Appendix B

Contents of Courses

Physics and Chemistry

(In early years the examination in the subject was based on Primers of Balfour Stewart and Roscoe, Longman's Elementary Science Manuals by Wright and Furseant and later on "Lessons in Science" by Gregory and Simmons. Practical work was first specified in 1911-12 and later improved upon in 1927. Contents of theory were listed in 1924 and they continue to this day.)

Physics - Theory (1924-1966)


Moment of a force, principle of lever; simple pulley.

Source and effects of heat; heat and temperature. Mercurial Thermometer; Maximum and Minimum Thermometer.

Units of heat, specific heat, thermal capacity, latent heat of water, latent heat of steam. Measurement of specific heat of a solid and latent heat of water by the method of mixture.


Sources of light; light travels in straight lines, pinhole images, shadows, eclipses.

Reflection of light, laws of reflection of light, image of object by reflection from a plane mirror.


Properties of magnet, making of a magnet, mariner's compass.

Physics - Practical (1927-1966)

The use of the yard, foot and inch, the metre, centimetre and millimetre in the measurements of simple lengths, areas and volumes.

The use of the spring balance and the simple balance.

To find the relative density of a liquid by means of a specific gravity bottle.

To find the relative density of a solid by Archimedes' principle.

To show the action of a siphon.

To show that liquids and gases expand when heated.

To determine the melting point of wax and naphthalene.

To determine the boiling point of water.

To show the effect of reduced pressure on the boiling point of water.

To compare the rate of cooling of dull and brightly polished surfaces.
To show that light travels in straight lines.
To prove that the angles of incidence and reflection are equal.
To verify the laws of refraction, to trace the path of rays through a prism.
To find the focal length of a convex lens.
To charge a good-leaf electroscope and electrophorus.
To set up a simple voltaic cell, a Daniell cell and a Leclanche cell.
To determine the direction of an electric current by a magnetic needle.
To set up an electric bell in a circuit.
To magnetize steel, using a bar magnet.
To make a simple electro-magnet.

Chemistry - Theory (1924-1966)

Physical and chemical changes. Elements, compounds, and mixtures, metals and non-metals. Chemical combination and decomposition.

Solution, decantation, filtration, evaporation, distillation.
Saturated Solution. Crystals, Crystallisation, Sublimation.
Deliquescent bodies. Air-a mixture.

Chemical affinity, preparation of Oxygen, its properties and uses. Oxidation, reduction, combustion. Parts of candle flame.

Hydrogen, its preparation and properties.

Water, its properties and composition by electrolysis.
Rain, spring, mineral, and sea-water; hard and soft waters.
Softening of hard waters.


CO₂, its preparation, properties and uses. Limestone.
Lime and slaked lime. Forms of Calcium Carbonate and Calcium Sulphate.

Nitric acid. Its preparation, properties and uses.
Nitrates. Distinction between HCl, H₂SO₄ and HNO₃. Ammonia and its properties.

Ores and Metals. Alloys and Amalgams. The more important salts of Sodium and Potassium.

Properties of the following metals:
Copper, Mercury, Silver, Zinc, Lead, Tin, Iron and Aluminium.

Chemistry - Practical (1927-1966)

Acquaintance with simple chemical manipulation, as solution, filtration, decantation, crystallisation, distillation.

To fit up an apparatus to demonstrate the combination of oxygen the atmosphere with iron.

Cork boring; cutting, bending and drawing out of glass tubing and glass rod.

The preparation and properties of Oxygen and hydrogen.
The distinction between acids and alkalies.
To neutralise an acid with an alkali and vice versa.
A study of the zones in a candle flame.
The products of combustion as illustrated by the burning of a candle.

To distinguish between hard and soft water and to soften hard water.
The action of heat on coal to show the production of coal gas.
The preparation and properties of carbon dioxide, hydrochloric acid and nitric acid.
Test for hydrochloric acid, sulphuric acid and nitric acid.
The action of heat on sulphur.
To prepare monoclinic and plastic forms of sulphur.

(Vide Punjab University, Lahore, Calendars 1925-26 and 1928-29)
Civics

(Civics was first adopted in the high school curriculum in 1927. The following contents listed in 1927 continued to be taught up to 1958-59 when the subject was dropped).

A

1. Control and co-operation (law and order) as evinced in:

(a) The home.
(b) The school.
(c) The village community.
   Panchayat Act in illustration.
   Co-operative Societies
(d) The Provincial Government.
(e) The Government of India. Emphasis to be placed on the need of creating public authorities. A few typical instances of public officers (e.g., Lambardar, Tahsildar, Deputy Commissioner) with explanation of the duty of members of the public in co-operating with authority.

2. The wider community of the British Commonwealth and its justification. The ideas of representative and of responsible Government, illustrated in varying forms and degrees by the different types of Government of the constituent members of that Commonwealth. The idea of service for the community on the part of the individual to be emphasised throughout, and illustrations and comparison to be drawn from school life whenever possible. (The function of the Crown as symbolic and unifying to be noticed.) Recent Political Reforms in India as illustrating an approach to responsible and representative Government. Meaning and responsibilities of the vote.

