

Govt. Nagarjuna P.G. College of Science, Raipur (C.G.)



CURRICULUM & SYLLABI (Based on CBCS & LOCF)

M.Sc. III SEMESTER

PROGRAMME STRUCTURE

Course Nature	Course Code	Course Title	Course Type (T/P)	Hrs/ Week	Credits	Marks		
						CIA	ESE	Total
Core	DS-301	Science, Technology, Society & Security	T	6	4	30	70	100
Core	DS-302	UN System and Global Governance	T	6	4	30	70	100
Core	DS-303	Disaster Management in India	T	6	4	30	70	100
Core	DS-304	Arms Control and Disarmament	T	6	4	30	70	100
Core	DS-305	Geopolitics through News & Maps	P	6	2	30	70	100
Core	DS-306	Military Psychological Experiments - I	P	6	2	30	70	100
Qualify	DSVAC	India's Foreign Policy	T	2	2	30	70	100

Applicable for admission from A.Y. 2026-27 onwards

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M. Sc. III Semester

Session: July-December 2026

Course/Paper - I (Code : DS-301)

Course Title: Science, Technology, Society and Security

Detailed Syllabus/Curriculum:

Unit	Topics	No. of Lectures	CO No.
I	- Gradual development of S&T in war (Ancient Age, Age of Gun Powder, Age of Steam, Age of Oil, Modern Age) - Technological Changes from Industrial Revolution to Information Revolution - Relevance of Science & Technology in National Security	15	1
II	- India's Civil Nuclear Programme – Importance, growth, problems and achievements - India's Space Programme – Importance, growth, problems and achievements - India's Missile Development Programme - Growth and achievements - Emerging New technologies of Indian Armed Forces	15	2
III	- Revolution in Military Affairs (RMA) & Military Industrial Complexes - Chemical, Biological and Nuclear Weapons & the WMD Terrorism - Use of Science & Technology by Terrorist Groups - Dual Use and Critical Technologies and its Impact	15	3
IV	- Information warfare and India's Security - Social Media and Impact on India's National Security - Cyber threats & India's Cyber Security Policy - New Challenges - Artificial Intelligence, Deep Fake	15	4

Websites/Government Reports:

1. Annual Reports and Achievements of ISRO and DRDO.
2. National Cyber Security Policy of India and IT ACT – 2000
3. NITI Aayog Papers on Emerging Technologies
4. Annual Reports of Ministry of Defence, Government of India.
5. SIPRI Year Book (2020-2025)
6. PIB Year End Review (2023-2025)

Reference Books:

1. Yudh me Vigyan avam Prodhaugiki – Prof. Girish Kant Pandey
2. India's Missiles and Strategic Forces – Laxman Kumar Behera (IDSA Monographs)
3. India's Nuclear Policy – Bharat Karnad
4. Military Technology and Defence Industrialization - S.K Sen
5. The High-Tech War of twentieth century - V.M. Tewari

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M. Sc. III Semester

Session: July-December 2026

Course/Paper - II (Code: DS-302)

Course Title: UN System and Global Governance

Detailed Syllabus/Curriculum:

Unit	Topics	No. of Lectures	CO No.
I	• International Organisation – Definition, Scope & Approaches • Emergence of the UNO - Historical Context and Objectives • UN Charter and Principles of Sovereignty and Multilateralism • Main Organs & Specialized Agencies of the UNO	15	1
II	• United Nation General Assembly (UNGA) • United Nation Security Council (UNSC) • Economic and Social Council (ECOSOC) • International Court of Justice (ICJ) • UNO Secretariat	15	2
III	• Pacific Settlement of International Disputes and UNO • Arms Control & Disarmament and IAEA • Collective Security Management and UNO • Regional Security arrangement and UNO • Sustainable Development and Environment	15	3
IV	• Reform Debates - Security Council Reforms, Veto Power, Global South Representation • Criticisms of the UN System and Global Governance • India's Engagement with the UN and Global Governance • India's Role in UN Peacekeeping Missions	15	4

Websites/Government Reports:

1. United Nation Official Website
2. UN Charter & Preambles
3. Niti Aayog Official Website, Government of India.
4. UN Sustainable Development Goal Reports and Achievements

Reference Books:

1. Newman, E., A Crisis of global institutions? Multilateralism and international security. London and New York: Routledge, 2007.
2. Price, R., & Zacher, M. (eds.) The United Nations and global security. New York/Houdmills: Palgrave Macmillan, 2004.
3. R. Price, M. Zacher (eds), The United Nations and Global Security (Paperback), New York: Palgrave Macmillan, 2004.
4. Rita Parker Anthony Burke, The United Nations and Global Security, Global Insecurity, 2017.
5. Thakur, Ramesh, The United Nations, Peace and Security From Collective Security to the Responsibility to Protect, New York: Cambridge University Press, 2017.

