

Republic of the Philippines  
Department of Education  
Region VII, Central Visayas  
DIVISION OF CEBU PROVINCE  
Sudlon, Lahug, Cebu City



SEP 01 2016

**DIVISION MEMORANDUM**

No. 510 s. 2016

**DIVISION TECHNOLYMPICS 2016**

**To :** Assistant Superintendents  
Chief Education Program Supervisors  
Education Program Supervisors/Coordinators  
Public Schools District Supervisors  
Secondary School Heads

1. This Office announces the conduct of the **Division Technolympics 2016** on September 22-23, 2016 at Tuburan NHS, Tuburan, Cebu to be hosted by Tuburan Secondary Schools with the theme: *"Technology & Livelihood: Instruments in Moving Towards Progress"*.
2. Participants are the winners of the different contest skills during the municipal technolympics.
3. Municipal TLE Coordinators are called-up to submit their municipality's entry on or before September 5, 2016.

**GUIDELINES**

a. **REQUIREMENTS:** All coaches are required to submit the following documents to the Credentials Committee:

- a) photocopy of Form 137-A with the first grading grade as certified by the school head;
- b) certification of the contestant's enrolment during the present SY;
- c) recent 2x2 picture attached to Form 137-A
- d) original School Identification Card

These documents shall be placed in the long brown envelope specifying the name of the contestant/s, coach, skill to be participated, school and school head.

The trainers/coaches are required to also submit the following documents:

- a) certified photocopy of the trainer's/coach's appointment from the civil service
- b) certification signed by the principal on his assignment as Trainer/Coach
- c) photocopy of the trainer's/coach's official ID

***NO CREDENTIALS NO PARTICIPATION IN THE CONTEST***

b. **REGISTRATION:** All participants shall be at the venue on Day 0 (September 21, 2016). Registration fee is Php200 per contestant and per coach. **Solidarity meeting** of all coaches with the contest administrators, contest coordinators and consultants will be on day 0 at 7:00 o'clock in the evening where **all coaches are required to attend**.

c. **ATTIRE:** All participants shall wear white T-shirt printed with the official Technolympics Logo (herewith attached) with dark pants for the entire duration of the contest with the official school ID. Contestant shall participate in only one (1) skill contest.

d. **BILLETING:** Rooms for the delegation shall be provided by the host school, except mats and beddings. Occupants shall maintain cleanliness of the room and its surroundings and shall return things used in its proper places before leaving.

e. **JUDGING THE SKILL CONTESTS:** Judging shall be based on the criteria per skill contest. Before finalization of the over-all results, the members of the Board of Judges shall be given time to review, discuss and deliberate the results. Decision of the judges is **final and irrevocable**. However, judges shall be required to discuss with the contestants on items that need to be improved.

f. **PROGRAM: Holy Mass** will be done on Day 1 (September 22) at 8:30 a.m. followed by the **Opening Program**. Everyone's presence is required. Delegates are required to bring their municipal banners for the processional and flag raising. **Closing program** will be done on Day 2 (announcement of winners).

g. **CONTESTS:** The following skills will be competed on Day 1 at 1:00 o'clock p.m.:

- a) Automotive Servicing
- b) Consumer Electronics Servicing
- c) Electrical Installation & Maintenance Servicing
- d) Children's Wear Construction
- e) Experimental Cookery
- f) Landscaping
- g) Web Page Designing
- h) Tarpaulin Designing
- i) PC Assembly with Configuration and Networking
- j) Gown Making from Recycled Materials
- k) Nail Art with Hand Massage
- l) Hairstyle with Facial Make-up
- m) Experimental Fish Dish

MISS TECHNOLYMPICS – will be competed on Day 1 (September 22) at 7:00 pm

TECHNO BAZAAR – should be ready for an initial inventory at 8:00 o'clock in the morning of Day 1.

9. **SPECIFIC GUIDELINES PER CONTEST SKILL:** All materials shall be provided by the contestants.

