

UNIVERSITY OF MADRAS
M.A. DEGREE PROGRAMME IN HISTORICAL STUDIES
SYLLABUS WITH EFFECT FROM 2023-2024

SECOND YEAR – SEMESTER- III

Course code	503C3D	DEVELOPMENT OF SCIENCE AND TECHNOLOGY FROM 1947 CE TO 2014 CE	L	T	P	E
Core/Elective/Supportive/		Elective	4	0	0	3
Pre-requisite		This course to understand the fundamental knowledge and also application of various scientific techniques to modernize India on par with advanced countries	Syllabus Version		2022– 2023	
Course Objectives:						
The main objectives of this course are to: Enable the students to understand the importance of self reliance in scientific field Enable them to understand great achievements in modern India Make students aware of the contributions of the scientific Institutions in nation building Enable the students to know about the emerging fields and new challenges						
Expected Course Outcomes:						
On the successful completion of the course, student will be able to:						
1	Recall or remember the modern science					K1
2	Understand the techniques of applying Bio - technology for agriculture					K2
3	Apply their idea of Bio - technology for agriculture development					K3
4	Analyze the intent and motives of Big Science					K4
5	Evaluate various policies of the government of India					K5
6	Create idea to seek for suitable job in relevant industries or to become a potential entrepreneur based on knowledge and hands-on trainings achieved during the course					K6
K1 - Remember; K2 – Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 - Create						
Unit:1		Planning For Science And Technology			14 hours	
Perspectives - A Survey of Development of Science and Technology under the British Rule - Government of India's Science Policy Resolution – Planning for science- Big science -Department of Atomic Energy - Science and Technology - Research and Development Organization - Science and Technology programmes for Socio-Economic Development						
Unit:2		Science And Technology For Agriculture Development			14 hours	
Development of Agricultural Science - Research and Education - Agricultural Engineering and Technology - Indian Council of Agricultural Research - Crop Science and Horticulture - Animal Science and Veterinary colleges - Biotechnology Development – Green Revolution –White Revolution						
Unit:3		Big Science For Transforming India			14 hours	
Development of Space Science – Development of Science and technology under Indira Gandhi- Atomic Energy and Nuclear Power Programme - Pokhran I & II - Development of Satellite Systems- Aryabhata - INSTAT System – Science and Technology under Rajiv Gandhi –Establishment of Electronics Department						

UNIVERSITY OF MADRAS

M.A. DEGREE PROGRAMME IN HISTORICAL STUDIES

SYLLABUS WITH EFFECT FROM 2023-2024

Unit:4	Establishment Of New Institutions	14 hours								
Information Technology Act 2000 -Telecommunication - Software Technology Parks – Communication for the Masses- Development of Higher Education- Establishment of Universities and Technical Institutes- Institutes for Health sciences- Promotion of native science- Ayush										
Unit:5	New Frontier And Self Defence	14 hours								
Oceanography - Ocean Development - Marine Living Resources and Non - living Resources - Aquaculture and Marine Biotechnology - Polar Science and Antarctic Expeditions - Institute Connected with Ocean Research.										
Total Lecture hours		72 hours								
Text Book(s)										
1	Bose, D. M, Sen., S. N.and Subbarayappa, B.V (eds), A Concise History of Science In India (New Delhi, 1971)									
2	David Arnold, The New Cambridge History of India: Science, Technology, and Medicine in Colonial India (Cambridge, 2000)									
3	Baber Zaheer, Science of Empire, Scientific knowledge, Civilization and Colonial Rule in India (Delhi, 1998).									
4	Deepk Kumar, Science and the Raj, 1850 – 1905, OUP, New Delhi, 2022.									
5	M.Lakshmanan, A Brief history of Science and Technology in Independent India (Madras,2011)									
Reference Books										
1	Butterfield, Herbert, The Origins of Modern Science, 1300-1800 (London, 1957)									
2	Kuppuram. G & K.Kumudamani, History of Science and Technology, Sundeep Prakashan, New Delhi, 1990.									
3	Habib, Irfan and Dhru Raina, Situating the History of Science Dialogues with Joseph Needham (Delhi, 1999)									
4	Crosland and Maurice (ed), The Emergence of Science in Western Europe (Macmillan, 1975)									
5	Parthasarathy, Ashok, Technology at the Core: Science & Technology with Indira Gandhi (Pearson Education, 2008).									
6	Ashok Kumar Singh, Science & Technology, McGraw Hill Education (India), Pvt.Ltd, New Delhi, 2008.									
7	Chattopadhyaya. D.P, History of Science and Technology in India, South Asia Books, Madangir, New Delhi, 1987.									
Mapping with Programme Outcomes										
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	M	L	S	M	S	M	S	L
CO2	S	S	S	M	S	L	M	S	S	S
CO3	S	S	S	L	S	S	M	L	M	L
CO4	L	S	L	L	S	S	M	L	S	L
CO5	S	S	S	S	S	S	S	S	S	S

*S-Strong; M-Medium; L-Low