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M. Sc. III Semester
Session: July-December 2026
Course/Paper - III (Code: DS-303)
Course Title: Disaster Management in India

Detailed Syllabus/Curriculum:

Unit	Topics	No. of Lectures	CO No.
I	- Disaster Management: Concept & Significance - Disaster Management: Types, Causes, Consequences - Disaster Management Acts: National Policy, National Guidelines and plans on Disaster Management.	15	1
II	- Dimensions and typology of Disasters - Natural disasters - Dimensions and typology of Disasters - Manmade Disasters - Disaster Management Cycle (Response, and Recovery, Relief, and Reconstruction) and Mitigation Approaches in India.	15	2
III	Study of Disaster in India / Around the World – - Bhopal Gas Tragedy (1984) - Chernobyl Nuclear Disaster (1986) - Indian Ocean Tsunami (2004) - Fukushima Nuclear Disaster (2011) - Uttarakhand Flood (2013)	15	3
IV	- Role of NDMA, DDMA and DDMA at various stages of Disaster Management. - Role of Military and Paramilitary and NDRF During Disaster - Role of NGOs, IGOs and Local Community at various stages of Disaster Management. - India's Role in Global Disaster Management	15	4

Websites/Government Reports:

1. Annual Report, Ministry of Home Affairs, Govt. of India
2. Annual Report, Ministry of Defence, Govt. of India
3. Official Website of The National Institute of Disaster Management (NIDM)
4. Official Website of National Disaster Management Authority (NDMA)
5. United Nations International Strategy for Disaster Reduction
6. Global Assessment Report on Disaster Risk Reduction
7. NDMA Guidelines on Disaster Management for Various Disasters

Reference Books:

1. Disaster Management, by I. Sundar, I. T. Sezhiyan, Sarup & Sons, 2007
2. Disaster Management, by Shailendra K. Singh, Shobha Singh Mittal Publications, 1998
3. Singh, R.B. (Ed.) Natural Hazards and Disaster Management: Vulnerability and Mitigation
4. Ariyabandu, Madhavi Malalgoda Bringing Together Disaster and Development: Concepts, Practice and New Approaches

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M. Sc. III Semester
Session: July-December 2026
Course/Paper - IV (Code : DS-304)
Course Title: Arms Control and Disarmament

Detailed Syllabus/Curriculum:

Unit	Topics	No. of Lectures	CO No.
I	- Basic Concepts & Theories of Arms Control and Disarmament - Relations and Difference between the Both Concepts - Nature and Scope of Arms Control and Disarmament - Objectives and Condition of Disarmament - Types of Disarmament	15	1
II	- Disarmament Efforts Under the League of Nations - Disarmament Efforts Outside of the League of Nations - Disarmament Efforts Under the United Nations - Unilateral, Bilateral and Multilateral approaches	15	2
III	- Biological and Chemical Weapons Convention - Nuclear Arms Limitation and Arms Control Treaties (ABM, SALT, START, INF etc.) - Concept of Non-Proliferation and Major treaties (PTBT, NPT, CTBT, FMCT and Others) - Multilateral Export Control Regimes (MTCR, NSG, Australia Group, Wassenaar Agreement) - Nuclear Weapon Free Zone Treaties	15	3
IV	- Potential Future Trend of Arms Control and Disarmament - Challenges towards Arms Control and Disarmament Efforts - India's Efforts towards Arms Control and Disarmament - Arms Control and Disarmament & Economic Development	15	4

Websites/Government Reports:

1. The United Nations, Disarmaments Year Book, New York.
2. SIPRI Year Book on Armament and Disarmament.
3. IISS publications
4. Military Balance ISSS, London.
5. WMD Reports, Indian Parliament, Govt. of India.
6. Arm Control Associations, United Nation.
7. United Nations Office for Disarmament Affairs (UNODA)
8. Official Website of United Nation

Reference Books:

1. India's Nuclear Policy Disarmament and International Security – S.K. Mishra
2. Chemical Weapons – Parsad S. K.
3. Conventional Deterrence - J.J. Mearsheimer
4. Security in the Nuclear Age - J.H. Kahn
5. Deterrence and Strategy - Andre Beaufre

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M.Sc. (Defence Studies) Semester-III (Lab Course-A)

