SCHEME OF EXAMINATION

MILITARY SCIENCE

M.A. / M.Sc. [Previous & Final]

Year 2016-2017 Onwards

There shall be Eight written Papers with part A & B in four Semesters, 100 marks each Paper Comprising 85 marks for Theory and 15 marks for C.C.E. Candidate Shall be required project of 50 marks in the Fourth Semester and Practical 50+50 marks in the all four semester Exam.

The Candidate has the option 4 Paper in the Previous and 4 Paper in the Final Exam. Out of the following Papers and Practical + project (In Fourth Semester only).

M.A. / M.Sc. [Previous]

SEMESTER-I&II

- 1. Evolution of Strategic Thoughts.
- 2. History of Warfare in the west from 1861-1945.
- 3. Disarmament, Arms control and Peace.
- 4. Nuclear, Biological & Chemical Warfare. Practical Work. C.C.E.

M.A. / M.Sc. [Final]

SEMESTER - III & IV

- 1. Military History of India.
- 2. Military Psychology.
- 3. Area Study (Indian Ocean / Jammu & Kashmir / North East Hill States).
- 4. Science & Technology in War. Practical Work.

Project Work. (In Fourth Semester only).

C.C.E.

NOTE -

- 1. A qualifying pre-Admission test may if necessary, be conducted for the Non Military Science candidates and onward admission should be given only on the merit basic of the conducted test in M.A./M.Sc. Previous class of Military Science.
- 2. The course contents of each Paper have been divided into part A & B and divided into 5 units. There will be internal choice in each unit in place of overall choices.
- 3. Question asked in the past year/years may be repeated in the Examination of the current year.

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Military Science

M.A. / M.Sc. [Previous]

SEMESTER-I

PAPER - I [Part A]

Evolution of Strategic Thoughts

Marks -85

Unit -1.

- Introduction Approaches to Study of Strategy Elements and Early Concept of Modern Strategy.
- Niccolo Machiavelli (1469 1527).
- Gustavus Adolphus (1594 1632).

Unit -2.

- Sebastein Vauban (1633 1707).
- Fredrick the Great (1740 1780).
- Helmuth Karl Moltke.

Unit - 3.

- 1. Napoleon Bonaparte (1769 1821).
- Antone Hanre Jomini (1779 1869).
- Karl Von Clausewitz (1780 1831).

Unit - 4.

- 1. Adam Smith (1723 1790).
- Alexander Hamilton (1757 1804) & Friedrich List (1789 1846).
- Karl Marx (1818 1883) & Freidrich Engels (1820 1895).

Unit - 5.

- 1. Count Alfred Schlieffen (1833 1913).
- 2. Marshal Ferdinand Foch (1851 1929).
- 3. Hans Delbruck (1848 1929).

Books Recommended:-

Study of war Vol. - I. 1. Quincy Wright Makers of Modern Strategy.

Edward Meade Earl The Art of war in Italy. Taylor

On war. 4. Clausewitz The Art of war.

Jomini Military concept of the Social Revolutionaries. Engels & Mark

Second World War. 7. Churchill

8. Liddell Hart Strategy the Indirect Approach.

Thoughts on war. 9. Liddell Hart

Word of wisdom on war. 10. Brig. Rajendra Singh

Contemporary Military Strategy. 11. Helprin

12. John Bylis Contemporary Strategy.

Fundamentals of Guerrilla Warfare. 13. Abdul Hariss Nasutian

14. Lord Tedder Air Power in war.

continue --- Evolution of Strategic Thoughts. (PART-A)

15. Fuller J.F.C. Conduct of war. 16. Howard Michael Grand Strategy of world war second. 17. Palit D.K. War in the Deterrent Age. 18. Rope, Theodore War in the Modern world. 19. Cyrill Falls Hundred Years of war. 20. Aror, Raymond The Century of total war. 21. Aror, Raymond Peace and war. American Democracy and Military Power. 22. Schwars, Lonis 23. V.D. Sokolovasky Soviet Military Strategy. 24. Robert E. Osgood Limited war, The Challenge to American Strategy. 25. Johari R.C. Pashchatya Sainya Vichark (Hindi). 26. B.R. Pandey & R.S. Pandey Stratgiya Chintan (Hindi). Stratgiya Chintan (Hindi). 27. J.M. Shrivastava Sainya Vicharak (Hindi). 28. Lallan Ji Singh Battles of World War and Post War development (Hindi) 29. G.C.Shrivastava Modern Strategic Thought. 30. Adhikari, Shekhar

Note: - Any other Books and Journals may be Prescribed enrich the Standard of Performance in the items Listed above under Theory Paper.

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Modern Guerrilla Warfare.

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DAVI AHILYA UNIVERSITY, INDORE [M.P.]

Military Science

M.A. / M.Sc. [Previous]

SEMESTER-I

PAPER - II [Part A]

History of Warfare in the west from 1861-1945

Marks -85

Unit - 1.

1. Industrial revolution and its influence on American imperialism.

- Emergence of the theories of mass struggle as enunciated by Jomini, Clausewitz, Engels and Karl Marks.
- 3. Practical application of the concept of total war in the battle of Chattanooga (23- 25 Nov. 1863) and subsequent development of the American civil war.

Unit -2.

- 1. Expansion of Prussia and the first Battle of Sedan (01 September to 04 September 1870) with special reference to the Strategic doctrines of Clausewitz, Bismarck and Moltke.
- 2. Increasing importance of Transport and Commutation, impact of development heavy Artillery on war and warfare with special reference to the Siege of Port Author (08 February 1904-02 January 1905).
- 3. Foundations of the First World War (1914-1917), impact of Industrial and Commercial rivalry.

Unit - 3.

- 1. Battle of Tannenburg (26-30 August 1914) and First Battle of Mane (05-12 September 1914) with special reference to the Application of the Strategic thought of I.S. Block and Gen. Foch.
- 2. Application of the Schlieffen Moltke plan in the Battle of the Tannenburg and Mane.
- 3. First Battle of Ypres (19 Oct. 1914 22 Nov. 1914), Second Battle of Ypres (22 April 1915 25 May 1915), Third Battle of Ypres (31 July 1917 10 Nov. 1917).

Unit - 4.

- 1. The Battle of Verdun (21 Feb. 1916 18 Dec. 1916).
- 2. The Battle of Somme (01 July 1916 18 Nov. 1916).
- 3. The Battle of Cambrai (20 Nov. 1917 04 Dec. 1917).

Unit - 5.

- 1. The Second Battle of Marne (15 July 1918 06 August 1918).
- 2. The End of Mobile warfare and beginning of Siege warfare.
- 3. Impact of Siege warfare till the Battle of Amiens (08 August 1918 to till end of World War First).

Books Recommended:-

J.F.C. Fuller

The Decisive Battles of the Western World Vol.-III [To be used as a text book]

J.F.C. Fuller : The Second World War.

Monte Gomery : Normandy to Baltic Liddell Hard : Rommel Papers.

Lt.Gen. Francis Tuker : The Pattern of war.

J.F.C. Fuller : A Military of the Western World.