**Nail Art with Hand Massage** –use three (3) colors only, model, no accessories, no stickers, smock gown, hairnet, mask

**Hair Style with Facial Make-up** – party night (cocktail gown), model, no hair extender, accessories are allowed

**Children's Wear Construction** – casual for girls 5-6 yrs. old, pay Php250 for the materials (cloth and accessories)

**Experimental Cookery** - pail and dipper, pay Php150 for the mystery box, 900-1000 kgs. broiler, saucer/mini bowl with spoon and fork for the judges, plastic clear-up wrap, show plate 10" or 12" diameter, butane stove

**Experimental Fish Dish** – pay Php250 (fish and mystery box), butane stove and other cooking equipments.

**Landscaping** – all materials for an area of 1 x 2.5 ms. to be landscaped

**PC Assembly with Configuration and Networking** – one (1) set of computer system with AVR, extension wire, hard disk drive with at least 250 gigabytes, RAM is two (2) gigahertz, dual core processor or below, six (6) pieces RJ45, windows 7 ultimate/professional/starter, UTP cable CAT5 five (5) meters for straight-through and one (1) meter for cross – over connection, crimping tool, anti-static wriststrap, anti-static mat, flat head / Philip screw driver and LAN Tester, applications: MS Office 2007, Avast Anti-Virus, Adobe Reader, Mozilla or Google

**Tarpaulin Designing** - Available photo editor software in the contest venue is Adobe Photoshop CS3

**Web Page Designing** – may use Photoshop or other editing tools/software available/ installed in the PC, will be supplied with picture, graphics and text


**Technodance** - presentation shall not exceed five (5) minutes inclusive entrance and exit, with 8-12 dancers, have to wear any technology attire

**Gown Making from Recycled Materials** - all materials, pattern making is part of the Contest

**Techno Bazaar** –display of products, creativity of display, initial inventory to be done at 8:00 o'clock of day 1. Tents shall be provided by the host school.

**Miss Technolympics** – open to all public and private secondary schools, ages 13-18, only one (1) candidate per municipality, exposures: production number/casual wear ( attire-combination of red and white with dominant red), techno wear, gown, white casual dress for pictorials, no bare back, no flaunting of underwear or showing of navel, no wearing of contact lenses, observe decency. Candidates shall be at the venue on day 0 and must attend the workshop and final briefing at 9:00-12:00 noon. **No attendance during the workshop means no participation.**

10. All contestants should be at the contest venue one (1) hour before the contest time for the preliminaries.
11. Attached is the List of Contest Managers, Coordinators and Consultants.
12. This memorandum serves as **Authority to Travel**.
13. Wide dissemination of this Memorandum is desired.

  
**RHEA MARIA ANGTUD, Ed.D. CESO VI**  
Schools Division Superintendent

Telephone Numbers

|                                       |                |
|---------------------------------------|----------------|
| Schools Division Superintendent       | (032) 255-6405 |
| Asst. Schools Division Superintendent | (032) 414-7457 |
| Accounting Section                    | (032) 254-2632 |
| Disbursing Section                    | (032) 255-4401 |
| Admin. Legal                          | (032) 253-7847 |

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## Technolympics - Industrial Arts

