**FURNITURE MAKING**

 **SCHEME OF EXAMINATION**

There will be three papers, Papers 1, 2 and 3 all of which must be taken. Papers 1 and 2 shall be a composite paper to be taken at one sitting.

**Paper 1**: will consist of forty multiple-choice objective questions all of which are to be

 answered in 45 minutes for 40 marks.

**Paper 2**: will consist of two sections, Sections A and B to be answered in 2 hours for 60 marks.

Section A will consist of ten compulsory short-structured questions to be answered in 30 minutes for 20 marks.

Section B will consist of three questions on design and drawing: out of which one will be compulsory. Each question shall require sketches and candidates will be required to answer the compulsory question for 30 marks and any other one for 10 marks in 1½ hours.

**Paper 3**: will be a practical test of 3 hour duration. It will consist of one practical

question for 100 marks.

A list of materials for the test shall be made available to schools not less

than two weeks before the paper is taken for material procurement and

relevant preparations.

**Alternative to Practical Test**

 Alternatively, in the event that materials for the actual practical test cannot be acquired, the Council may consider testing theoretically, candidates’ level of acquisition of the practical skills prescribed in the syllabus. For this alternative test, there will be two sets of compulsory questions both of which must be answered in 2 hours for 100 marks.

**DETAILED SYLLABUS**

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| **S/NO.** | **CONTENTS** | **NOTES** |
| 1 | Furniture Workshop. | * Workshop safety rules and regulations
* Hand tools safety
* Workshop bench and appliances
* Machine tools safety
* Portable power tools safety
* Sources of workshop accident.
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|   2 | Furniture Making Materials. | * Timber growth, structure, classification, parts and cross section.
* Conversion of timber, methods, advantages and disadvantages.
* Seasoning of timber, methods, advantages and disadvantages.
* Defects in timbers, causes, classification, illustrations with sketches.
* Preservation of timber, preservatives - characteristics, types and applications.
* Manufactured boards, types, method of production, uses, advantages, disadvantages and sketches.
* Wood adhesive definition applications, preparation, types, uses and characteristics.
* Nails and uses – sketches, methods of driving in nails.
* Screw types and uses, illustration with sketches and methods of driving in screws.
* Cabinet fittings, types, uses, sketches and procedures of fittings.
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| 3 | Woodworking tools and equipment. | * Hand tools – types, classification, uses and sketches.
* Machines – types, uses and operation.
* Portable power tools – types and operations.
* Other tools and equipment used in furniture making.
* Maintenance of furniture tools and equipment.
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| 4 | Furniture Design and Construction. | * Timber preparation – cutting to sizes, marking and planing timber to final sizes.
* Common wood work joints – types, classification and uses.
* Construction – types of construction-frame box construction.
* Free hand sketching of common household furniture items.
* Design fundamentals, elements and principles of design.
* Stages – preliminary sketches and working drawing.
* Planning – working rod, selection of materials, cutting list.
* Construction of different items of furniture, procedures – preparation of materials, setting out of joints, cutting of joints, assembling and finishing.
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| 5 | Upholstery work. | * Meaning and forms.
* Tools and machines.
* Traditional and modern padding materials.
* Design and construction of upholstery frames.
* Padding and stuffing.
* Fixing sewn materials.
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| 6 | Entrepreneurship in furniture marking. | * Business opportunities in furniture making.
* Starting a furniture business, factors to be considered.
* Managing of furniture workshop, estimate and costing of furniture item.
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**LIST OF FACILITIES AND MAJOR EQUIPMENT/MATERIALS REQUIRED:**