Vasim Ahmed Khan
 Gyan Chandra Shrivastava
 Wishva ke Prasiddha Yuddh.
 Battle of world war and Post war Development (Hindi).

Major E.W. Sheppard : The Study of Military History

Note: - Any other Books and Journals may be Prescribed enrich the Standard of Performance in the items Listed above under Theory Paper







Military Science

M.A. / M.Sc. [Previous]

SEMESTER-I

PAPER - III [Part A]

Disarmament, Arms Control and Peace

Marks -85

Unit - 1.

- 1. Basic Concept, Meaning, Definitions, Historical Background, Aim and Types of Disarmament.
- 2. Nature and the development of Disarmament.
- 3. Conditions of Disarmament and Disarmament Machinery.

Unit - 2.

- .1. Necessity of Disarmament.
- 2. Global Disarmament and Problems of Disarmament.
- 3. Arms regulation and Disarmament.

Unit - 3.

- 1. Disarmament and International Security.
- 2. Role of India towards Disarmament.
- 3. Disarmament and Arms Control in International Relations.

Unit - 4.

- 1. Unilateral efforts towards Disarmament.
- 2. Bilateral efforts towards Disarmament.
- 3. Multilateral efforts towards Disarmament.

Unit - 5.

- 1. Basic concept, Definitions, Historical Background and the development of Arms Control.
- 2. Necessity of Arms Control, Regional Arms Control and Confidence.
- 3. Strategic Offensive Reduction Treaty (SORT).

Books Recommended:-

Osmidf Helmut

Wilfrid Knapp

18

19

Headley Bull The Control of Arms Race. Arms Control and Disarmament. Brenan, D.G. The Arms Debate Levine, Robert, A Deterrence Arms Control and Disarmament Singer, J.D. Arms Control in International Politics. Edwards Containing the Arms Race Stone, J.H. Dough Control for Late Sicties Van Bostrand The Spread of Nuclear Weapons. Beaton Neddox The Imperial Republic. Raymond Aror War and Peace. Raymond Aror Study of War and Peace. Howard, Michael Theories of Peace and Security. John Garrett (ed.) 12 Politics among the Natious - The Struggle for Power & Power. 13. Morgenthau, Hans. J. A history of War and Peace. 14 Khopp, w. Arms trade with the third world. 15. Sepri Sipri Year book - 1983 & others. 16. Sepri Harkabi, Y. Nuclear war and nuclear peace. 17

Note: - Any other Books and Journals may be Prescribed enrich the Standard of Performance in the items Listed above under Theory Paper.

A history of War and peace (1939 - 1965).

Defence of Retaliation

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DAVI AHILYA UNIVERSITY, INDORE [M.P.]

Military Science

M.A. / M.Sc. [Previous]

SEMESTER-I

PAPER - IV [Part A]

Nuclear, Biological & Chemical Warfare

Marks -85

Unit - 1.

- 1. Nuclear Warfare: Historical Development, Meaning and Definition and Types.
- 2. Consequences of Large Nuclear Warfare.
- 3. Nuclear Darkness and Nuclear Famine.

Unit - 2.

- 1. Limited Nuclear War and Nuclear Fallout.
- 2. Policy of Mutually assured Destruction.
- 3. Effect of the Global Nuclear War or third World War.

Unit - 3.

- 1. Defence against the Nuclear Device.
- 2. The Nuclear Device and Effects of Nuclear Device.
- 3. Delivery Systems and Hardware

Unit - 4.

- 1. The Nuclear Device in Action.
- 2. The Nuclear Balance.
- 3. Nuclear Deterrence.

Unit - 5.

- 1. Nuclear Strategy and Defence.
- 2. SDI- Strategic Defence Initiative (Star Wars).
- 3. Nuclear Weapons and Security

Books Recommended:-

1. Frank Branbay : Future war.

Col. Friedman Richard S
 Royal Swedish Academy
 Advanced Technology warfare.
 Nuclear war the Aftermath.

4. T. J. Gander : Nuclear, Biological and Chemical Warfare.

5. Stephen King Hall
6. Rajvir Singh
7. Defence in the Nuclear Age.
War and Peace in the Nuclear Age.

7. Subramniyam : Nuclear Pakistan.

8. Roman Kolko : Dilennas of Nuclear Strategy.
9. Brassey's : Nuclear and Non – Nuclear Del

9. Brassey's
10. Nirmal Jindal
11. Nirmal Jindal
12. Nuclear and Non – Nuclear Defence Options, war As a Political Weapon in the Nuclear Age

11. Dr. Indu Prakash
 12. Dr. Indu Prakash
 13. Dr. Indu Prakash
 14. Dr. Indu Prakash
 15. Paryavaran aur Rashynic Kitanu Yuddh. (Hindi)
 16. Paryavaran aur Rashynic Kitanu Yuddh. (Hindi)

13. Dr. Indu Prakash : Prakshepiki. (Hindi)

14. Dr. Vishnu Kant Sharma
15. Geoff Plunkett
16. Rashynic Yuddh ki Taknik. (Hindi)
17. Chemical Warfare in Australia.

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continue - - Nuclear, Biological and Chemical Warfare - Part-A

16. Dr. Hauk Ellison

17. K. Coleman18. William J. Broad

19. Curt Wachtel &Fritz Haber

20. Donald A Cameron

21. Jonathan B. Tucker

22. Paul R. Ziaya

23. Stephen Endicott and Edward Hagerman

Chemical Warfare during the Vietnam War.

A History of Chemical Warfare.

Germs: Biological Weapons and America's Secret war

Chemical Warfare.

Chemical Warfare Poison Gas in the Coming war.

War of Nerves Chemical Warfare from World War I to Al-Qaida.

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Biological and Chemical Warfare.

United States and Biological Warfare.

Note: - Any other Books and Journals may be Prescribed enrich the Standard of Performance in the items Listed above under Theory Paper.

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Military Science

M.A. / M.Sc. [Previous]

SEMESTER-I

Practical Work [Part A]

Marks -50

CARTOGRAPH A.

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isted

- Study of Map & Map Reading.
- Grid System & Map Reference.
- Conventional Sign (Geographical & Military).
- Scale and their transformation.
- 5. Index to Sheet No.
- . 6. Enlargement and Reduction of Maps.

OR

REMOTE SENSING B.

- Study of Given Area in B/W, Infra Red Colour and Infra Red Colour Photographs.
- Study of Multi Spectral Photographs using Additive Colour Viewer.
- Study of Land sat Imagery bond 4,5,6,7 and Visual interpretation.
- Study of Thermal imagery and Drawing of Isotherm.
- Study of RADAR Imagery and interpretation of Features.
- Land use classification, Visual interpretation in Individual Bands/Colors.
- SPOTTING: Recognition of Aircrafts, Ships and Tanks Models. C.
- GROUP DISCUSSION: Conduct of Group Discussion with reference to the Syllabus of I / II Sem. D.

Group Discussion will be gone through in the Periods allotted on topic of the syllabus but at the time of the Practical Examination one of the given four from the syllabus be selected for the purpose of assessment by the External and Internal Examiners.