Program	Subject	Year	Semester
M.Sc.	Defence Studies	II	III
Course Code	Course Title		Course Type
DS - 305	Geopolitics through News & Maps		Core
Credit	Hours Per Week (L-T-P)		
	L	T	P
02	2	-	4
Maximum Marks	CIA		ESE
100	30		70

Detailed Syllabus/Curriculum:

Topics	No. of Lectures
- Collection and compilation of newspaper cutting on national and international affairs - Focus on defence, diplomacy, internal security, conflicts, and peace efforts - Political and strategic mapping of – a. India (States, UTs, Borders, Strategic locations) b. Asia (Neighbouring countries, conflict zones, sea routes) c. World (Alliances, power blocs, strategic chokepoints) - Preparation of a 10-minute Power Point Presentations on a current defence & security related issue. - Sessional Work and Record	60

Books Recommended:

1. **Journals of Defence Studies** – MP-IDSA, New Delhi.
2. **Modern World Affairs** – N. Jayapalan
3. **Defence Studies: Contemporary Perspectives** – Dr. V.P. Malik & M. Amarjeet Singh
4. **Strategic Affairs Yearbook** – MP-IDSA
5. **Annual Report** – Ministry of Defence, Government of India.
6. **Yojana / Kurukshetra** – For Indian Defence and Internal Security Updates.
7. **Daily Newspaper Editorial** – Danik Jagran, Indian Express & The Hindu.
8. **MP-IDSA** – Commentaries and Policy Briefs.

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M.Sc. (Defence Studies) Semester-III (Lab Course-B)

Program	Subject	Year	Semester
M.Sc.	Defence Studies	II	III
Course Code	Course Title		Course Type
DS - 306	Military Psychological Experiments - I		Core
Credit	Hours Per Week (L-T-P)		
	L	T	P
02	2	-	4
Maximum Marks	CIA		ESE
100	30		70

Detailed Syllabus/Curriculum:

Topics	No. of Lectures
- Koh's Block Design Test - Alexander Pass Along Test - Mental Fatigue test - Picture Contruction Test	60

Books Recommended:

1. Ministry of Defence Manuals on Selection and Mental Health
2. DIPR (DRDO) – *SSB Preparation and Testing Methods*
3. Ministry of Defence Manuals and SSB Booklets
4. Bhatia, C.M. – *Performance Tests of Intelligence* (Manual)
5. A.P. Singh – *Psychological Testing in Defence Settings*
6. R.C. Mishra – *Military Psychology: Applications and Theory*
7. Robert J. Gregory – *Psychological Testing: History, Principles, and Applications*
8. APA Journal – *Military Psychology*

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M. Sc. III Semester
Session: July-December 2026
Course/Paper - I (Code : DSVAC)
Course Title: India's Foreign Policy

Detailed Syllabus/Curriculum:

Unit	Topics	No. of Lectures	CO No.
I	Introduction • Origin and Foundations of India's Foreign Policy • Phases of India's Foreign Policy: From Idealism to Pragmatism • India's Contemporary Foreign Policy Shifts: Continuity and Change	15	1
II	Foundation of India's Foreign Policy • Panchsheel (Five Principles of Peaceful Coexistence) Policy • Non-Alignment Policy • Strategic Autonomy Policy • Article 51 of the Indian Constitution • Neighbourhood First Policy • Act East Policy	15	2
III	India's Neighbourhood Policy • India and its Near Neighbourhood – SAARC nations • India and the Regional Cooperation in South Asia. • India and its extended neighbourhood – West Asia, Central Asia, and South East Asia	15	3
IV	India and Global Issues • India and the issue of Global Terrorism • India and International Economic Regime: WTO, IMF and World Bank • India and Climate Diplomacy	15	4

Websites/Government Reports:

1. Annual Report, Ministry of External Affairs, Govt. of India.
2. Article 51 of the Constitution of India - *Directive Principles guiding foreign relations*
3. MP-IDSA (Manohar Parrikar Institute for Defence Studies and Analyses) Publications
4. UN Reports on Climate and SDGs (*For India's Climate Diplomacy and Multilateralism*)
5. Kautilya's Arthashastra (*For understanding ancient roots of foreign policy and statecraft*)
6. Observer Research Foundation and Brookings India Reports on current international issues

Reference Books:

1. Pax Indica: India and the World of the 21st Century – *Shashi Tharoor*
2. Challenge and Strategy: Rethinking India's Foreign Policy – *Rajiv Sikri*
3. Indian Foreign Policy: An Overview – *Harsh V. Pant*
4. The Oxford Handbook of Indian Foreign Policy - *Rohan Mukherjee & David M. Malone*