



Skill India
कौशल भारत - कुशल भारत



India**skills**



N · S · D · C
National
Skill Development
Corporation

Transforming the skill landscape

Sample Test Project

Regional Skill Competitions – Level 3

Skill 20 - Bricklaying

Category: Construction and Building Technology

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SAMPLE

Section - A

A. Preface

Skill Explained:

A bricklayer works on commercial and residential projects. The main responsibility of a bricklayer is to construct masonry components accurately and neatly according to the plan which often contains technical details. The bricklayer will interpret drawings, set out and measure, construct and finish to a high standard. Successful bricklayer requires endurance, concentration, an eye for details with continuing responsibility to work professionally in order to meet the requirements of the customer.

Eligibility Criteria (for IndiaSkills 2018 and WorldSkills 2019):

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

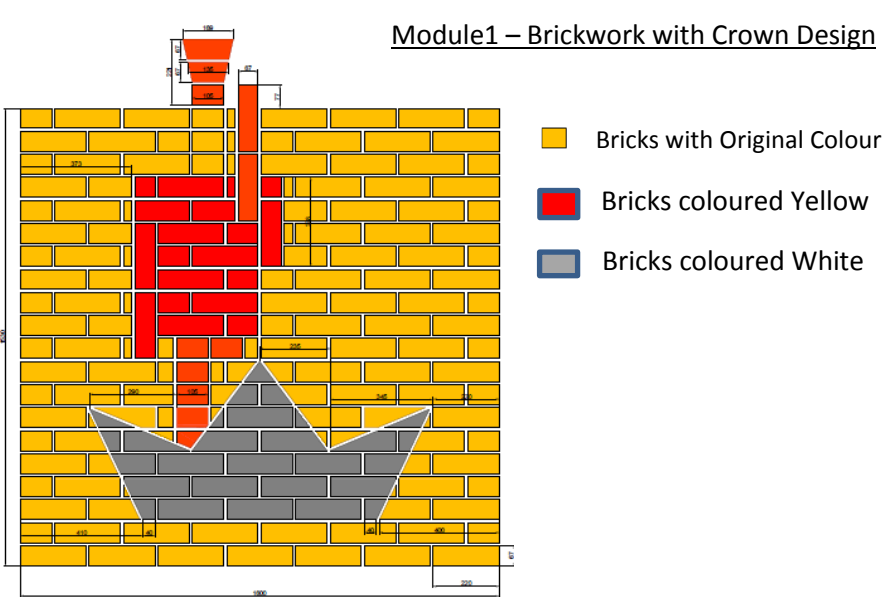
Total Duration: 14 Hrs

Section - B

B. Test Project

Find Annexure attached to this file.

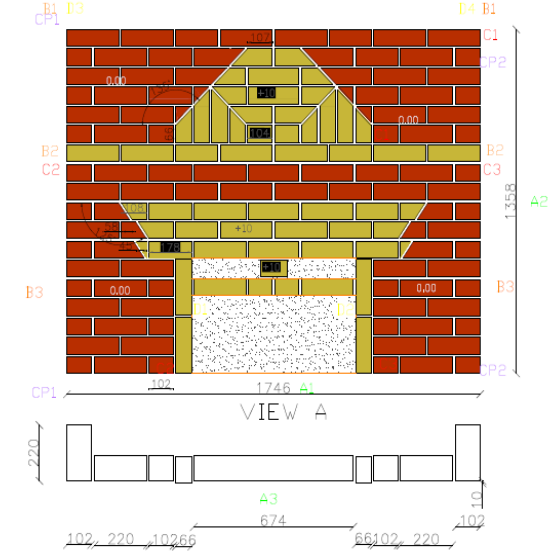
Module1 – Brickwork with Crown Design



- Bricks with Original Colour
- Bricks coloured Yellow
- Bricks coloured White

MODULE 1 – ELEVATION DRAWING

Module 2 - Homeshaped Design Brickwork



MODULE 2 – ELEVATIONAL DRAWING

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

Measurement is used to assess accuracy, precision, and other performance which can be measured in unambiguous way. Mark is awarded in full for a dimension with in tolerance and zero when it is out of tolerance.

Judgment is used to assess the quality of performance, about which there may be small differences of opinion.