Lecturing on Current Topic. E.

Books Recommended:-

B.N. Maliwal

Prayogatmak Sainya Vigyan Vol-1.

Narendra Singh

Prayogatmak Sainya Vigyan.

Brig. Rajendra Singh

Map Reading Prayogatmak Sainya Vigyan.

J.M.Srivastava

Map Reading

Balwant Singh

Map and Survey

Tanks

Map Projections

Steers

Map and Map Work.

Bygott

General Cariogrephy.

Raize

Thomas

Surveying

Kanetkar

Surveying & Leveling Vol - I.

Andrew Bayed 12

Attas of world Affairs

Andrew Bayed

For Spotting Summary

H.M.S. London

Manual of Map Reading, Air Photo Reading and Field Sketching Part I, II & III.

Sarvekshan N.P. Ayyar

Note: - Any other Books and Journals may be Prescribed enrich the Standard of Performance in the items Listed above under Practical Paper



Military Science

M.A. / M.Sc. [Previous]

SEMESTER - II

PAPER - I [Part B]

Evolution of Strategic Thoughts

Marks -85

Unit - 1.

- 1. Erich Friedrich-Wilhelm Ludendorff (1865 1937).
- 2. Capt. B.H. Liddell Hart (1895 1970).
- 3. Maj. Gen. J.F.C. Fuller (1878 1966).

Unit - 2.

- 1. Guilio Douhet (1869 1930), General William L. "Billy" Mitchell (1879 1936) & Alexander Seversky (1894 1974).
- Alfred Thayer Mahan (1840 1914) & Douglas MacArther (1880 1964).
- 3. Andre Beufre (1902 1975).

Unit - 3.

- 1. Adolf Hitler (1889 1945).
- 2. Winston Churchill (1874 1965).
- 3. Henary Alfred Kissinger (1923).

Unit - 4.

- 1. Halford J. Mackinder (1861 1947).
- 2. Karl Haushofer (1869 1946).
- 3. Rudolf Kjellen (1864 1922).

Unit - 5.

- 1. Sun-Tzu (544 B.C. 496 B.C.)
- 2. Viadimir Illyich Ulyanov Lenin (1870 1924).
- 3. Mao-Tse-Tung (1893 1976) & Che-Guevara (1928 1967).

Books Recommended:-

1. Quincy Wright : Study of war Vol. - I.

2. Edward Meade Earl : Makers of Modern Strategy.

B. Taylor The Art of war in Italy.

. Clausewitz : On war.

5. Jomini : The Art of war.

6. Engels & Mark : Military concept of the Social Revolutionaries

7. Churchill : Second World War.

8. Liddell Hart : Strategy the Indirect Approach.

9. Liddell Hart : Thoughts on war.

10. Brig. Rajendra Singh11. HelprinWord of wisdom on war.Contemporary Military Strategy.

12. John Bylis : Contemporary Strategy.

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Continue --- Evolution of Strategic Thoughts - (PART-B)

Abdul Hariss Nasutian	:	Fundamentals of Guerrilla Warfare.
14. Lord Tedder	:	Air Power in war.
15. Fuller J.F.C.	:	Conduct of war.
Howard Michael	:	Grand Strategy of world war second.
17. Palit D.K.	:	War in the Deterrent Age.
18. Rope, Theodore	:	War in the Modern world.
19. Cyrill Falls	:	Hundred Years of war.
20. Aror, Raymond	:	The Century of total war.
21. Aror, Raymond	:	Peace and war.
22. Schwars, Lonis	:	American Democracy and Military Power.
23. V.D. Sokolovasky	:	Soviet Military Strategy.
24. Robert E. Osgood	:	Limited war, The Challenge to American Strategy.
25. Johari R.C.	:	Pashchatya Sainya Vichark (Hindi).
26. B.R. Pandey & R.S. Pandey	:	Stratgiya Chintan (Hindi).
27. J.M. Shrivastava	:	Stratgiya Chintan (Hindi).
28. Lallan Ji Singh	:	Sainya Vicharak (Hindi).
29. G.C.Shrivastava	:	Battels of World War and Post War development (Hindi).
30. Adhikari, Shekhar	:	Modern Strategic Thought.
.31. Franking Mark Osanka	:	Modern Guerrilla Warfare.

Note: - Any other Books and Journals may be Prescribed enrich the Standard of Performance in the items Listed above under Theory Paper.

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Military Science

M.A. / M.Sc. [Previous]

SEMESTER - II

PAPER - II [Part B]

History of Warfare in the west from 1861-1945

Marks -85

Unit-1.

- The Russian Revolution impact of class struggle and influence of Karl-Mark, Lenin's concept of Communism.
- 2. Battle of Warsaw (13-25 August 1920).
- 3. Rice of third Reich and foundations of Second World War.

Unit-2.

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- 1. Second Battle of Sedan (12-15 May1940) and the fall of France.
- 2. The Battle of Siddi Barrani (09 December -11 December 1940).
- 3. Operation Barbarossa and Lend Lease Act.

Unit - 3.

- 1. Battle of Moscow (02 October 1941 07 January 1941).
- 2. The Battle of El-Alamein (01 July 1942 27 July 1942).
- 3. Foundations of Stalingrad Campaign and Battle of Stalingrad (23 August 1942 02 Feb. 1942).

Unit - 4.

- 1. Political and Second Fronts.
- 2. Battle of Normandy (06 June 25 August 1944) and its consequences.
- 3. War in the Pacific (07 Dec. 1941 02 Sept. 1945).

Unit - 5.

- 1. Battle of Normandy and its consequences.
- 2. The Second World War in retrospect and prospect.
- 3. Strategy and Tactics of Second World War.

Books Recommended:-

1. J.F.C. Fuller : The Decisive Battles of the Western World Vol.-III [To be used as a text book].

J.F.C. Fuller
 Monte Gomery
 The Second World War.
 Normandy to Baltic.

4. Liddell Hard : * Rommel Papers.

5. Lt.Gen. Francis Tuker : The Pattern of war.

J.F.C. Fuller
 Vasim Ahmed Khan
 The Pattern of war.
 A Military of the Western World.
 Vishva ke Prasiddha Yuddh.

8. Gyan Chandra Shrivastava : Battle of world war and Post war Development (Hindi).

P. Major E.W. Sheppard : The Study of Military History.

Note: - Any other Books and Journals may be Prescribed enrich the Standard of Performance in the items Listed above under Theory Paper.

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Military Science

M.A. / M.Sc. [Previous]

SEMESTER - II

PAPER - III [Part B]

Disarmament, Arms control and Peace

Marks -85

Unit -1.

- 1. Bilateral efforts and Agreements towards Arms Control.
- 2. Mutual Arms Control & Multilateral Agreements towards Arms Control.
- 3. India Pakistan Arms Race and Future of Disarmament and Arms Control.

Unit -2.

- .1. Peace and its Maintenance, Historical effects for preservation of Peace through Power Balance and Voluntary Units.
- 2. Liddell Hart's Eight Pillars of Peace.
- 3. Peace through the Strategy of Disarmament & Arms Control.