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| **ITEM NO** | **EQUIPMENT** | **QUANTITY REQUIRED** |
| 1. | Try Square | 20 |
| 2. | Mitre Square | 10 |
| 3. | Sliding Bevel | 10 |
| 4. | Marking Gauge | 10 |
| 5. | Mortise Gauge | 10 |
| 6. | Marking knives | 10 |
| 7. | Four Fold (wooden Rule) | 10 |
| 8. | Tape Rule (Metric) | 20 |
| 9. | Jack Plane | 10 |
| 10. | Smooth Plane | 10 |
| 11. | Trying Plane (jointing Plane) | 5 |
| 12. | Block Plane | 5 |
| 13. | Rebate Plane | 5 |
| 14. | G Clamp | 5 |
| 15. | Plough Plane | 5 |
| 16. | Bull Nose Plane | 2 |
| 17. | Router Plane | 2 |
| 18. | Rip Saw | 10 |
| 19. | Crosscut Saw | 10 |
| 20. | Tenon Saw | 15 |
| 21. | Panel Saw | 10 |
| 22. | Coping Saw | 5 |
| 23. | Compass Saw | 2 |
| 24. | Nest of Saws | 2 |
| 25. | Keyhole/pad Saw | 1 |
| 26. | Fret Saw | 2 |
| 27. | Dovetail Saw | 5 |
| 28. | Firmer Chisel | 10 sets |
| 29. | Bevelled Edge Firmer Chisel | 10 sets |
| 30. | Mortise Chisel (set) | 10 sets |
| 31. | Turning Chisel | 2 sets |
| 32. | Centre bit | 5 sets |
| 33. | Auger Bit | 5 sets |
| 34. | Twist Bit | 5 sets |
| 35. | Rose | 2 sets |
| 36. | Bradawl | 10 |
| 37. | Gimlet | 5 sets |
| 38. | Ratchet brace | 5 |
| 39. | Dowel Rounder | 5 |
| 40. | Drill Bit | 10 sets |
| 41. | Screw Driver (set of 6) | 5 sets |
| 43. | Mallet | 20 |
| 44. | Claw Hammer | 10 |
| 45. | Cross Pein Hammer | 10 |
| 46. | Ball Pein Hammer | 10 |
| 47. | ‘F’ Clamp | 10 |
| 48. | Sash Clamp | 10 |
| 49. | Hand Screw | 10 |
| 50. | Bench Holdfast | 5 |
| 51. | Mitre Box | 5 |
| 52. | Mitre Cramp | 5 |
| 53. | Mitre Shooting Board | 5 |
| 54. | Flat Files (assorted) | 10 |
| 55. | Scraper(flat) | 10 |
| 56. | Dividers | 10 |
| 57. | Pincers | 5 |
| 58. | Spoke shave | 2 |
| 59. | Dowelling jig | 5 |
| 60. | Rasps | 10 |
| 61. | Sewing Machine | 2 |
| 62. | Scissors | 10 |
| 63. | Staple Gun | 2 |
| 64. | Needle (set) Curved and Straight | 10 |
| 65. | Tack Hammer | 10 |
| 66. | Pliers | 5 |
| 67. | Magnetic Hammer | 5 |
| 68. | Ripping Chisel | 5 |
| 69. | Knives | 5 |
| 70. | Tape (tailors type) | 10 |
| 71. | Web Strainer | 10 |
| 72. | Spring Cutter | 5 |
| 73. | Spanner (set) | 2 sets |
| 74. | Wrenches | 2 sets |
| 75. | Botton Making Machine | 2 |
| 76. | Work Bench | 10 |
| 77. | Bench Vice | 20 |
| 78. | Paint brush (sets) | 5 |
| 79. | Putty knives | 5 |
| 80. | Storage box | 2 |
| 81. | Water stone | 2 |
| 82. | Oil can | 2 |
| 83. | Veneer hammer | 2 |
| 84. | First-aid box | 1 |

APPENDIX E:

SUGGESTED READING LIST

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| S/N |  NAME |  AUTHOR |  PUBLISHER |
| 1 | WOODWORK FOR G.C.E &C.S.E(Metric Edition) |  J.N GREEN | Mills and Boon Ltd |
| 2 | WOODWORK IN THEORY & PRACTICE | JOHN .A.WALTON |  |
| 3 | MODERN WOODWORKING | WILLIS .H.WAGNER | The Goodheart-Willcox,Inc |
| 4 | WOOD OCCUPATIONS | PETER BRETT | Nelson Thorns |
| 5 | THE THEORY AND PRACTICE OF WOODWORK(4th Edition) | GEORGE LOVE | Longman |
| 6 | CONSTRUCTING MODERN FURNITURE | VICTOR .J.TAYLOR | Sterlin g publishing Co.Inc New York |
| 7 | PRACTICAL UPHOLSTERY | C.HOWES F.A.M.U | Evans brothers LtdLondon |
| 8 | WOODWORK DESIGN AND PRACTICE | DAVID .M.SHAW | Hodder and Stoughton London Sydney,Auckland Toronto |