

Semester	III
Course	P.G
Paper Code	MHIS4303
Paper Title	Science, Technology and Medicine in Modern India (1800-1947)
No. of Credits	6
Theory / Practical / Composite	Theory
Minimum No. of preparatory hours per week a student has to devote	
Number of Modules	2
Syllabus	<p>Module- 1</p> <p>1. Debates around public health.</p> <p>a. Sanitation and urban planning.</p> <p>b. Outbreaks of Plague and public surveillance.</p> <p>c. Responses to outbreaks of Cholera and Malaria</p> <p>d. Tropical Medicine in Colonial India</p> <p>e. Contagious Diseases Acts and Public Health Reforms: A Gendered Approach</p> <p>(Any 3 of the above 5 to be covered in a semester.)</p> <p>2. Indigenous and alternative medical traditions</p> <p>a. Nationalism and reassertion of the Ayurvedic system.</p> <p>b. Homeopathy as a response to the hegemony of Western medicine.</p> <p>c. Yunani and Hekimi tradition during the colonial period.</p> <p>3. Environment and Ecology.</p> <p>a. Colonial Forest Policies and demands of the modern industrial economy.</p> <p>b. Emergence of ethical debates on environment.</p> <p>c. Early debates concerning pollution.</p> <p>(Any 3 of the 4 to be covered in a semester)</p> <p>4. Everyday technology.</p> <p>a. Swadeshi enterprises.</p> <p>b. Impact of technology within the domestic space. (Expansion of electricity, the use of sewing machines, cycles etc.)</p> <p>Module- 2</p> <p>1. Discourses on Science and Rationality.</p> <p>a. Broader debates on rationality and science in Colonial India.</p>

	<ul style="list-style-type: none"> b. Responses from contemporary Indian intellectuals. c. Contemporary writings on science, with a particular focus on science fiction. d. Emergence of scientific institutions <p>2. Infrastructure and Development.</p> <ul style="list-style-type: none"> a. Colonial Hydrology. b. Impact of the spread of the Railway networks. c. Growth of the road networks across the empire. d. Emergence of the telegraph and radio <p>3. Race science</p> <ul style="list-style-type: none"> a. Medical Jurisprudence and Colonial Forensics b. Criminal Tribes Act. c. Anthropological Surveys and shaping of Nationalist identities. <p>4. Animal History.</p> <ul style="list-style-type: none"> a. History from the perspectives of ‘non-human empires’. b. Colonial state and Animals in South Asia.
<p>Learning Outcomes</p>	<p>This postgraduate history course offers a comprehensive exploration of the dynamic interplay between science, technology, and medicine in colonial India from 1800 to 1947. Through an interdisciplinary lens, students will critically analyze key themes and debates surrounding the development and impact of scientific knowledge, technological innovations, and medical practices within the colonial context.</p> <p>The course begins by examining the evolving debates around public health policies, sanitation, and urban planning, shedding light on the complex intersections between colonial governance, public welfare, and indigenous medical traditions. Students will investigate the resilience and adaptation of indigenous medical systems amidst colonial interventions, exploring how traditional healing practices coexisted and interacted with Western medicine. Furthermore, the course delves into the intricate relationships between environment, ecology, and colonialism, highlighting the exploitation of natural resources, the transformation of landscapes, and the emergence of ecological discourses within colonial scientific thought.</p> <p>A significant focus will be placed on the study of everyday technologies and material cultures, exploring how innovations in transportation, communication, agriculture, and industry shaped colonial society and economy.</p> <p>Moreover, the course critically examines discourses on science, rationality, and modernity in colonial India, unpacking the contested terrain of knowledge production, education, and scientific institutions. Students will explore how colonial discourses on race, ethnicity, and civilization influenced scientific thought and practice, particularly in the realm of “race science” and anthropological studies.</p> <p>Additionally, the course addresses the development of public infrastructure, including railways, telegraphs, and irrigation systems, as key agents of colonial power and control, while also shaping patterns of connectivity, mobility, and social transformation.</p>