Unit -3.

- 1. The building of confidence and Security at the negotiations in Stockholm and Vienna START- I & II.
- 2. The South Pacific Nuclear free zone.
- 3. Peace Kipping in International Politics.

Unit -4.

- 1. Peace through a World State.
- 2. Peace through the Principles of Panchsheel and Non-Violence,
- 3. Gandhian Thoughts on Peace.

Unit -5.

- 1. Role and Organization of International Peace keeping forces.
- 2. Public Opinion on Peace and War.
- 3. Role of UNO towards Disarmament, Arms Control and Peace.

Books Recommended:-

Headley Bull Arms Control and Disarmament. Brenan, D.G Levine, Robert, A The Arms Debate Deterrence Arms Control and Disarmament. Singer, J.D. Arms Control in International Politics. Edwards Containing the Arms Race. Stone, J.H. Dough Control for Late Sicties. The Spread of Nuclear Weapons. Van Bostrand Beaton Neddox The Imperial Republic. Raymond Aror War and Peace.

Raymond Aror The Imperial Republic.

Raymond Aror War and Peace.

Howard, Michael Study of War and Peace.

John Garrett (ed.) Theories of Peace and Security.

John Garrett (ed.) : Theories of Peace and Security.

Morgenthau, Hans. J. : Politics among the Natious – The Struggle for Power & Power.

Khopp, w. : A history of War and Peace.

4. Khopp, w. A history of War and Peace.
5. Sepri : Arms trade with the third world.
6. Sepri : Sipri Year book – 1983 & others.
7. Harkabi, Y. Nuclear war and nuclear peace.
8. Osmidf Helmut : Defence of Retaliation.

19. Wilfrid Knapp : A history of War and peace (1939 - 1965).

Note: - Any other Books and Journals may be Prescribed enrich the Standard of Performance in the items Listed above under Theory Paper

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Military Science

M.A. / M.Sc. [Previous]

SEMESTER - II

PAPER - IV [Part B]

Nuclear, Biological & Chemical Warfare

Marks -85

Unit -1. Biological Warfare:

Historical Development and Definition.

Delivery Systems and Hardware.

Biological Warfare Weapons in Action, Technology of Biological Warfare and Modern Biological Operations!

Unit -2. Biological Warfare:

Various Biological Agents and Protection from the Biological Agents.

Biological Balance and Biological Weapons destruction

Biological Weapons and Security & The effects of Global Biological Warfare.

Unit -3. Chemical Warfare:

Historical Development, Definition, Types.

Delivery Systems and Hardware.

Various Chemical Agents: Nerve Agents, Blood Agents, Blister Agents, Vomiting Agents, Tear Agents and Other Agents.

Unit -4. Chemical Warfare:

1. Defence against Chemical Warfare.

Chemical Weapons / Agents, when Chemical became Weapons for War, Five most deadly Chemical Weapons for war.

Chemical Agents Detector and Chemical Weapons in Action.

Unit -5. Chemical Warfare:

1. Chemical Weapon destruction.

The Chemical Balance and Chemical Weapons and Security.

The War Chemicals, Sociopolitical Climate & Chemical Warfare. Effects of the Global Chemical Warfare.

Books Recommended:-

Future war. 1. Frank Branbay

Advanced Technology warfare. 2. Col. Friedman Richard S 3. Royal Swedish Academy Nuclear war the Aftermath.

Nuclear, Biological and Chemical Warfare 4. T. J. Gander Defence in the Nuclear Age. 5. Stephen King Hall

War and Peace in the Nuclear Age. 6. Rajvir Singh

Nuclear Pakistan. 7. Subramniyam

Dilennas of Nuclear Strategy. 8. Roman Kolko Nuclear and Non - Nuclear Defence Options. 9. Brassey's

war As a Political Weapon in the Nuclear Age. 10. Nirmal Jindal

Continue - - - Nuclear, Biological and Chemical Warfale, [PART-B]

Nuclear Vishva Yuddh aur Paryavaran. (Hindi) 11. Dr. Indu Prakash Paryavaran aur Rashynic Kitanu Yuddh. (Hindi) 12. Dr. Indu Prakash Prakshepiki. (Hindi) 13. Dr. Indu Prakash Rashynic Yuddh ki Taknik. (Hindi) 14. Dr. Vishnu Kant Sharma Chemical Warfare in Australia. 15. Geoff Plunkett -Chemical Warfare during the Vietnam War. 16. Dr. Hauk Ellison A History of Chemical Warfare. 17. K. Coleman Germs: Biological Weapons and America's Secret war 18. William J. Broad 19. Curt Wachtel &Fritz Haber Chemical Warfare. Chemical Warfare Poison Gas in the Coming war. 20. Donald A Cameron War of Nerves Chemical Warfare from World War I to Al-Qaida. 21. Jonathan B. Tucker Biological and Chemical Warfare. 22. Paul R. Ziaya

Note: - Any other Books and Journals may be Prescribed enrich the Standard of Performance in the items Listed above under Theory Paper.

23. Stephen Endicott and Edward Hagerman

United States and Biological Warfare.

Military Science

M.A. / M.Sc. [Previous]

SEMESTER-II

Practical Work [Part B]

Marks -50

CARTOGRAPH

- To find out North & Types of North.
- Bearings and its Inter Conversion.
- Representation of Relief and Section Drawing.
- Map Projection:
 - a. Conical with one and two Standard Parallels Projection,
 - b. Bonnes Projection,
 - c. Policonic Projection
 - d. Mercator Projection
 - e. Zenithal equal distance and Zenithal equal Area Map Projections.

OR

REMOTE SENSING B.

- Cultural detail Map from Land sat Imagery.
- Study of Land sat Imagery.
- Study of Additive and subtractive Colour Principles.
- SPOTTING: Spotting of Various Types of Tanks and Aircrafts. C.
- GROUP DISCUSSION: Conduct of Group Discussion with reference to the Syllabus of I / II Sem. D.

Note: - Group Discussion will be gone through in the Periods allotted on topic of the syllabus but at the time of the Practical Examination one of the given four from the syllabus be selected for the purpose of assessment by the External and Internal Examiners.

Lecturing on Current Topic. E.

Books Recommended:-

B.N. Maliwal Narendra Singh

Brig. Rajendra Singh

J.M.Srivastava Balwant Singh

Tanks Steers

Bygott Raize

Thomas 10.

Kanetkar 11. Andrew Bayed 12 Andrew Bayed

13. H.M.S. London N.P. Ayyar

Prayogatmak Sainya Vigyan Vol-1.

Prayogatmak Sainya Vigyan.

Map Reading.

Prayogatmak Sainya Vigyan

Map Reading Map and Survey

Map Projections Map and Map Work.

General Cariogrephy.

Surveying Surveying & Leveling Vol - I.

Attas of world Affairs. For Spotting Summary

Manual of Map Reading, Air Photo Reading and Field Sketching Part I, II & III.

Sarvekshan.