1. Automotive servicing NCI
2. Consumer electronics Servicing NCII
3. Electrical Installation and Maintenance NCII

*Be ready in the Following COMPETENCIES*

### **Automotive Servicing NCI**

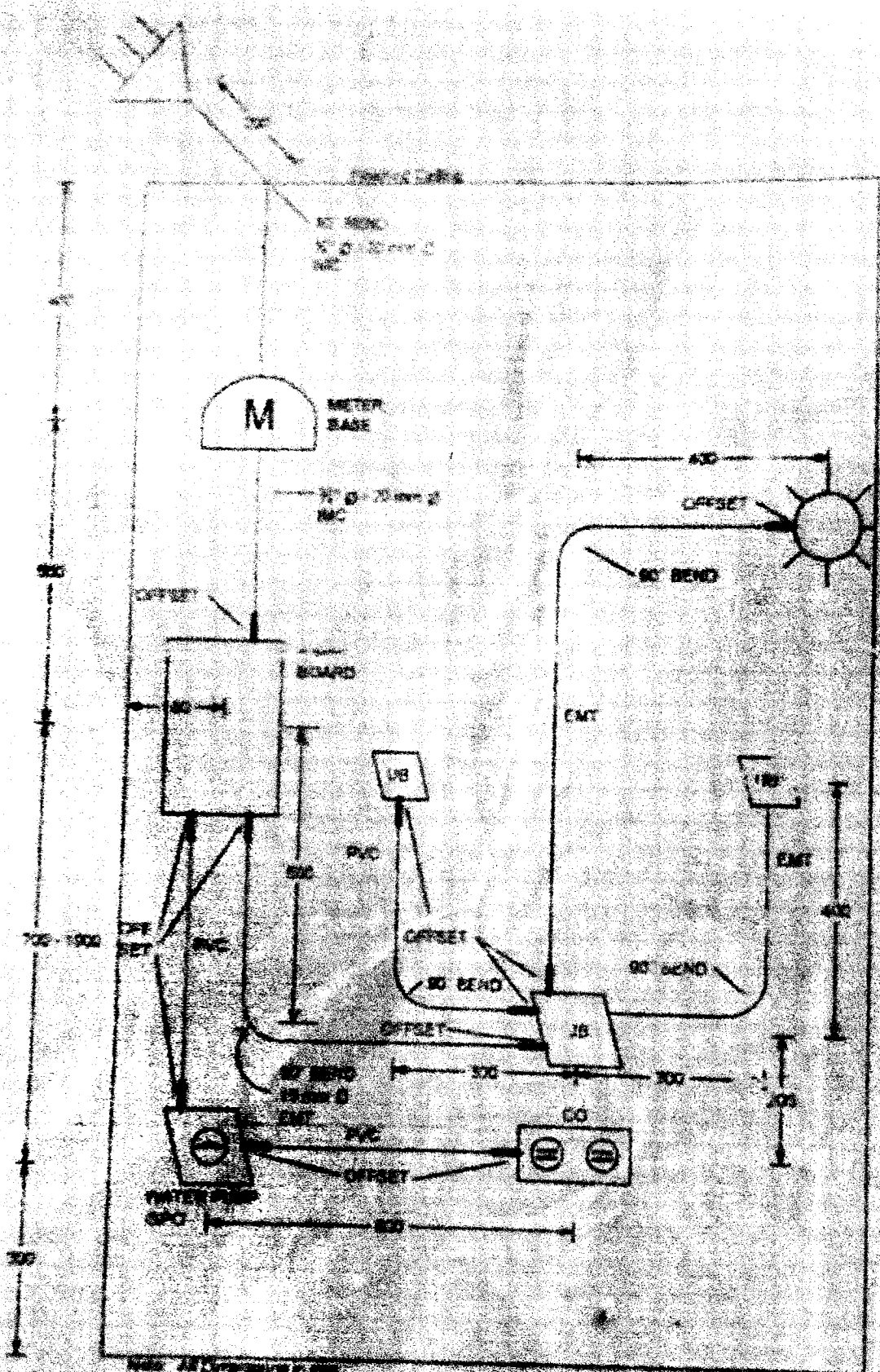
1. Servicing battery
2. Servicing Ignition System
3. Testing and Repairing Wiring / Lighting System

### **Consumer Electronics Servicing NCII**

1. Maintain and Repair electronically controlled domestic appliances
  - a. blender
  - b. electric fan
  - c. washing machine
  - d. flat iron
  - e. toaster oven
  - f. rice cooker