Aspects are criteria's which are judged for assessment

Module 1 – Brickwork with Crown Design Marking: Judgment				
Competitor Name:				
Subcriteria: Jointing, Finishing & Appearance				
Aspect ID	Aspect Of Sub Criterion	Max Mark	Aspect of Sub Criterion - Description	Mark Awarded
J1	Jointing	3	Uniformity of Joints for vertical and horizontal, regular joints size of 10mm, clean	
		0	Below Industry Standard	
		1	Industry Standard	
		2	Surpasses Industry Std. in some ways	
		3	Surpasses Industry Std. in most of the ways	

J2	Finishing	3	Overall Impression, Sharp Edge, Shape of Structure	
		0	Below Industry Standard	
		1	Industry Standard	
		2	Surpasses Industry Std. in some ways	
		3	Surpasses Industry Std. in most of the ways	
J3	Appearance	2	Cleaning Of Bricks and Overall Module	
J4		2	Cleaning Of Area Around	
Total Marks		10		
Remarks -				

TOTAL MARKS FOR MODULE 1 – 60 MARKS

Module 2 – Brickwork with Crown Design Marking : Measurement

Competitor Name -

Subcriteria – Dimension, Plumb, Level, Alignment, Details

Aspect ID	Aspect of Sub Criterion	Max Mark	Aspect of Sub Criterion – Description	Requirement of Size	Result or Actual Value	Mark Awarded
A1	Dimension	3	Length of the bottom layer at the top of bricks	1600mm		
A2		3	Height of module	1530mm		
A3		2	Length of bottom of the crown	780mm		
A4		1	Height of funnel from the top layer of brown colour bricks	231 mm		
A5		1	Length of funnel at top	169 mm		

B1	Level	2	Top of module right side of brick heading up	0mm		
B2		2	Top of module left side of funnel	0mm		
B3		2	Third layer from bottom of the crown	0mm		
B4		2	Fourth layer of square from top	0mm		
C1	Alignment	2	Left side top of crown to right side bottom of crown	0mm		
C2		2	Right side top of crown to Left side bottom of crown	0mm		
C3		2	Diagonally from Top layer of bricks to right side point of 10 th layer brick from the bottom	0mm		
C4		2	Left side bottom of square shape to right side of module diagonally	0mm		
CP1	Plumb	2	Left side - front view of module	0mm		
CP2		2	Left side - side view	0mm		
CP3		2	Right side - front view	0mm		
CP4		2	Right side - side view	0mm		
CP5		1	Left side of square	0mm		
D1	Details	2	Distance of right side bottom point of crown from right side of module	400 mm		
D3		2	Distance of left side point of square from left side of module	373 mm		
D2		1	Height of headed part of square from top layer of module	77 mm		
D4		2	Projection of crown	20mm (+)		
D5		2	Projection of square	10mm (+)		
D6		2	Projection of funnel shaped	20 mm (+)		

D7		2	Right angle at top of module right side	90 degrees		
D8		2	Angle between square top to vertical side of square	90 degrees		
Total Marks		50				

Module 2 – Homeshaped Design Brickwork Marking : Judgment

Competitor Name:

Subcriteria: Jointing, Finishing & Appearance

Aspect ID	Aspect Of Sub Criterion	Max Mark	Aspect of Sub Criterion - Description	Mark Awarded
J1	Jointing	3	Uniformity of Joints for vertical and horizontal, regular joints size of 10mm, clean	
		0	Below Industry Standard	
		1	Industry Standard	
		2	Surpasses Industry Std. in some ways	
		3	Surpasses Industry Std. in most of the ways	
J2	Finishing	3	Overall Impression, Sharp Edge, Shape of Structure	
		0	Below Industry Standard	
		1	Industry Standard	
		2	Surpasses Industry Std. in some ways	
	3	Surpasses Industry Std. in most of the ways		
J3	Appearance	2	Cleaning Of Bricks and Overall Module	

J4		2	Cleaning Of Area Around	
Total Marks		10		
Remarks -				

TOTAL MARKS FOR MODULE 2 – 40 MARKS

TOTAL MARKS FOR TEST PROJECTS MODULE 1 & 2 – 100 MARKS

SAMPLE

Section - D

D. Infrastructure List

- Workshop Installation-Tools & Equipment positioned by Organizers
- Tool Kit-Tool & Equipment allowed to be brought by competitors for competitions

