

Section - I

1. War :-
 1. Concept, Meaning and Functions of War
 2. Theory of War
 3. Causes of War
 4. Classification of War
 5. Nature and Scope of War
 6. Principles and Consequence of War
2. Revolutionary Warfare & Low Intensity Conflicts (LIC) – Asymmetric warfare
 1. Introduction to Revolutionary Warfare
 2. Type-Insurgency, Terrorism and Naxalism
 3. Classification of LIC
 4. Basic Characteristics of LIC
 5. Causes of LIC
 6. Constraints and Compulsion in Democracy in Controlling LIC
 7. Phases & Principles of Guerilla Warfare
 8. Propagators of Guerilla Warfare
 9. Counter Measures

Section - II

3. Psychological Warfare
 1. Introduction, Definitions, Aims
 2. Subjects of Propagation in Psychological War
 3. Types of Psychological Warfare
 4. Tactics and Methods
 5. Brain Washing
 6. Scope and Importance
4. Economic Warfare
 1. Introduction
 2. Economic Aspects of Defence
 3. Methods
5. Chemical and Biological Warfare
 1. Introduction
 2. Characteristics
 3. Various Gases and Biological Agents
 4. Advantages and Disadvantages
6. Nuclear Warfare
 1. Introduction
 2. Nuclear Strategy
 3. Theory of Nuclear Deterrence
7. Information Warfare
 1. Introduction
 2. Significance
 3. Application
8. Changing perspective of National Security and Warfare

Reference Books :-

1. Clausewitz, Carl Van, "On War" Indexed Edition, Michael Howard & Peter Paret (ed) New Jersey – Princeton University Press, Princeton 1981
2. Khan J A "Probing War and Warfare" APH Publication, New Delhi, 2005
3. Duppy Trevor "Future War" London : Sidgwick & Jackson 1992
4. Gander T J "Nuclear, Chemical & Biological Warfare" London Ian Allan Ltd. 1987.
5. Kitson Frank "Warfare as Whole" London Faber & Faber 1987.

F.Y.B.Sc. D.S.-2

Defence Mechanism and Military Career in India

[Justification – This paper is introduced with the aim that students should know about their armed forces, its organizational structure, sub structure, role and functions of each arm participating in the process of national defence. Also this paper will emphasize on career options available in armed forces]

Section - I

1. Principles of Defence Organization

2. Higher Defence Organization in India
 - a) Powers of President as a supreme commander of armed forces
 - b) Defence Committee of the Cabinet

- c) Ministry of Defence – its Organization and Functions
 - d) National Security Council
 - e) Chief of Defence Staff Committee
3. Army headquarter and it's Commands
- a) The Combat Arms
 - I) Infantry-Characteristics, Role and Limitations
 - II) Armored Corps-Characteristics, Role and Limitations
 - b) Supporting Arms
 - I) Artillery – Characteristics, Role and Limitations
 - II) Engineers – Characteristics, Role and Limitations
 - III) Signal Corps – Characteristics, Role and Limitations
 - c) Role of Administrative Services in Peace and War
 - I) Army Service Corps
 - II) Army Ordnance Corps
 - III) Electrical & Mechanical Engineers
 - IV) Army Medical Corps
 - V) Judge Advocate Generals Branch

Section – II

4. Organisation of the Indian Navy
- a) Naval Headquarter and its Commands
 - b) Characteristics, Role and Limitations
 - c) Various types of Battleships in Navy
5. Organisation of Indian Air Force
- a) Air Headquarter and its Commands
 - b) Characteristics, Role and Limitations
 - c) Various types of Aircrafts in Air Force
6. Second Line of Defence / Para Military Forces

- a) Border Security Force
- b) Coast Guard
- c) Territorial Army
- d) Civil – Defence
- e) Home guards
- f) C.R.P.F.
- g) S.R.P.F.

7. Military Career

- a) Career Options in Army
- b) Career Options in Navy
- c) Career Options in Air Force
- d) Career Options in Para – Military Forces
- e) Career Options in Intelligence Organisations in India

F.Y.B.Sc. D.S.-3

Evolution of Defence Science & Technology

[The war, its art and technology are always governed by its weapon system, the Science and Technology behind it. This paper attempts to survey the contribution of Science and Technology to warfare over last 500 years]

Section - I

Unit - I

The Age of Gun Powder and the beginning of Modern Warfare up to Napoleon era :-

- a) Small Arms
- b) Artillery
- c) Naval Weapons
- d) Strategy & Tactics on Land & Sea
- e) Strategy & Tactic on Land & Sea during Napoleon Era

- f) Evolution of Air Power

Unit – II

Impact of S & T between up to World War I

- a) Emergence of Professional Army & military theory
- b) Weapons and Tactics on Land
- c) Weapons and Tactics on Sea
- d) Introduction of Aerial Weapons and concepts of Air Power

Unit – III

World War I and The ear of Total Wars

- a) Weapons, doctrines and Tactics on Land
- b) Revolution in Arms & Technical Advances in Land Warfare
- c) Weapons & Tactics in Sea Warfare
- d) Weapons & Tactics in Air Warfare – the concept of Flights Triumph
- e) Technological development between the World Wars – I and II in Land, Sea and Air

Section - II

Unit – IV

World War II and the dawn of Nuclear Era.

- a) Introduction of Hi-Tech weapons-Missiles, Submarines etc.,
- b) The Birth of Nuclear Weapons & Nuclear Doctrines
- c) Revolution in Delivery systems – introduction to various kinds of Missiles-ICBM, SLBM etc

Unit – V

Revolution in Military Affairs and its impact on weapons and warfare

- a) Emergence of New Technologies
- b) Revolution in Small Arms in Low Intensity Conflicts
- c) Emergence of Improvised Explosive Devices (IED) & its impact on LIC

Unit – VI

Energy –

- a) Definition
- b) Application
- c) Principle of conservation of energy
- d) Different forms of energy
- e) Sources and it's distribution
- f) Co-relation between energy security and national Security

Reference Books :-

1. Macacy, Kannets – ‘Technology in World Arms & Armour’, London, 1961.
2. Mortin Van Crefield – “Technology and War”, London Brassey’s, 1996
3. Nanda B.S. – Science and technology in India’s Transformation concept, New Delhi – 1986
4. Malegaonkar P.D. – Technologies for economic development, Oxford & ZBH Pub. New Delhi – 1981
5. Lee P.G. – Introduction to Battlefield Weapon system and technology; Brassey’s Oxford, 1981
6. June Goodfield – An Imagined Word – A story of Scientific Discovery, London 1981.

7. Trevor I. Williams – A short History of 20th Century Technology, Oxford, New York, 1982.
8. Turner D.M. & Barber – The book of scientific discovery.
9. Singer Charles – A short History of Scientific Ideas.
10. Singer Charles, Holnry & Hall Williams I.T. – A History of Technology