

CHEMISTRY AND MATERIA MEDICA.—DR. NORMAN MOORE.

1. What is the composition of chloroform? How is it prepared?
2. State the composition, and explain, with formulae, the chemical preparation of (1) sulphuric acid, (2) hydrochloric acid, (3) nitric acid, (4) carbolic acid.
3. What rules regulate the strength of tinctures in the latest edition of the *British Pharmacopœia*. Give examples.
4. What is opium? What alkaloids does it contain? What are its official preparations, and what the strength of each?
5. What are the therapeutic uses of mercury and of its salts? What are their official preparations and doses?

MEDICINE AND PATHOLOGY.—PROFESSOR MCCALL ANDERSON.

1. A man, aged 36, had been for some months below par, and was losing flesh and colour, but continued at work, until one day, when he rapidly became comatose. On recovering consciousness, it was found that his right arm and leg were completely, while the lower segment of the face on the same side was partially, paralysed, and to every question he returned for answer either "Yes" or "No." His heart was not sound, but there were no murmurs, and dropsy was absent. He had never had syphilis.

Fill in the picture of all the additional symptoms which might be present. Give the diagnosis in full, and what would you find *post mortem* in the event of a fatal issue?

2. Give an account of the indirect (pressure) symptoms which may be encountered in cases of aneurysm of the arch of the aorta.
3. Give a short sketch of the complications of diabetes mellitus.
4. How can you satisfy yourself (a) that pus is present in the urine, (b) that it comes from the pelvis of the kidney, and (c) how would you treat the condition?

NATURAL SCIENCES.—DR. NORMAN MOORE.

Candidates may answer not more than *six* questions, and they must confine themselves to *two* branches of science only.

Geology and Physical Geography.

1. How would you recognise an extinct volcano? What traces of volcanic action are to be observed in the British Isles?
2. What are the chief fossils of the mountain limestone? What beds lie immediately above and what immediately below that rock in the British Isles?
3. Describe the effects of (1) glacial action, (2) earthquakes.

Physics.

1. Describe Attwood's machine, and explain its use.
2. State the facts which demonstrate that, with the exception of tidal energy, all the work done in the world is due to the sun.
3. Explain the electrical phenomena illustrated and the apparatus necessary in sending an ordinary telegraphic message.

Botany.

1. Give the characters of the following natural orders: (1) Primulaceæ, (2) Iridaceæ, (3) Convolvulaceæ, (4) Linaceæ, (5) Polygonaceæ. Describe the structure of an orchis, and explain the method of fertilisation in that genus.
2. What is the botanical nature of (1) ergot of rye, (2) potato disease, (3) smut of corn, (4) lily disease?
3. Define the following terms: (1) Umbel, (2) spike, (3) capitulum, (4) raceme, (5) placenta, (6) albumen, (7) bract, (8) petiole, (9) sepal, (10) cyme, and give an example of each.

Zoology.

1. How would you recognise a poisonous snake? Describe the structure of the skull and the anatomy of the poison apparatus in any such snake. What difference of action is there between the poison of the cobra and that of a viper?
2. Name the entozoa which inhabit the human body, and describe fully the structure and development of any one form.
3. Describe the placentation of (1) the elephant, (2) the mare, (3) the cow, (4) the cat; and the dentition of (a) the sheep, (b) the rabbit, (c) the dog, (d) the sloth.

PRISON MEDICAL SERVICE.

THE prison department consists of two branches—the convict service and the local prison service. These are now practically amalgamated, and the officers of each branch are freely interchangeable. In the case of the smaller prisons the medical officer is usually a local practitioner, but in the case of the larger prisons the medical officers are appointed by the Convict Prison Board or the Prison Commission, and form practically a special service. The Chairman of the Boards is Mr. Evelyn Ruggles Brise. Application for employment may be made to the Board on a special form, which, we understand, can be obtained from the Secretary, Major E. G. Clayton, Prison Commission, Home Office, London, S.W.