Infrastructure List -Bricklaying	
Workshop Installation	Quantity
Mortar Mixer	1
Water Tank	1
Water Bucket	1
Water Mug	1
Mortar Tub	1
Waste skip on wheels/Wheel barrow	1
Shovel for cleaning of area	1
Workshop Installation - Tools	Quantity
Spirit Level 300mm	1
Spirit Level 1m	1
Spirit Level 2m	1
Measuring Tape	1
Brick Cutting Machine/Brick Saw Table	1
Brick Funnels Big	1
Brick Funnel Small	1
Brick Hammer	1
Straight Edge 6 feet	1
Right angle big	1
Right Angle Small	1
Combination Square	1
Racker Smoother	1
Round Racker	1
Materials/ Consumables	Quantity
Plywood 1m * 1.5m (If table is possible)	1
Gauged Bond Paper	1
Scrubbing Brush for cleaning	1
Broom	1
Dustpan	1
Sponge	2
Line Dori	1 bundle

Bricks 220*105*67 mm (brown) required for both module	350 no.s
Bricks 220*105*67 mm yellow colour	100 no.s
Bricks 220*105*67 mm white colour	35 no.s
Mortar- Ready mix 40kg per bag	8 bags (160kg)
Health & Safety Instruments	Quantity
Ear Plug	1 pair
Knee pad	1 pair
Nose mask	1
Goggle	1
Safety Shoes	1 pair
Hand Gloves	1 pair
Stationary	Quantity
Calculator	1
Scale 300mm	2
Protractor Small	1
Geometric Compass box	1
Marker Pen	4

AREA OF WORKSTATION –

Shape and Area -

The shape of workstation preferably to be 'Rectangle'

- Workstation Area – approximately 24sqm (6m*4m)
- Platform for marking and cutting the bricks – 8feet * 4feet (plywood platform) and in the form of table is preferable or minimum 200mm rise from the floor
- For brick-cutting machine a cabinet is preferable so that pieces should not scattered and safe practice to be followed.

Section – E

E. Instructions for candidates

1. **Time:** Drawing Reading – Circulate the drawings a week before or atleast previous day of competition

Working Time – 15 Hours in two days Cleaning of Area –1/2 hour after working time

1st Day – 8 hours includes drawing reading

2nd Day – 7 hours includes cleaning

2. **Drawing:** Read the drawing carefully. Understand Dimensions, Projections and Cutting of bricks.
3. **Brick Sizes for all colors :** 220 * 105 * 67 mm
Joint Size – 10mm bed joint (horizontal) and 5 mm raked (deep). Vertical joints to be in straight line
4. Mark the color of bricks
5. **Projection:** +/- 0 is our reference main wall. Consider + and – projection with reference to main wall. Refer Sectional and detail drawing.
 - +/- 0 projections is for non-color bricks
 - Kindly consider projection for 2017 as +10mm
 - Funnel triangle projection (-10mm)
 - Bottom of handle/ vertical part (+/- 0)
 - Handle/Angular part - +10mm
6. **Health and Safety:** All participants must follow health and safety measures, suggested to wear the issued protection equipment such as jackets, ear plugs, knee pads, goggles and safety shoes.
During Marking, Cutting and Constructing Bricks following PPE's are mandatory--
 - Safety shoes- All The time during the competition
 - Safety Helmet- All The time during cutting and constructing
 - Safety Jacket- All The time during the competition
 - Goggle, Ear Plugs and Nose Mask- Compulsory during cutting of bricks
 - Hand Gloves- Handling, cutting and constructing the bricks for the project
 - Knee pad – During construction

		
High Visibility Jacket	Safety Helmet	Safety Shoes
		
Safety Goggles	Hand Gloves	Ear Plugs

Safety Guidelines ---

Check for hazards at workplace and surrounding and notify the supervisor immediately

Always inspect the machine before starting to work. Ensure that all the protection guards are in place.

Turn the motor off during cleaning and while carrying out adjustments of the machine and in emergency.

When operating the machine, keep your hands, ear at a safe distance

Concentrate on work and do not talk with others while working

Ensure regular cleaning of workplace

7. Cleaning –

Cleaning of module must be done in working time though 30 min extra are provided for cleaning of area around it.

- Clean all area
- Remove excess Material
- Clean tools & Keep on safe place

8. **Planning:** Before starting to the work kindly submit the planning stating activity and time for that.

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. The Competitors must wear proper dress suiting the task and wear goggles while performing wood work
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.