Note: - Any other Books and Journals may be Prescribed enrich the Standard of Performance in the items Listed above under Practical Paper



Military Science

M.A. / M.Sc. [Final]

SEMESTER - III

PAPER - I [Part A]

Military History of India

Marks -85

Unit - 1.

Military History, Military Organization & the Art of Warfare of Vedic Period.

Military History, Military Organization & the Art of Warfare of Epic & Puranic Period.

3. Comparative Study of Indo - Greek Art of Warfare & Military Organization, with special reference to Alexander's invasion of India and the battle of Hydaspes (326 B.C.)

Unit - 2.

1. Military Organization / System of Mauryas by - Megasthenese as described and Kautilya's Philosophy of war.

Military Organization / System of Guptas and Chalukyas.

Military Organization of Harsh Wardhan, the Battle of Somnath (1025 A.D.) & the fall of Hindu Military System.

Unit - 3.

Rajput Military organization / System and the mode of fighting.

- Military System of Sultanet Period (Turk Military System) and mode of fighting with reference to the armed clashes between Rajput & Turks, the First Battle of Tarain (1191 A.D.) and the Second Battle of Tarain (1192 A.D.).
- Causes for the defeat of Rajput. 3.

Unit - 4.

- Campaigns of Alauddin Khilji Conquest of Ranthambore and Chittor, South Indian Campaigns of Alauddin Khilji Led by - Malik Kafoor.
- Mongol Inversions during the reign of Military reforms of Alauddin Khilji and Gayasuddin Balban.

Causes for the defeat of Mougals. 3.

Unit - 5.

Introduction of New elements in the art of fighting with special references to the first Battle of Panipat (21 April, 1526 A.D.) and the Battle of Kanwah / Khanwa (17 March, 1527 A.D.).

Sher Shah's Battles with Humayun, the Battle of Chause (26 June, 1539) and the Battle of Kannouze / Bigram (17 May, 1540).

Military Organization of the Mughal Army under Akbar and the Second Battle of Panipat (5 November, 1556 A.D.) and the Battle of Haldighati (18 June, 1576 A.D.).

Books Recommended:-

Dr. P.C. Chakravarty

The art of war in Ancient India.

Prof. A.R. Dikahitar

War in Ancient India.

3. Dr. S.R. Singh

Ancient India Warfare.

B.K. Majumdar 4.

Military System of the Marathas.

B.K. Majumdar

Sir. J.N. Shankar

Indian Military system in Ancient India. Fall of the Mughal Empire Vol. I & II.

Sir. J.N. Shankar

Military History of India.

J.F.C. Fuller

Alexander the Great.







continue --- - military History of India - [Part-A]

Gautam Sharma
 Indian Army through the Ages.
 R.C. Kulshrestha
 An Introduction to Dhanurveda.
 R.C. Kulshrestha
 Kautilya's his Philosophy of War.

12. P. Sen. Sharma : Kurukshetra War.

13. Sarva Daman Singh : Ancient India Warfare with special reference to Vedic period.

14. W. Irvine
15. S.N. Sen.
16. Gulcharan Singh
17. The Army of Indian Mughal.
18. Victory System of Marathas.
19. Battle of Panipat.

17. Alfred Devid : India Art of War.

18. I.H. Quereshi : Administration of Sultanate.

19. Col. Melleson : Decisive Battles of India.

20. R.D. Palsokar : Shiyaji the Great Guerrilla.

20. R.D. Palsokar
21. R.D. Palsokar
22. Karr
33. Shivaji the Great Guerrilla.
34. Study of Generalship.
35. Military History of India.

23. Subramniyam : Indian Military History.
24. K.M.L. Saxena : The Military System of India.

Note: - , Any other Books and Journals may be Prescribed enrich the Standard of Performance in the items Listed above under Theory Paper.

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Military Science

M.A. / M.Sc. [Final]

SEMESTER - III

PAPER - II [Part A]

Military Psychology

Marks -85

Unit-1.

- 1. Military psychology: Meaning, Definition, Historical development, Role, Aim and Importance.
- Relevance of psychology in Defense problems.
- The use of psychology in the war and seven military uses of psychology.

Unit-2.

- 1. Personnel selection and Classification for Defense services, use of Intelligence tests, Group testing procedure and clemently personality testing.
- Application of the principles of psychology in Military training.
- 3. General Ability tests, Special Ability test, Individual deference, Classification and Assignment.

Unit - 3.

- The Eye as a Military Instrument, Visual Adaptation and Night Vision, Colour and Camouflage, Colour and colour Blindness, Camouflage and Counter Camouflage.
- The Ear as a Military Instrument, Nature of Hearing, psychology of Hearing, Deafness and Communication, Effect of Noise, localization of objects by Hearing, Sound Camouflage, practical rules for Hearing.
- The Nose as a Military Instrument: Smell in war, Sensitivity, Reorganization, war gases, Camouflage of odors.

Unit - 4.

- Personnel Adjustment, factors in Adjustment during Army life, the recruits Adjustment to combat. 1.
- The psychological mechanisms of personal adjustment, Defence mechanisms and Escape mechanisms of personal adjustment.
- The problem of Adjustment and the problem of Re-adjustment of Ex-Soldiers.

Unit - 5.

- Group: Structure, types and their functions.
- Formation of Social Norms and Group Problem Solving.
- Motivation, Learning, Group and Individual Education, Frustration and psychological mechanism of frustration.

Books Recommended:-

Boring, Edwin G.

Psychology for the Armed Services.

2. Lienbarger

Psychology Warfare.

Mac, Cormack

Human Factor Engineering.

(19)

continue --- Military Psychology -- [Part-A]

Bartlett, F.G. : Psychology and the Soldier.
 Mann, J. : Frontiers of Psychology.
 Henning's : Air War and Emotional Stress.

7. Lifton, R.J. : Thought Reforms and Psychology of Totalter.

8. Schein, E.H. : Coercive Persuation.
9. Brown, J.F. : Techniques of Persuation.
10. Second & Peckman : Social Psychology

10. Second & Backman : Social Psychology.

11. Grinker, R.R. : Man under Stress.

12. Norman Copeland : Psychology and Soldier.

13. Harnain, Maj. Qamar : Psychology for the fighting man.
14. Gupta, Parshuram : Sainya Manovigyan (Hindi).

Note: - Any other Books and Journals may be Prescribed enrich the Standard of Performance in the items Listed above under Theory Paper.

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Military Science

M.A. / M.Sc. [Final]

SEMESTER - III

PAPER - III [Part A]

Area Study

(Indian Ocean)

Marks -85

Unit-1.

Listed

- · 1. Maritime History of the Indian Ocean: The Early Period, the Hine Period and the Arabs.
- 2. The Advent of Europeans: The Portuguese, the Dutch, the French and the British.
- 3. The rise and Fall of Maratha Navy.

Unit - 2.

- 1. Geopolitical Importance of the Indian Ocean with reference to India.
- Elements of Maritime Strategy.
- 3. Maritime Strategy for India.

Unit - 3.

