

working in laying plates, sleepers, and joists, and in studding, bracing, boarding up, &c.

Methods of obtaining lengths and bevels from plans and cutting-in in position, or cutting and fixing. Use of steel square.

Weatherboards, throatings, condensation grooves, weather-bars, and general treatment of woodwork exposed to weather.

Construction of parts of roof in preparation for plumber, slater, tiler.

Section III.

1. Making working drawings and isometric projections of details; preparing setting-out rods, and their use in setting off doors, windows, skylights, chimney-pieces, cupboards, arches, dado panelling.

2. The names and uses of the machines used in the execution of a simple piece of joinery.

3. Straight, dog-legged, and open newelled stairs; proportion of tread and riser; details of construction and methods of support.

4. Hinges: Centre pins, back-flap, butt, butterfly, and various spring hinges, including their use and fixing. Pivot-hung sashes. Locks and fastenings.

5. Cutting-lists. How to order timber.

6. Elementary estimating of quantities for framing, weatherboarding, lining and floors, and joinery work generally.

Candidates for this examination must satisfy the examiners or their deputies in (a) drawing, (b) practical work.

In the drawing they must submit to the examiners specimens certified to be their own unaided work, such specimens to include (a) full details of some portion of a building, (b) a complete set of drawings for such a structure as one of the following: A schoolroom, a stable, a motor-garage, a workshop, a lychgate.

The scale of the drawings is to be not less than $\frac{1}{2}$ in. to the foot. The drawings should not cover more than two imperial sheets, one of details and one of the general arrangement, and should be accompanied by a statement of timbers used, and their quantities and value. An estimate of the cost of the labour will not be required.

FINAL EXAMINATION.—ADVANCED CARPENTRY AND STAIR-BUILDING.

A.

Setting out the parabola and hyperbola, and obtaining their parallels, normals, and tangents.

The various methods of constructing large centres for circular, segmental, elliptical, and other arches, and the methods employed to fix and ease them.

Moulds, bevels, and developments required for soffits in straight and circular walls, also for ribs in groins, domes, niches, pendentives, and work of double curvature.

The intersection of raking mouldings over oblique and curved plans, and the methods of determining varying sections. Moulded members for open roofs and lantern lights.

Handrailing; the theory and use of tangent planes and falling lines; preparing face moulds and bevels, and the method of applying them; method of setting out handrail scrolls, &c.; the development of strings for geometrical stairs.

Planning stairs; taking dimensions from buildings and measurements for work. Working from scale drawings, and preparing details suggesting how various parts may be fitted together.

Circular work: Method of constructing strings for geometrical stairs, ribs, and mouldings in circular work by bending, building up, laminating, grooving.

Construction of fittings for churches, museums, public buildings, shops, and domestic work, such as pews, airtight show-cases, shop-fronts.

B.

Timbering in trenches for various soils of depth to 10 ft.

Forms for shuttering for walls and floors in reinforced concrete. Half-timber work.

Raking and flying shores. Scaffolding.

Various methods of taking off quantities from plans and specifications to determine the quantities of materials required to construct a framed building or piece of joinery, including recognized quantity surveyor's methods.

Selection of timber; defects in timber and their detection before conversion; dry rot and wet rot, their cause and prevention. Conversion of timber for strength or figure. Boring-insects.