B

Need of permanent machinery for essential public services: -

The Legislature: -

Its function in (a) making laws,
   (b) influencing the administration,
   (c) voting supplies.

The meaning and importance of by-laws, illustrated, e.g., in Railway administration, Municipal and District Boards.

Administration: -

Upholding the law.
The Police - protecting the public and detecting crime.
The Judge - securing justice and punishing crime.
Objects of punishment and changing character of treatment of criminals illustrated in reformatories.

Right of Appeal.
Education: the attempt to make good citizens. Types of school (grades, and general and special schools). The state of educational progress in India.

Taxation. - The individual's contribution for public services. Different ways in which he is made to contribute. Main items of taxation.


(Vide Punjab University Calendar, 1928-29. pp. 658-660).

Indian History

(The contents of the course in Indian History, first specified in 1911, were successively rearranged in 1915, 1927 and 1929. The rearrangement of the contents made no change except that the course was extended to the time of Lord Chelmsford. An example of scissors-and-paste technique! The course remained unchanged up to 1959 when it was replaced by Social Studies).

Contents of Syllabus in Indian History from 1911:

The physical feature of the country.
The aborigines of India. Immigrations from the north-east and north-west.
The Aryans. The Indo-Aryans.
The Itihasas or Ramayana and Mahabharat.
The Brahmanas. The Smritis. Manu.
The Caste System.
Buddhism and Jainism.
The Kingdoms of Kosala and Magadha: The empire of the Nandas.
Alexandr's invasion. Account of India given by Greek writers.
The Puranas.
Muhammadan conquest of Sind and the Punjab. Mahmud of Ghazni.
Hindu civilization on the eve of Muhammadan rule in India.
incursions into Southern India. Ala-ud-Din.
Break up of the Pathan empire, the Muhammadan kingdoms of Delhi, Bengal, Jaunpur, Gujurat, the Deccan, the Hindu kingdoms of Vijnagar, Maywar and Orissa.
Rise of religious sects under Pathan rule. Ramanandan, Kabir, Nanak, Chaitanya. Spread of Muhammadanism; the Urdu Language; India literature in Pathan times.
The successors of Aurangzeb. Revolt of the provinces, invasions of the Mahrattas; invasions of Nadir Shah and Ahmed Shah Abdali. Struggle for supreme power between Muhammadans and Mahrattas; the Mahratta confedery. Extent of Mahratta dominion. Contact of the Mahrattas with the English. The Europeans in India, discovery of the Cape route to India by the Portuguese; The Dutch, the French and the English Merchant companies and early settlement. First Charter of the East India Company.
The French in India. Duplex. The English in India. Clive. English wars and territorial acquisitions in Madras, Bengal and Bombay. Plassey, the Dewani. Early history of Calcutta. Clive's system of administration. Warren Hastings, his financial, revenue and judicial reforms; his relations with native powers. The Regulating Act; Warren Hastings, First Governor-General, Extent of British Dominions in his time. Pitt's India Act; Lord Cornwallis, his administrative reforms, the permanent settlement. Sir John Shore, his non-intervention policy. Lord Wellesly, his wars with the Mahrattas; the system of subsidiary Treaties. Lord Minto; State of Central India, extension of relations of British India Government with foreign powers outside India; renewal of the Company's Charter. Lord Hastings, his wars with Nepal and with the Mahrattas, Lord Amherst, the first Burmese war. Lord William Bentinck, his social and administrative reforms, renewal of the Company's Charter. Sir Charles Metcalfe. Lord Auckland, his policy, the first Afghan war. Lord Ellenborough, the Sind War. Lord Hardinge, the first Sikh war. Lord Dalhousie, the Second Sikh war, the doctrine of Lapse and the Annexation policy, the Second Burmese war. Material progress of the country under Dalhousie.
Lord Canning, the Indian Mutiny, probable causes, the assumption of direct Government by the Crown; the Queen's Proclamation; India under the Viceroy's; Financial reforms; the Orissa Famine and other great Famines; the second and third Afghan war; the Third Burmese war; delimitation of Frontier Boundaries; The Mahrattas, their rise, Sivaji and his successors, Mahratta system of war, administration and revenue, rise of the Peshwas, Baji Rao, his successors, origin of the Chief Mahratta States; Mysore; an ancient Hindu Kingdom; Hyder Ali; his wars with the Mahrattas, the Nizam and the English; Tippu Sultan; Restoration of the Hindu dynasty; The Sikhs; their origin, Guru Govind Singh, their struggle with Ahmed Shah Abdali, Ranjit Singh, his conquests, the Khalsa; Ranjit Singh's successors.

Outline of material progress of India under British rule

I. Earliest declarations of principles of English Rule. The Queen's Proclamation.

II. Peace and order. Isolation of India done away with.

III. Advanced Western ideas and institutions adopted and introduced as an agency of progress:

Social: Social practices of a criminal character not tolerated. Abolition of Sutte, of infanticide, of Look swinging. Legalization of the remarriage of Hindu widows. Female Education.