- 1. Foreign Bases in the Indian Ocean.
- Diego Garcia and its Strategical Importance in the Indian Ocean.
- Potential threat to the South Asian countries.

Tmit - 4.

- 1. Interests of major powers in the Indian Ocean with special reference to United States & Russia.
- Power Struggle in the Indian Ocean and R.D.F. (Rapid Deployment Force).
- Navel Policy Importance of Indian Ocean.

Tmit - 5.

- 1. Peace Zone proposal and the Indian Ocean.
- 2. Role of Iran, Indonesia, Pakistan and Australia in the Indian Ocean.
- Role of South Asian Association for regional Co-operation (SAARC) and Association of South-East Asian Nations (ASEAN).

Continue....Area Study (Indian Ocean) (PART-A)

Books Recommended:-

Poulose, Dr. T.T. Pannikar, K.M.

Pannikar, K.M.

Vaidya, K.B.

5. Martin, L.W. Admiral Kohli

7. Palsokar, R.D. 8. Singh, R.K.

I.D.S.A. Journal

10. Elwi, Verrier 11. Rahul, Ram

12. Karan, P.P.

13. Sriniwas, M.N.

14. Nandi, S.N. 15. Meeti, N.B.

16. Horam, M.

17. Hazarika, Sanjoy

18. Nibedon, Nirmal

21. Namruta Goswami (IDSA)

: Indian Ocean Power Rivalary.

: Geographical factors in Indian Ocean.

: India and Indian Ocean.

: Naval defence of Indian Ocean.

: Sea in Modern Strategy.

: Sea Power in the Indian Ocean.

: Power Rivalry in the Indian Ocean.

: Indian Ocean.

: New Review on Indian Ocean Defence Journal - Vikrant and Chanakya.

: Philosophy of NEFA. : Himalayan Borderland.

: Himalayan Kingdom.

: Social Change in Modern India.

: Agro-Economic Indications – A Comparative Study of North Éaster States of india.

: Autonomy, Ethnic Politics and Conflicts in North-east India.

: Naga Insurgency: the last thirty years.

: Strangers of the Mist: Tales of War and Peace from India's North-East.

: The Night of Guerillas.

: The other Burma - Conflict, Counter Insurgency and Human Rights in Northeast India.

20. East-West Central Washington: Working Papers No - 10 July 2007. : India's northeast – 2020: for Alternative futures.

Note: - Any other Books and Journals may be Prescribed enrich the Standard of Performance in the items Listed above under Theory Paper.

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DAVI AHILYA UNIVERSITY, INDORE [M.P.]

Military Science

M.A. / M.Sc. [Final]

SEMESTER - III

PAPER - IV [Part A]

Science & Technology in War

Marks -85

Unit - 1.

1. Science and war in the history [500 B.C. to up to date].

2. Science and society - Introduction of science, technology and society in war and different content.

3. Impact of science and technology on human life with special reference to modern warfare.

Unit - 2.

- Defence and civil technology, research and development, standardization of weapons system, economic factor of standardization, obsolescence factor and lost of effectiveness, essentials for standardization.
- 2. Effects of science in diminution on sufferings, war and environment.
- 3. War Science and Technology in India, Development of armament technology in India since [1962 to till date].

Unit - 3.

- Historical development and role of Nuclear (Atom) Bomb, Hydrogen Bomb, Cobalt or Dirty Bomb, Reduced Residual Radiation Bomb (RRR Bomb), Electro Magnetic Pulse Nuclear Bomb (EMP Nuclear Bomb), X-Ray Laser, Gamma Ray Laser.
- 2. Effect of Atomic / Nuclear Explosion.
- 3. Spread of Nuclear weapons.

Unit - 4.

- 1. Nuclear Fusion, Chain Reactions, Nuclear Reactor, use of Nuclear Reactor.
- 2. Nuclear Fission, Difference between Nuclear Fusion and Nuclear Fission.
- 3. Nuclear technology and India.

Unit-5.

- 1. Indian Atomic / Nuclear Test and present technology.
- 2. Indian Atomic / Nuclear Research Centers.
- 3. Atomic minerals in India [with special reference to India].

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Continue.....Science & Technology in War - [PART-A]

Books Recommended:-

1. JFC Fuller : Armament and History.

2. Sir Russell Bertrand : Science and Survey.

3. Partway Donald : Military Science today.

4. Dow : Fundamentals of Advanced Missiles.

5. D.R. Bates : Space Research and Exploration.

6. Govt. of India Publication : Nuclear Explosion and their effects.

7. Robin Clerk : The war and peace.

8. Christopher Lee : War in Space.

9. R.K. Jasbir Singh : Military Science and Armament Technology.

. 10. Military Year Book : Latest Edition.

11: Indu Prakash : Yuddh ka Vigyan.

12. Indu Prakash : Rashynic aur Kitanu Yuddh.

13. Indu Prakash : Prakshepiki

14. Manmohan Bala : Raksha Vigyan.

15. C.L. Garg : Nabhikiya Astra- Shastra.

16. C.L. Garg : Adhunic Astra- Shastra Aur Yuddh Vigyan.

17. Viren gohil : Hathiyar – Barood se Atom Tak.

18. Mark Dartford : Modern Warfare.

19. Frosunda-Sweden : Sipri year Book.

20. MC Graw hill : Encyclopedia of Science and Technology.

21. C.L. Garg : Chamatkari Kiran LASER.

22. K. Parkins : Weapons and Warfare.

23. B.N. Pandey : Yuddh, Vigyan Avam Takniki.

24. Munesh Kumar : Suchna Takniki Avam Raksha Takniki.

25. G.K. Pandey : Yuddh me Vigyan Avem Takniki.

26. Frank Barnaby : Future War.

27. Maj. Gen. Raj Mehta : Encyclopedia of Missile Defence and Non Proliferation - Vol I & II

28. Philip Alexander : Information Security.

29. M.N. Golvin : Conflict in Space.

30. Nels A. Parson Jo : Missiles and the Revolution in warfare.

Note: - Any other Books and Journals may be Prescribed enrich the Standard of Performance in the items Listed above under Theory Paper.

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Military Science

M.A. / M.Sc. [Final]

SEMESTER - III

Practical Work [Part A]

Marks -50

- A. Psychological Experiments.
 - 1. Association: (a) Free association and controlled association.
 - 2. Attention: (a) Span of attention. (b) Division attention.
 - 3. Learning: (a) Transfer of learning Positive and Negative. (b) Trial and error and insightful
 - Memory: (a) Immediate memory spans (Auditory). (b) Immediate memory spans (Visual).
- B. Spotting: Recognition of air craft's.
- C. Group Discussion on Military topic.
- D. Lecturing on Current topic.

Land use Classification, Visual interpretation in Individual Bonds / Colour.

Books Recommended:-

1. Collins

A fist laboratory guide in psychology. Foundations of experimental psychology. 2. W.S. Hunter

Measuring intelligences (Harrap and Co. London, Calcutta). 3. H.S. Hines

Group Test intelligences published by Ballard. Phillip Basswood 5. Competition Success review (Monthly).

