

returned, but a better return for the practical or working questions was needed; the want of modern working machinery models in the several training schools seems to be much in evidence.

Linen Weaving.—The ordinary grade was not generally satisfactory. The honors students were not so satisfactory in answering the questions asked, but their work was good.

Silk Throwing.—With reference to the honors papers, two were of special merit, showing a range of study over the whole of the syllabus prescribed, and the questions were clearly and concisely answered. No student, however, attempted the question on Indian silks, and I would therefore recommend attention to this branch of study. The use of this class of silk has increased in several branches of English manufactures, and hence its importance. In the ordinary grade papers, the great fault was the want of accuracy, particularly in names and technical terms, indicating need of more careful note-taking and the free use of black-board in demonstrating. I would suggest that local committees encourage students to greater care in this respect by one or more prizes for the best kept note-book at the end of each session. It would appear that most of the students are not well prepared for higher technical training until they have taken full advantage of the teaching in ordinary subjects in the continuation schools. Nearly the whole of the syllabus was well covered, and showed that a wide range of subjects had been taken up. The only exception was that of geographical production and distribution of raw silk.

Silk Weaving (Section I.).—The examination papers in silk weaving were very satisfactory. In the honors grade much excellent practical work was sent in, several of the ruled papers showing great merit. The questions in the ordinary grade were mostly creditably answered, but both in this and in the honors grade the candidates nearly all failed to analyze the fabrics submitted to them. This is an important matter, and should receive more attention in the future.

Silk Weaving (Section II.).—There was a decided improvement this year in both quantity and quality of the papers submitted for examination in the ordinary grade. A good many of the papers appeared to be written by sons of artisans, who are unable to commit their knowledge to paper, so labor at a great disadvantage as compared with sons of manufacturers, who can spend the whole of their time at a technical institute, and are properly trained for a paper examination. In the honors grade the practical work of the candidate put down for first prize was far in front of all the others, both in style of design and workmanship. It would be quite as well to encourage the candidates to produce more plain fabrics, as there is quite as much skill required to produce a good plain fabric as any of the rich brocades.

Jute Weaving.—Although both in spinning and weaving a number of candidates sat for the examination who ought not to have been presented, and who consequently failed, the general character of the work was rather better than of late years. There was less irrelevancy in the answers; and although some sketches were badly done, there were notable exceptions.

Lace Manufacture.—The quality of work was above the average of late years, although one or two students showed a disposition to over-elaborate their answers, with the result that they had not sufficient time to complete their examination forms. It is to be regretted that with the position that Nottingham holds, and the importance of the lace trade to it, so few students are found to submit themselves to examination.

F. W. Watkins, Hamilton; G. B. Ryan, Guelph; C. J. Catto, and C. A. Calkins, Toronto; W. McE. Flavelle, Lindsay, Ont., have been incorporated as the Merchants' Mantle Manufacturing Company, Ltd.; capital, \$20,000; chief place of business, Toronto.

DYEING MERCERIZED COTTON.

Mercerized cotton has come so much to the fore during the last year or so, and the dyer is so frequently called upon to dye it, that a few practical recipes for producing some very useful shades and tints with direct dyes will be of interest, says *The Textile Mercury*. The process is practically the same as that used in the dyeing of ordinary cotton. There is this difference: owing to the greatly increased affinity for coloring matters of mercerized cotton over that of ordinary cotton, the dyebaths are more completely exhausted of dyestuff, and so deeper shades are obtained with a given weight of dye than is the case with unmercerized cotton. All the following recipes are for 100 lb. weight of cotton:

Bright Crimson.—The dyebath is made with 3 lb. brilliant purpurine R, 10 lb. Glauber's salt, and 1 lb. soda. Work at the boil to shade.

Canary.—Use 1 lb. Columbia yellow, 10 lb. Glauber's salt and 1 lb. soda.

Rose Pink.—Use $\frac{1}{2}$ lb. erika BN, 10 lb. Glauber's salt and 1 lb. soda.

Greenish Sky.—Use $\frac{1}{8}$ oz. chrysophenine G, $\frac{1}{8}$ oz. Chicago blue 6B, 10 lb. Glauber's salt, and 1 lb. soda.

Dark Cream.—Use $\frac{1}{8}$ oz. toluylene orange G, 10 lb. Glauber's salt and 1 lb. soda.

Blush Rose.—A fine shade is dyed with $\frac{1}{8}$ oz. erika 2GN, 10 lb. Glauber's salt and 1 lb. soda.

Black.—First work at the boil with $2\frac{1}{2}$ lb. Columbia black FF extra, $\frac{1}{2}$ lb. Columbia green, 10 lb. Glauber's salt, and 2 lb. soda. After dyeing, top in a fresh bath with $\frac{1}{4}$ lb. methylene blue BB.

Russian Green.—A good shade of green is dyed with $\frac{1}{2}$ lb. Columbia green, 20 lb. Glauber's salt, and 1 lb. soda.

Deep Rose.—Dye with 5 oz. erika 2GN, $2\frac{1}{2}$ oz. Congo orange R, 10 lb. Glauber's salt, and 2 lb. soda, after which top in a fresh bath with 1 lb. rhodamine 6G.

Orange.—Dye with 1 lb. Congo orange G, 10 lb. Glauber's salt, and 2 lb. soda.

Olive Yellow.—Use 1 lb. chrysophenine G, $\frac{1}{2}$ oz. Zambesi black D, 10 lb. Glauber's salt and 1 lb. soda.

Gray.—A nice shade of silver gray is dyed by using $1\frac{1}{2}$ oz. neutral gray G, 10 lb. Glauber's salt and 1 lb. soda.

Brown.—A bright shade is dyed with $\frac{1}{2}$ lb. brilliant orange G, 6 oz. Columbia brown R, 10 lb. Glauber's salt and 2 lb. soda.

Pale Heliotrope.—A nice shade of heliotrope is obtained by using $1\frac{1}{4}$ oz. heliotrope 2B and 10 lb. Glauber's salt.

Maroon.—Use 2 lb. Congo rubine, 10 lb. Glauber's salt and 2 lb. soda.

Dark Gray.—A fine shade of silver gray is obtained by dyeing with $\frac{1}{4}$ lb. Zambesi black D, 10 lb. Glauber's salt and 1 lb. soda.

Blue.—Dye in a boiling bath with 1 lb. Chicago blue 4B, 10 lb. Glauber's salt and 1 lb. soda, after which top in a fresh bath with 4 oz. Victoria blue R.

Nut Brown.—A bright shade of nut brown is got with 1 lb. Congo brown G, 10 lb. Glauber's salt and 1 lb. soda.

Deep Scarlet.—Use in the dyebath 3 lb. diamine red B, 10 lb. Glauber's salt and 1 lb. soda.

Gray Blue.—First dye in a boiling bath with 2 lb. Chicago blue RW, 10 lb. Glauber's salt, and 1 lb. soda. After rinsing off, treat in a fresh bath with 3 lb. copper sulphate and 2 lb. acetic acid.

Deep Chestnut.—Dye in a boiling bath with 2 lb. Congo brown G, 10 lb. Glauber's salt, and 2 lb. soda; then treat in a fresh bath with 3 lb. copper sulphate and 2 lb. acetic acid.

Dark Gray.—The dyebath is made with $\frac{1}{2}$ lb. Zambesi