

The care of plants. The principles of pruning. The enemies of plants. The life-histories of the commoner animal pests. How to preserve specimens of plants.

The candidate will be required to forward before the date of examination a certificate in the prescribed form that he has carried out satisfactorily a course of practical work based on the above syllabus.

(7.) *Elementary Dairy Science.*—The constituents of milk; causes of variations and of defects in the composition of milk; the physical and chemical properties of milk; the coagulation of milk; the composition of skimmed milk, separated milk, buttermilk, and cream; the uses and value of separated milk, buttermilk, and whey; methods of determining the fat in milk; acidity and the estimation of acidity; sampling; the care of milk; influence of temperature on milk; pasteurizing and sterilizing milk; objections to the use of chemical preservatives; conveyance of milk; milk as a medium for conveying disease.

Methods of raising and separating cream; the ripening of cream; use of starters; the process of churning; composition of butter; washing, working, and salting butter; common faults in butter.

A very elementary knowledge of the general anatomy and physiology of the cow, with special reference to the parts concerned in nutrition and milk-production; the care, management, and feeding of dairy cows and calves.

The candidate will be expected to show that during the course he has acquired a knowledge of elementary chemistry and physics sufficient to enable him to understand (a) the principles of the apparatus and appliances, and (b) the processes used in the study of milk.

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(8.) *Elementary Hygiene.*—Elementary hygiene, physiology, and "first aid," as follows: General idea of the cell as a unit of tissues and organs of the body; division of labour.

The general form and external characters of the body; the form and relative positions of the parts of the skeleton and of the chief muscles, organs, great blood-vessels, and nerve-trunks, with special reference to those parts which can be recognized externally.

The mode of attachment and action of muscles. The structure and mechanics of the principal joints. The distinguishing characters of cartilage, bone, tendon, ligament, and muscle.

Signs of fracture and first aid to be rendered in such accidents; treatment of bruises and sprains; bandaging.

The arrangement of the alimentary canal. The chief foodstuffs and the chemical elements they contain. Examples of the occurrence of proteids, gelatine, starch, sugar, and fat in articles of food. The form in which nitrogen, hydrogen, and carbon enter and leave the body. Changes produced in foods during their passage through the alimentary canal; the scene of and the agents causing these changes. How and where the products of digestion are absorbed, and how they are distributed through the body; waste products; excretion.

Care of the mouth and teeth. General composition, relative value and digestibility of the more important food substances and beverages; importance of good habits of eating and drinking; effects of exercise on digestion. The effect of stimulants; harmful effects of alcohol. The mechanics of respiration and circulation; differences between inspired and expired air, between venous and arterial blood, and between blood and lymph. The physical composition and functions of blood. The general differences between arteries, capillaries, and veins, and in the flow of blood therein.

The factors influencing the amount of the expiratory output of carbonic acid. The chief sources of heat-production in the body; the mean temperature of the body in man, and the chief agents keeping it uniform. The general structure and functions of the skin. The importance of cleanliness and of sanitary habits; washing and bathing; materials of clothing; body and bed clothing. Composition and impurities of air; breathing-exercises; artificial respiration and its application in cases of drowning or suffocation. Treatment of cuts and wounds; points where the main blood-vessels may be compressed. Treatment of faints, burns, scalds, bites; stings and poisoning. A general knowledge of the arrangement of the nervous system as a whole; an elementary knowledge of the functions of the brain and spinal cord; the distinction between motor and sensory nerves as regards the parts to which they go and the results produced by nervous impulses through them.

The candidate will be expected to be familiar with the more important steps to be taken in dissecting, say, a rabbit, and he may be