Note: - Any other Books and Journals may be Prescribed enrich the Standard of Performance in the items Listed above under Practical Paper.



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Vol 1 & II

Military Science

M.A. / M.Sc. [Final]

SEMESTER - IV

PAPER - I [Part B]

Military History of India

Marks -85

Unit - 1.

- Central Asian Campaign of Shajahan and the Battle of Talkotra (1737 A.D.) & the Battle of Delhi and the Causes of the decline of Mughal Military System.
- Military Organization / System of Marathas under Shivaji.
- 3. Shivaji's technique of fighting with special reference to the Siege of Surat.

Unit - 2.

- 1. Military System of Maratha after Shivaji.
- 2. Baji Rao I & the Third Battle of Panipat (14 January, 1761).
- 3. The Battle of Assai (1803), Anglo Maratha Wars (1805 1818) and Casus of the decline of Maratha Military System.

Unit -3.

- Sikh Military System of Guru Govind Singh & Military Organization of Sikh under Maharaja Ranjeet
- Anglo Sikh Wars (1845 1846 to 1848 1849 A.D.).
- Causes of the decline of Sikh Military System.

Unit - 4.

- The Battle of Plassey (23 June, 1757).
- The Battle of Baxar (22 Oct., 1764).
- The Military Origination of East India Company.

€ mit - 5.

- India's first Liberation movement for Independence (1857 A.D.) Causes of the war & Causes of the
- Reorganization reforms of Army in India under the British Crown.
- Indiavisation of Indian Armed forces after Independence.

Continue.....Military History of India - [PART-B]

Books Recommended:-

Dr. P.C. Chakravarty Prof. A.R. Dikahitar War in Ancient India. Ancient India Warfare. Dr. S.R. Singh Military System of the Marathas. B.K. Majumdar Indian Military system in Ancient India. B.K. Majumdar Fall of the Mughal Empire Vol. I & II. Sir. J.N. Shankar Military History of India. Sir. J.N. Shankar Alexander the Great. J.F.C. Fuller Indian Army through the Ages. Gautam Sharma An Introduction to Dhanurveda. 10. R.C. Kulshrestha Kautilya's his Philosophy of War. 11. R.C. Kulshrestha Kurukshetra War. 12. P. Sen. Sharma Ancient India Warfare with special reference to Vedical 13. Sarva Danfan Singh The Army of Indian Mughal. 14. W. Irvine Victory System of Marathas. 15. S.N. Sen. Battle of Panipat. 16. Gulcharan Singh

The art of war in Ancient India.

India Art of War. 17. Alfred Devid Administration of Sultanate. 18. I.H. Quereshi Decisive Battles of India. 19. Col. Melleson Shivaji the Great Guerrilla. 20. R.D. Palsokar Study of Generalship. 21. R.D. Palsokar Military History of India. 22. Karr Indian Military History. 23. Subramniyam The Military System of India. 24. K.M.L. Saxena

Note: - Any other Books and Journals may be Prescribed enrich the Standard of Performance in the items Li above under Theory Paper.



Military Science

M.A. / M.Sc. [Final]

SEMESTER - IV

PAPER - II [Part B]

Military Psychology

Marks -85

Unit - 1.

Fear: Meaning, it's Definition, Characteristics, Types, Seasons, Effect on Morale, Effects on Fear of Discipline with example, psychology of fear, control of fear in Defence, Attack and with drawl, physical fatigue and fear. Methods to overcome fear.

Leadership. Meaning, Definition, Nature of Leadership, Types of Leadership factions of Leader,

Attributes of Leadership purpose of Military Leadership.

Attitude: Attitude Organization impact of Military life on the formation of Attitudes.

Unit -2.

Moral: Meaning, Definition, Nature, Factors contributing to Morale or techniques of Boosting Morale, Effect of fear on Morale, and it's Significance in Defense.

Discipline: Meaning, Definition, Indices of Discipline, purpose of Discipline, psychology of Discipline, Role of Drill and organized sports in Discipline, special problems of Discipline.

Emotion: (Fear and Anger) psychology of Emotion, Expression of Emotion, Fear and Emotion, fighting fear, Emotion and Anger.

Unit -3.

Courage: Definition, Meaning, Importance, Types and Effecting Elements.

Endurance: Meaning, Importance, Types and Effecting Elements.

Psychological warfare: Nature, Techniques, Role and Importance of psychological warfare.

Unit-4.

Propaganda: Elements, Aim Role and Importance of Propaganda, types of Propaganda, techniques of military Propaganda, combats Propaganda.

Rumour: Nature, techniques, Merits and demerits, use of Rumours in war, Control of Rumours,

psychology of Rumour.

Brain washing: Structure, theories, techniques of brain washing Determinant of Brain Washing.

Unit - 5.

Mental Health problems and Soldier in war and treatment.

Psychological Disorder and emotional strains imposed by war Hysteria, conversions Hysteria, Anxiety, Collective Anxiety, Neurosis, and war Neurosis.

Predisposing conditions and methods of treatment.

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Continue....Military Psychology (PART-B)

Books Recommended:-

1. Boring, Edwin G. : Psychology for the Armed Services.

2. Lienbarger : Psychology Warfare.

Mac, Cormack
 Bartlett, F.G.
 Human Factor Engineering.
 Psychology and the Soldier.

5. Mann, J. : Frontiers of Psychology.

6. Henning's : Air War and Emotional Stress.

7. Lifton, R.J. : Thought Reforms and Psychology of Totalter.

8. Schein, E.H. : Coercive Persuation.

9. Brown, J.F. : Techniques of Persuation.

10. Second & Backman : Social Psychology.

11. Grinker, R.R. : Man under Stress.12. Norman Copeland : Psychology and Soldier.

12. Norman Copeland : Psychology and Soldier.

13. Harnain, Mai. Oamar : Psychology for the fighting man.

13. Harnain, Maj. Qamar : Psychology for the fighting man.14. Gupta, Parshuram : Sainya Manovigyan (Hindi).

Note: - Any other Books and Journals may be Prescribed enrich the Standard of Performance in the items Listed above under Theory Paper.

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Military Science

M.A. / M.Sc. [Final]

SEMESTER-IV

PAPER - III [Part B]

Area Study

(Jammu & Kashmir and North-East Hill States)

Marks -85

Unit - 1.

- · 1. Historical Background and Terrorism of the Jammu & Kashmir.
- 2. Strategical Location, Security aspects and Importance of the Jammu & Kashmir.
- 3. Role of Pakistan in Jammu & Kashmir and the security Problems of India.

Unit - 2.

- 1. Cross Border Terrorism in Jammu & Kashmir and the security Problems of India.
- 2. Role of China in Jammu & Kashmir and the security Problems of India.
- 3. China Pakistan Common interest in region of Jammu & Kashmir and its effect on India's Security.

Unit - 3.

- 1. Historical Background and Terrorism of North-East Hill States (Sikkim, Arunachal Pradesh, Assam, Meghalaya, Manipur, Mizoram, Tripura & Nagaland).
- Strategical Location, Security aspects and Importance of North-East Hill States.