The number of vacancies is not large, and the prospects of promotion are bad. This is due in part to the fact that the rate of pay of the higher appointments depends upon the number of prisoners in the particular prison, and that the total number of prisoners in the country is decreasing.¹

The following was the staff in 1898-99:

Convict Service.—Five deputy medical officers, at £250, rising

to £300; four medical officers, at incomes ranging from £300 to £550.

Local Prison Service.—Nine deputy medical officers, at £250, rising to £300; seven medical officers, at £200; two medical officers, at £250; three medical officers, at £300, rising to £390; six medical officers, at £400, rising to £500.

MEDICAL APPOINTMENTS IN THE COLONIES.

1. Medical appointments are from time to time filled up by the Colonial Office in the following Colonies: British Guiana, Jamaica, Trinidad, Windward Islands, Leeward Islands, British Honduras, Fiji, Sierra Leone, Gambia, Gold Coast, Lagos, Niger Territories, Ceylon, Straits Settlements, Hong Kong, Cyprus, Gibraltar, St. Helena, and the Falkland Islands. In Ceylon and Jamaica vacancies are almost always filled locally by the appointment of qualified native candidates.

It is for the West Indies and the West African Colonies that medical officers are chiefly required.

2. The majority of the West Indian appointments involve medical charge of a district, including, as a rule, the care of a hospital, poor-house, asylum, or other institution, and free attendance on the aged and children.

In West Africa the medical officers are also required to take charge of any hospital, public dispensary, lunatic asylum, or other Government institution at their respective stations, to supervise the sanitation of the district, to perform vaccination, and to give gratuitous attendance to all Government officials, and, in most cases, the families of such officials also.

N.B.—Passage money on first appointment, and leave of absence on half-pay (in case of sickness, or after six years' service, if the medical officer has given satisfaction in the discharge of his duties), are granted to medical officers in the cases specified in the Colonial Regulations; and those serving in West Africa are allowed six months' leave with full pay and free passages home and out again, after every twelve or fifteen months of continuous residential service. With regard to pension, medical officers are usually on the same footing as other Government servants; but in cases where private practice is allowed, the rule is that they are not entitled to pension, except in West Africa.

3. The following is a short account of the appointments in the separate Colonies:

British Guiana.—Forty-two appointments. Candidates must have held for at least six months a resident medical appointment in some public institution. Officers are appointed on two years' probation as supernumeraries, and are paid a salary at the rate of £300 per annum with quarters, without the right to private practice. Supernumerary officers, married or single, who obtain leave to reside out of the quarters provided for them, will not be entitled to lodging allowance. After serving for two years, if appointed to the permanent staff, the officer will receive £400 per annum, rising by increments of £25 annually up to £700 per annum. A Government medical officer on being appointed to a district, and a supernumerary on being appointed to act in charge of a district, will receive a salary of £500 per annum, but will not receive any increments thereto until entitled to such increments by length of actual service. Every medical officer appointed to a district or to act in charge of a district will receive a travelling allowance at a rate varying from £100 to £150 per annum as the extent of the district may require. He is allowed private practice. No more than £30 is allowed for passage money on first appointment. There is a Widows' and Orphans' Fund in the Colony to which all Government servants are compelled to subscribe at the rate of 4 per cent. on their salaries.

Jamaica.—The appointments, 54 in number, are mainly district appointments with private practice allowed; the salary paid by Government varies from £150 to £250 per annum, and in most cases is £200. Newcomers are in some cases attached for a while to the public hospital in Kingston, and given an allowance at the rate of £200 per annum, but not permitted to undertake private practice. There is a Civil Service Widows' and Orphans' Fund established by law, to which all medical officers are obliged to subscribe at the rate of 4 per cent. on their salaries.

¹ Intending applicants would do well to consult a memorandum prepared for the use of the Parliamentary Bills Committee of the British Medical Association, and published in the BRITISH MEDICAL JOURNAL on April 23rd, 1892.