



Skill India
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India**skills**



N · S · D · C
National
Skill Development
Corporation

Transforming the skill landscape

Sample Test Project

Regional Skill Competitions – Level 3

Skill 08 – Architectural Stone masonry

Category: Construction and Building Technology

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SAMPLE

Section - A

A. Preface

Skill Explained:

An architectural stone mason generally works in the commercial sector, cutting to shape all natural stones (granite, limestone, sandstone, and marble) by hand. In this sector, machines are also used, and may be a component of the stone mason's role. However, operation of these machines is not the task of a stonemason.

There is a direct relationship between the nature and quality of the product required and the payment made by the customer. Therefore, the stonemason has a continuing responsibility to work professionally in order to meet the requirements of the customer and thus maintain and grow the business. As part of this, deep knowledge of geology, materials, processes, and building methods, new and old, are crucial.

Whether the architectural stone mason is working alone or in a team the individual takes on a high level of personal responsibility and autonomy. The ability to work with other trades is also increasingly important.

Mistakes are irreversible and very costly. Every part in the process, from working safely through to exceptional precision, accuracy and attention to detail, is important.

Restoring, conserving, renovating and maintaining cultural and architectural heritage is highly valued for structures that are locally, regionally, nationally and internationally significant. For the talented architectural stonemason there are many commercial and international opportunities; however, these carry with them the need to understand and work with diverse cultures and trends. The diversity of skills associated with architectural stonemasonry is therefore likely to expand.

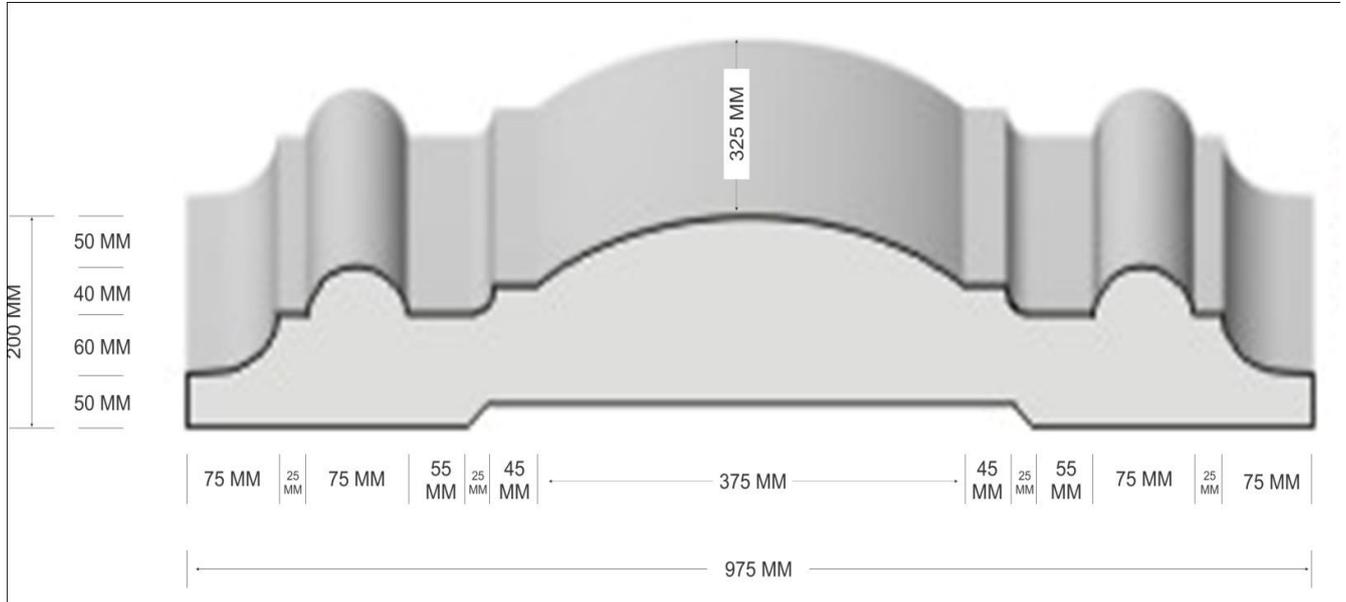
Eligibility Criteria (for IndiaSkills 2018 and WorldSkills 2019):

Competitors born on or after 01 Jan 1997 are eligible to attend the Competition.

Total Duration: 12 hrs

Section - B

B. Test Project



Section – C

C. Marking Scheme

The Assessment is done by awarding points by adopting two methods, Measurement and Judgments

- Measurement – One which is measurable
- Judgments - Based on Industry expectations

Aspects are criteria's which are judged for assessment.

Decisions regarding the selection of criteria and assessment methods will be made during the design of the competition through the Marking Scheme and Test Project. 80% marks may be for Measurement and 20% for Judgment.