Unit - 4.

- 1. Natural resources and Defence potentials of North-East Hill State.
- 2. Logistics in the region of North-East Hill States.

Unit - 5.

- 1. Insurgency Problems in the North-East Hill State and Internal security problems of India.
- 2. China's role and Interest in the region of North-East Hill State and its effect on India's Security.

Books Recommended:-

1. Poulose, Dr. T.T. : Indian Ocean Power Rivalary.

2. Pannikar, K.M. : Geographical factors in Indian Ocean.

3. Pannikar, K.M. : India and Indian Ocean.

1. Vaidya, K.B. : Naval defence of Indian Ocean.

. Martin, L.W. : Sea in Modern Strategy.

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items Listed

continue - - - Area Study - [Jammu & Kashmirand NEHS]-PAR

6. Admiral Kohli : Sea Power in the Indian Ocean.
7. Palsokar, R.D. : Power Rivalry in the Indian Ocean.

8. Singh, R.K. : Indian Ocean.

9. I.D.S.A. Journal : New Review on Indian Ocean Defence Journal – Vikrant and Chanakya.

10. Elwi, Verrier: Philosophy of NEFA.11. Rahul, Ram: Himalayan Borderland.12. Karan, P.P.: Himalayan Kingdom.

13. Sriniwas, M.N. : Social Change in Modern India.

14. Nandi, S.N. : Agro-Economic Indications – A Comparative Study of North Easter States of india.

15. Meeti, N.B. : Autonomy, Ethnic Politics and Conflicts in North-east India.

16. Horam, M. : Naga Insurgency: the last thirty years.

17. Hazarika, Sanjoy : Strangers of the Mist: Tales of War and Peace from India's North-East.

18. Nibedon, Nirmal : The Night of Guerillas.

19. Ben, Hayes : The other Burma - Conflict, Counter Insurgency and Human Rights in Northeast India.

20. East-West Central Washington: Working Papers No - 10 July 2007.

21. Namruta Goswami (IDSA): India's northeast – 2020: for Alternative futures.

Note: - . Any other Books and Journals may be Prescribed enrich the Standard of Performance in the items Listed above under Theory Paper.

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DAVI AHILYA UNIVERSITY, INDORE [M.P.]

Military Science

M.A. / M.Sc. [Final]

SEMESTER - IV

PAPER - IV [Part B]

Science & Technology in War

Marks -85

Unit - 1.

- Study of Missiles History, Component and Structure, Classification of Missiles, different Guidance systems, Guidance system of Cruise Missiles & Guidance system of Ballistic Missiles system, Precision Guided Missiles or Munitions (PGMs).
- Navigation of the Missile towards the Target, Anti Ballistic system and Anti Ballistic Missile (ABM), Multiple Independently Targetable Re-entry Vehicles (MIRVs), Global Positioning System (GPS).
 - 3. Development Missiles in India.

Unit - 2.

- 1. Standoff Guidance, Command, Control, Communication, Computer, Intelligence, Surveillance and Reconnaissance (C4ISR).
- 2. War and Space, Space technology and Military role or space.
- 3. Military importance of Space technology & Star War (SDI) and India's Space Programme.

Unit -3.

- 1. Remote sensing and its application in security, Indian Remote sensing Satellite.
- 2. RADAR working system or Methods, Military use of RADAR, Silent RADAR, LASER Development of Maser and LASER, Characteristics, types, war science and LASER.
- New Conventional technology and weapons.

Unit - 4.

- 1. Remotely Piloted Vehicles (RPVs), Drone, Modern weapon System.
- 2. Electronic warfare Aim, Role, Impact, Bodies of Electronic warfare-Electronic Support Measures (ESM), Electronic Counter Measures (ECM), Electronic Counter Measures (ECCM).
- 3. Principles employed in Electronic warfare, Importance of Information Technology in Electronic warfare,

Unit - 5.

- 1. Information / Cyber warfare Meaning, Definition, Types, Role, Impact and Importance of Information / Cyber warfare in the modern warfare.
- 2. Changing nature of war technology [Night vision technology, Pilotless Aircraft, Low Light Television, Computer war gaming, Redemption change Coupled Imagers].
- 3. Computer and Information Processing.

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Continue.....Science & Technology in War [PART-B]

Books Recommended:-

Armament and History. 1. JFC Fuller Science and Survey. Sir Russell Bertrand

Military Science today. 3. Partway Donald

Fundamentals of Advanced Missiles. Space Research and Exploration. 4. Dow Nuclear Explosion and their effects. 5. D.R. Bates

6. Govt. of India Publication The war and peace. 7. Robin Clerk War in Space.

Military Science and Armament Technology. 8. Christopher Lee R.K. Jasbir Singh

Latest Edition. 10. Military Year Book Yuddh ka Vigyan. 11. Indu Prakash Rashynic aur Kitanu Yuddh.

12. Indu Prakash Prakshepiki 13. Indu Prakash Raksha Vigyan.

14. Manmohan Bala Nabhikiya Astra- Shastra. Adhunic Astra- Shastra Aur Yuddh Vigyan. . 15. C.L. Garg

16: C.L. Garg Hathiyar - Barood se Atom Tak. 17. Viren gohil Modern Warfare.

18. Mark Dartford Sipri year Book. Encyclopedia of Science and Technology. 19. Frosunda-Sweden

20. MC Graw hill Chamatkari Kiran LASER. . 21. C.L. Garg Weapons and Warfare. 22. K. Parkins Yuddh, Vigyan Avam Takniki.

Suchna Takniki Avam Raksha Takniki. 23. B.N. Pandey 24. Munesh Kumar Yuddh me Vigyan Avem Takniki.

25. G.K. Pandey Future War. Encyclopedia of Missile Defence and Non Proliferation - Vol I 26. Frank Barnaby 27. Maj. Gen. Raj Mehta

Information Security. 28. Philip Alexander Conflict in Space. 29. M.N. Golvin

Missiles and the Revolution in warfare. 30. Nels A. Parson Jo

Note: - Any other Books and Journals may be Prescribed enrich the Standard of Performance in the items Listed above under Theory Paper.

Military Science

M.A. / M.Sc. [Final]

SEMESTER-IV

Practical Work [Part B]

Marks -50

- A. Psychological Experiments.
 - 1. Fatigue: (a) Mental (b) Physical Incentives on work and Fatigue.
 - 2. Measurement: (a) Intelligence (b) Perseveration.
 - 3. Reaction Time; Simple, Choice and discriminative reaction time for Visual
- B. Spotting: Recognition of air craft's.
- C. Group Discussion on Military topic.
- D. Lecturing on Current topic.

Books Recommended:-

1. Collins

A fist laboratory guide in psychology. , 2. W.S. Hunter Foundations of experimental psychology.

3. H.S. Hines Measuring intelligences (Harrap and Co. London, Calcutta).

Phillip Basswood Group Test intelligences published by Ballard.

Competition Success review (Monthly).

Note: - Any other Books and Journals may be Prescribed enrich the Standard of Performance in the items Listed

above under Practical Paper.