	<p>Finally, the course engages with the emerging field of animal history, investigating the ways in which colonialism intersected with human-animal relations, veterinary medicine, and the exploitation of animal labour within the colonial economy.</p>
<p>Reading/Reference Lists</p>	<p>Readings:</p> <p>Essential Readings</p> <ul style="list-style-type: none"> • David Arnold, <i>Colonizing the Body: State Medicine and Epidemic Disease in Nineteenth-Century India</i> (University of California Press, 1993) • Mark Harrison, <i>Public Health in British India 1859-1914</i>, (Cambridge: Cambridge University Press, 1994) • Projit Bihari Mukherji, <i>Nationalizing the Body: Medical Market, Print and Daktari medicine</i> (London, New York: Anthem Press, 2009) • Projit Bihari Mukherji, <i>Doctoring Traditions: Ayurveda, Small Technologies and Braided Sciences</i> (Chicago: University of Chicago Press, 2016) • Shinjini Das, <i>Vernacular Medicine in Colonial India: Medicine, market and Homeopathy</i> (Cambridge: Cambridge University Press, 2019) • Richard Grove, <i>Green Imperialism</i>, (Cambridge, CUP, 1995) • Michael H. Fisher, <i>An Environmental History of India</i>, (Cambridge, CUP, 2018). • David Arnold, <i>Everyday Technology: Machines and the Making of India's Modernity</i>. (Chicago: UChicago Press, 2013). • Gyan Prakash, <i>Another Reason: Science and Imagination of Modern India</i>, (Princeton: Princeton University Press, 1999) • R. D'Souza, (2006), <i>Water in British India: The Making of a 'Colonial Hydrology'</i>. <i>History Compass</i>, 4: 621-628. https://doi.org/10.1111/j.1478-0542.2006.00336.x • Philippa Levine, <i>Prostitution, Race and Politics: Policing Venereal Disease in the British Empire</i> (London: Routledge, 2003) • S. Ghoshal (2021), <i>Race in South Asia: Colonialism, nationalism and modern science</i>. <i>History Compass</i>, 19: e12647. https://doi.org/10.1111/hic3.12647 • Projit Bihari Mukharji, <i>Brown Skin, White Coats: Race Science in India 1920-1966</i>, (Chicago: UChicago Press, 2023). • Jonathan Saha, <i>Colonizing Empire: Interspecies Empire in Myanmar</i>, (Cambridge, CUP, 2022). • Rohan Deb Roy; <i>Introduction: Nonhuman Empires</i>. <i>Comparative Studies of South Asia, Africa and the Middle East</i> 1 May 2015; 35 (1): 66–75. doi: https://doi.org/10.1215/1089201X-2876104 <p>Recommended readings.</p> <ul style="list-style-type: none"> • Excerpts from James Ranald Martin, <i>Notes on the Medical Topography of Calcutta</i> (Calcutta: Military Orphan Press, 1837) • Partho Datta, <i>Ranald Martin's Medical Topography: Emergence of Public health in Calcutta</i> in Biswamoy Pati and Mark Harrison (eds), <i>The Social History of Health and Medicine in Colonial Calcutta</i>, (London & New York: Routledge, 2009)

	<ul style="list-style-type: none"> • Mridula Ramanna, Western Medicine and Public Health in Colonial Bombay 1845-1895, (Hyderabad: Orient Longman, 2002) • Rajnarayan Chandravarkar, Plague panic and endemic politics in India 1896-1914 in Terence Ranger and Paul Slack (eds), Epidemics and Ideas: Essays on Historic perceptions of pestilence. (Cambridge: Cambridge University Press, 1992) • Claudia Libeskind, Arguing Science: Unani tibb, hakims and biomedicine in India 1900-1950 in Waltraud Ernst (ed), Plural Medicine, Tradition and Modernity 1800-2000 (London: Routledge, 2002). • Ramachandra Guha and Madhav Gadgil, This Fissured Land: An Ecological History of India (Berkley, LA: UC Press, 1993) • Ramachandra Guha, The Unquiet Woods, (Berkley, LA: UC Press, 1989). • Siddhartha Ghosh, Koler Sohor Kolkata, (Calcutta: Ananda Publishers Ltd. 1991). • Suvobrata Sarkar. "Domesticating electric power: Growth of industry, utilities and research in colonial Calcutta." The Indian Economic & Social History Review 52, no. 3 (2015): 357-389. • Excerpt from the writings of Rabindranath Tagore and Mahatma Gandhi on Science. • Mary E. Gibson, Science Fiction in Colonial India 1835-1905: Five Tales of Speculation, Rebellion, and Resistance. (London & NYC: Anthem Press, 2019). • Ritika Prasad, Track Change: Railways and Everyday life in Colonial India, (Cambridge: CUP, 2015). • IJ, Kerr. Colonialism and Technological Choice: The Case of the Railways of India. Itinerario. 1995;19(2):91-111. doi:10.1017/S0165115300006811 • Aparajita Mukhopadhyay, Imperial Technology and Native Agency: A Social History of Railways in Colonial India 1850-1920 (Oxon: Routledge, 2018). • A. Ramesh, V. Raveendranathan, Infrastructure and public works in colonial India: Towards a conceptual history. HistoryCompass. 2020; 18:e12614. https://doi.org/10.1111/hic3.12614.
Evaluation	CIA: 20 End-Semester: 80
Paper Structure for Theory Semester Exam	Each Module 40 Marks Two 20 marks questions have to be answered out of four options.