ASSESSMENT AND MARKING USING MEASUREMENT & JUDGMENT

MARKING SYSTEM

Section	Criterion	Marks		
		Judgment	Measurement	Total
A	General impression	10		10
B	Corners, cuts measurement (MM)		10	10
C	Measurement of external – Length, Width, Height (MM)		45	45
D	Flat surface		15	15
E	Profiles, profile surface, curved surface		10	10
F	Cutting, Finishing & Carving	10		10
Total		20	80	100

C. Measurement of external – Length, Width, Height (MM)

15 Marks each for each dimension (L,W,H)

Within tolerance < 3 mm Full points (100%)

Within tolerance < 5 mm Half Points (50%)

Within tolerance > 5 mm No points

Out of tolerance No points

ASSESSMENT AND MARKING USING JUDGEMENT

Judgment marking

The marking will be on judgment on the subsections layout and craftsmanship.

Judgement uses a scale of 0-10. To apply the scale with rigour and consistency, judgement must be conducted using:

Benchmarks (criteria) for detailed guidance for each Aspect the 0-10 scale to indicate:

Finish of Stone Object – 0 Marks

Finish of Stone Object with Average Finish – 5 marks

Finish of Stone Object with Good Finish – 10 marks

Section - D

D. Infrastructure List

Materials, equipment and tools supplied to Competitors in their toolbox

Hand tools

- Grinders
- Cutters
- Mallets (various sizes)
- Boasters, drafting chisels straight and round, punch, point, claw tool,
- Dummy/lettering/carving hammer
- Carving chisels (various sizes)
- Lettering chisels (various sizes)
- Hammers, squares, straight edges, depth gauges, combination squares
- Steel rules (various sizes)
- Five Steel rules various sizes
- Pitching tool
- Tracer
- Chipper
- Offset

Setting out equipment

- Set squares (various sizes)
- Compass (various sizes)
- Assortment of dividers (various sizes)
- Drawing equipment
- Wire wool/emery paper
- Scissors
- Tin snips
- Scriber
- Flat & round files
- Knife for cutting plastic sheet
- Pencils
- Pens
- Drafting tape

Supplementary

- Dusting brush
- Timber wedges
- Rubbing stones (only allowed on arises)
- Plastic sheet for supplementary templets (not marked)
- Paper for drawing
- Carbon paper
- Clamps

Materials, equipment and tools supplied by Expert

Measuring equipment for checking tolerances - 1mm and 2mm shims

Lubricant

The pieces of stone are checked by the Experts before the arrival of the Competitors.

The Workshop Manager places approved stones in the working areas;

The working areas are divided among the Competitors by lottery. Stones will only be replaced when hidden faults occur during the working process;

The volume of the stone necessary for the Test Project cannot be more than 0.07 m³ with a maximum of 0.05m³ per stone if more than one stone is used;

The density maximum for stone is up to a maximum of 2750 kg/m³; the stone should be a usual stone for stonemason work, preferably with no holes or defects.

All stones to be supplied +5 mm than the finished size to allow for cutting and squaring to the actual dimension given with the project;

The project can be in one or more stones (max three stones) with one stone in marble, module three in limestone the selection of the project to be made on the forum by the Experts.

Materials & equipment prohibited in the skill area

The use of the following machines, fixtures and materials is NOT allowed:

- Handsaws, Rasps and file the use of any kind of adhesive for attaching or re-attaching any material is not allowed.
- Grinding stones but not allowed to rub arises.
- Use any kind of adhesive for attaching any material.

Section – E

E. Instructions for candidates

1. **Time:** Drawing Reading – Either previous day or 1 hour before competition
 - a. **Working Time – 12 Hours** Cleaning of Area – ½ hour after working time
2. **Drawing:** Read the drawing carefully. Understand Dimensions, Projections and Cutting of stones.
3. **Stone Type :** Sandstone / Marble
4. **Stone Sizes : 1000 * 350 * 300 MM**
5. **Details: As per Drawing** Refer Sectional and detail drawing.
 - a. **Health and Safety:** All participants must follow health and safety measures, suggested to wear the issued protection equipment such as ear plugs, knee pads, goggles and safety shoes. All machinery, equipment, and safety clothing must comply with the safety rules. An adequate system for dust extraction must remove the stone dust produced during the workprocess and dust extractors added to the Infrastructure List;
 - b. Dust extraction must be used in the correct manner at all times.
6. **Planning:** Before starting the work kindly submit the plan stating activity and time for each activity.
7. The Competitor didn't ignore any other ban or break any additional rule which is written in the Technical Description.

Section – F

F. Health, Safety, and Environment

1. All accredited participants and supporting volunteers will abide by rules and regulations with regards to Health, Safety, and Environment of the Competition venue.
2. All participants, technicians and supporting staff will wear the required protective Personnel clothing.
3. All participants will assume liability for all risks of injury and damage to property, loss of property, which might be associated with or result from participation in the event. The organizers will not be liable for any damage, however in case of Injury the competitor will immediately inform the immediate organizer for medical attention.