



**Skill India**  
कौशल भारत - कुशल भारत



**India skills**

**Transforming the skill landscape**

## SAMPLE TEST PROJECT

**State Skill Competition – Level 2**  
**Skill 18 - Electrical Installation**

*Category: Construction and Building Technology*

## **Section - A**

### ***A. Preface***

#### **Skill Explained:**

An electrician works on commercial, residential, agricultural, and industrial projects. There is a direct relationship between the nature and quality of the product required and the payment made by the customer. Therefore, the electrician has a continuing responsibility to work professionally in order to meet the requirements of the customer and thus maintain and grow the business. Electrical installation is closely associated with other parts of the construction industry and with the many products that support it, normally for commercial purposes. The electrician works internally, including the homes of customers and on small and major projects. He or she will plan and design, select and install, commission, test, report, maintain, fault find, and repair systems to a high standard. Work organization and self-management, communication, and interpersonal skills, problem solving, flexibility and a deep body of knowledge are the universal attributes of the outstanding electrician. Whether the electrician is working alone or in a team the individual takes on a high level of personal responsibility and autonomy. From working to provide a safe and reliable electrical installation and maintenance service, in accordance with relevant standards, through to diagnosing malfunctions, programming, and commissioning home and building automation systems, concentration, precision, accuracy, and attention to detail every step in the process matters and mistakes are largely irreversible, costly, and potentially life threatening.

#### **Eligibility Criteria (for IndiaSkills 2018 and WorldSkills 2019):**

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

**Total Duration : 8 Hours.**

## Section – B

### INDIA SKILLS KERALA 2018

#### ELECTRICAL INSTALLATION

(STATE LEVEL COMPETITION)

#### Sample question

Maximum marks: 100

Time: 8 Hrs

. Wire up a typical 3- phase domestic installation with 3- phase energy meter, 4 way MCB DB with phase selector switch & protective devices to supply electrical power to a house containing one bed room, kitchen, bathroom etc.

1. Bed room : Lamp points – 2 Nos

Ceiling fan point - 1 No

6A Plug socket - 1 No

Power plug for 1.5 ton AC – 1No

2. Kitchen : Lamp point - 1 No

Exhaust fan - 1 No

6A Plug socket- 1 No

16 A Socket - 1 No

1. Determine the rating of energy meter and cable required to connect energy meter to MCB DB.
2. Install the energy meter and MCB DB .
3. Make connection to energy meter using UG Cable and gland the cable.
4. Determine the number of sub-circuits
5. Draw single line diagram of the arrangement
6. Determine ratings of the distribution box elements
7. Get the diagrams
8. Prepare bill of quantities and get it verified
9. Procure the items as endorsed
10. Install the distribution box and get it verified
11. Test proper functioning of the distribution box by loading

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## Section – C

### B. 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.

In Electrical installation skill markings are done on both measurement and judgmental basis.

For measurement marks awarded will be 0 or full marks and for judgmental marks will be awarded as

0- Below industry standard or no attempt:

1- Meets industry standard

2- Industry standard with elements of good practice

3- Excellent in comparison to industry standard

**Example:** If maximum marks for Judgment criteria is 2 and if all 3 Experts (Juries) give 3 points to a candidate, the candidate will get 2 mark for that aspect. If 2 Experts give 2 and 1 Expert gives 3 points, then candidate will get  $(2+2+3)/9*2 = 1.56$  marks for that aspect out of 2 mark.

	Criteria	Max. marks
A	Safety ( electrical and personal)	10
B	Circuit design and modification( technical specification)	10
C	Installation of equipments and accessories	20
D	Measurements	15
E	Wiring and termination	20
F	Fault finding	10
G	Testing and commissioning	15