### **Electrical Installation and Maintenance NCII**

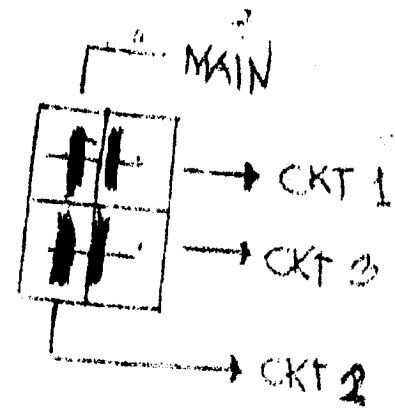
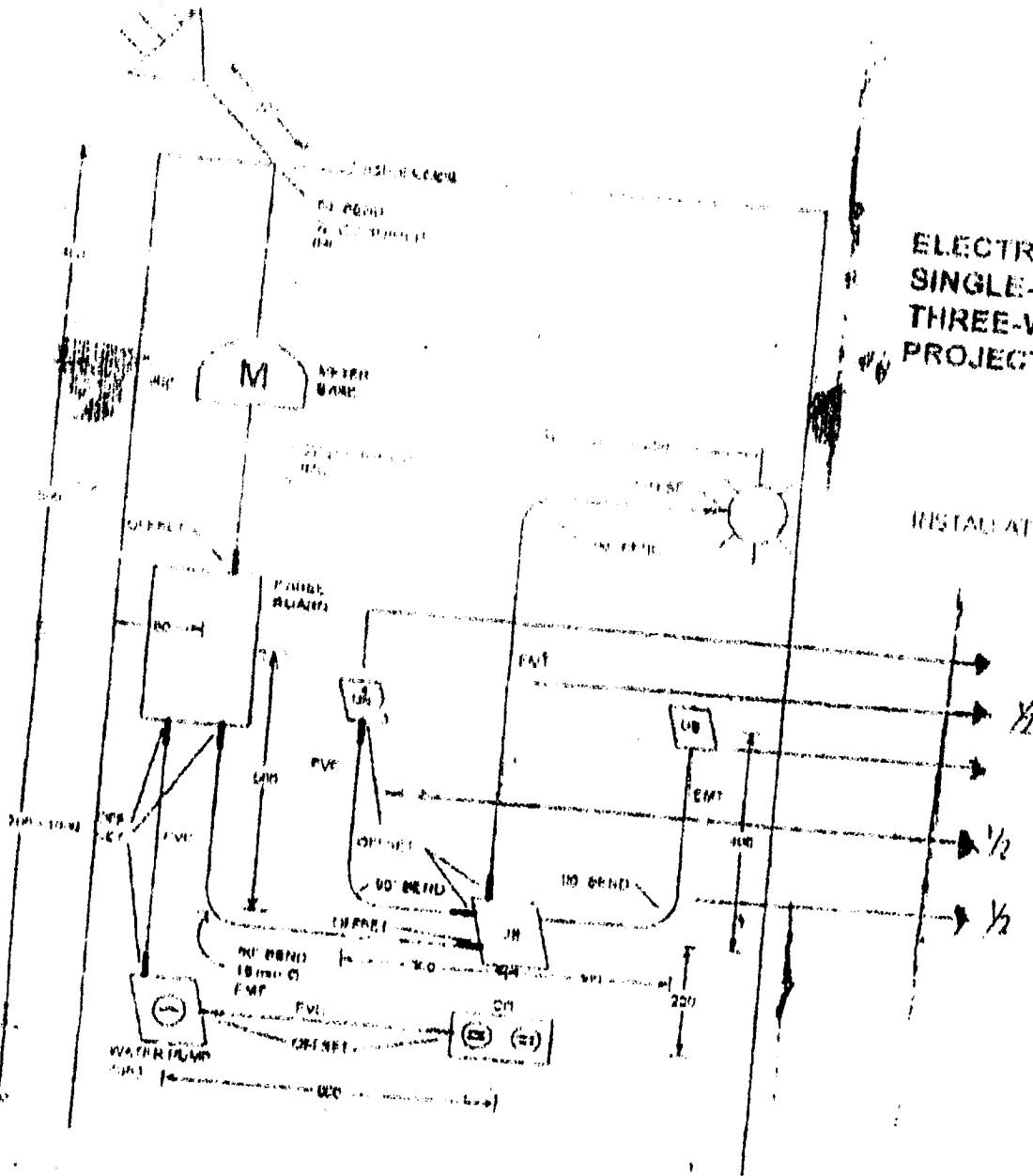
1. Install Electrical Lighting Systems, Auxiliary Outlets And Lighting Fixtures
-