The historical position of the above syllabus is covered by any one of the following books:
2. Indian History: M. Prothen, Macmillan and Company.

Contents of Indian History from 1915 to 1927

Build and climate of India, and their bearings upon its history, the people of India. The Vedas.

The stories of the Vedas-post Vedic literature. Asoka.


The break up of Pathan rule in the North and in the South. The battle of Panipat-Humayun's flight. Akbar, the founder of the Moghul Empire, his conquests, his administration. Shah Jehan, the great builder. Aurangzeb and Sivaji, rise of the Marathas. The John Company, first struggle for supremacy with other powers. Duplex.


The historical portion of the above syllabus is covered by any one of the following books:
2. Indian History: M. Prothen, Macmillan and Company.
5. India under the crown (for latter part of syllabus): Professor Mathra Das.

Contents of Syllabus in Indian History from 1927-1938
2. The Aryans, the Indo-Aryans, the sacred writings of the Indo-Aryans.
3. Buddha and his religion-Spread of his religion—Mahavir and Jainism.
4. Early Hindu Kingdoms in Northern India-Kosai and Magadh-Greek invasions of India.
5. The Maurya Empire-Chandra Gupta, Asoka and his patronage of Buddhism—Decline of Buddhism.
6. Greek influence on India.
7. The Kushan Empire-The Revival of Brahmanism-The Gupta Empire—Revival of literature and fine arts-Harshavardhan-Chinese accounts of India.
8. The rise of the Rajputs - The Kingdoms in Northern India and Rajputana.
10. Hindu civilisation on the eve of Mohammedan conquest.
12. The state of India under the Sultanates of Delhi - Spread of Islamic Architecture and Literature.
14. The foundation of the Mughal Empire - Babar; Humayun, Akbar, Jahangir, Shahjahan and Aurangzeb.
15. The decline and fall of the Mughal Empire - Mohammedan civilization on the eve of British conquest.
17. Early European Settlements - The foundations of the British Indian Empire - The Karnatic Wars - The conquest of Bengal - Clive.
18. India under the East India Company - Warren Hastings to Wellesley.
20. Minto to Dalhousie - India under the Crown from Lord Canning to Lord Reading.

Contents of Syllabus in Indian History from 1939-59

2. Buddhism and Jainism - Lives of Buddha and Mahavira - Main doctrines of Buddhism and Jainism.
4. The Maurya Dynasty - Chandra Gupta, his Government, Magasthenes and his account of India.
5. Asoka - his conquest of Kalinga - his conversion to Buddhism - Propagation of Buddhism, his Edicts.
6. Kanishka - The extent of his empire - his zeal for Buddhism - Mahayana Buddhism.
7. The Gupta Empire - Chandra Gupta I - Samudra Gupta, his conquests - Chandra Gupta II (Vikramaditya), Faibian's account of India.
9. Harsha - The extent of his Empire - Hien Tsang's account of India.
10. The Rajputs - their origin - A brief reference to the principal kingdoms of the Rajputs.
11. A brief account of the spread of Hindu culture abroad (Chinese, Turkistan and Hindu Colonies in Champa, Cambodia, Java, Sumatra, etc.)
14. Mohammad Ghori - The first and second battles of Tarain.
15. Slave Kings - Qutb-ud-Din Altmash, Razia Begum, Nasir-ud-Din Balban.
17. The Tughlaks - Mohammad Tughlak - Feruze Tughlak - The invasion of Timur and its consequences.
19. The Bahmani Kingdom and its break-up - Vijayanagar Empire and the battle of Talikota.
   Babur—First battle of Panipat—Rana Sangram Singh—Humayun, his wars with Sher Shah—Sher Shah's administration.
22. Akbar—Second battle of Panipat—his religious policy—his conquests—his dealings with the Rajputs (Rana Partap)—his administration—The Din-i-Ilahi—Important personages at his Court.
25. Aurangzeb—his war with the Rajputs—The rise of the Marathas under Shivaji—Shivaji's administration—Aurangzeb's Deccan campaigns—his character and religious policy.
26. The decline of the Mughal Empire—Rise of the Sikhs under Guru gobind Singh and Banda—the invasions by Nadir Shah and Ahmad Shah Abdali—Causes of the decline of the Mughal Empire—The rise of the Sikh Political Power in the Punjab—The rise of the Peshwas.
32. Marquis of Hastings—The Nepal war—The extirpation of the Pindaris—The last Maratha War.
33. Lord Amherst—The first Burmese War.
34. Lord Bentinck—his Reforms: Social, Administrative and Educational.
35. Lord Auckland and Ellenborough—First Afghan War—Annexation of Sind.
36. Lord Hardinge—First Sikh War.
39. India under the Crown—Lord Canning.
40. Lord Lytton—Second Afghan War.
41. Lord Dufferin—Third Burmese War—The Indian National Congress.
43. Lord Minto—Morley—Minto Reforms.
44. Lord Hardinge—The Coronation Darbar—The Great War and India's share in it.