NOTE: Measurement – From left edge to panel board = 160 mm not 80 mm

# ELECTRICAL WIRING OF SINGLE-PHASE THREE-WIRE SYSTEM TEST PROJECT

INSTALLATION LAY OUT DIAGRAM



SKILLS: INDUSTRIAL ARTS

MAJOR: ELECTRICAL INSTALLATION AND MAINTENANCE ( EIM)

Bill of materials

Quantity ; unit ; Description of Materials Needed

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|    |         |   |
|----|---------|---|
| 1  | ; sht   | ; 3/4 x 4 x 8 Marine Plywood                |
| 1  | ; pc    | ; Meter base # 3/4                          |
| 1  | ; pc    | ; Panel board 4 holes                       |
| 1  | ; pc    | ; Plug in Circuit breaker 30 amperes        |
| 1  | ; pc    | ; Plug in Circuit breaker 15 amperes        |
| 2  | ; pcs   | ; Plug in Circuit breaker 20 mperes         |
| 40 | ; mtrs  | ; TW # 14 solid/ stranded wire              |
| 20 | ; mtrs  | ; TW # 12 stranded/ solid wire              |
| 10 | ; mtrs  | ; TW # 10 solid /stranded wire              |
| 10 | ; mtrs  | ; TW # 8 stranded wire                      |
| 1  | ; lght  | ; IMT OR RSC # 3/4 conduit pipe             |
| 2  | ; lghts | ; EMT # 1/2 conduit pipe                    |
| 2  | ; lghts | ; PVC pipe # 1/2                            |
| 1  | ; set   | ; Entrance cap # 3/4                        |
| 2  | ; pcs   | ; 3way switch w/out plate                   |
| 2  | ; pcs   | ; Single plate                              |
| 1  | ; set   | ; Special power outlet (SPO)                |
| 1  | ; set   | ; 2 gang Convenience outlet (CO) flush type |
| 1  | ; pc    | ; Metal square box                          |
| 1  | ; pc    | ; Metal junction box                        |
| 1  | ; pc    | ; Metal utility box                         |
| 3  | ; pcs   | ; PVC utility box                           |
| 6  | ; pcs   | ; PVC connector # 1/2                       |
| 6  | ; pcs   | ; EMT connector #1/2                        |
| 1  | ; set   | ; Locknut and bushing # 3/4                 |
| 20 | ; pcs   | ; EMT clamp # 1/2                           |
| 10 | ; pcs   | ; EMT clamp # 3/4                           |
| 20 | ; pcs   | ; PVC clip # 1/3                            |
| 20 | ; pcs   | ; Wood screw                                |
| 1  | ; rl    | ; Electrical tape                           |
| 1  | ; pc    | ; Flush type socket #4                      |
| 1  | ; pc    | ; 50 watts Incandescent lamp                |

Note: Bill of materials is based on the given diagram.

**ANALYTICAL SCORING RUBRIC**  
( Building Wiring Installation )

**1. FUNCTIONALITY** -----

**24%**

Note: Main circuit breaker 30 amperes should be SWITCH ON.

|   |            |
|---|------------|
| 1.1 Switching of CB 20 Amp. SPO has power           | 6%         |
| 1.2 Switching of CB 20 Amp. CO has power            | 6%         |
| 1.3 Switching of left 3 way switch ---Bulb function | 6%         |
| 1.4 Switching of right 3 way switch--- Bulb OFF     | 6%         |
| <b>TOTAL</b>  | <b>24%</b> |

**2. WORKMANSHIP** -----

**56%**

**2.1 DIMENSION OF MOUNTED FIXTURE** -----**6%**

All dimensions should be measured from center to center base on the given diagram. .5 point shall be deducted for every item mark that deviates from the tolerance of +/- 3 mm.

|  | Accurate<br>.5 point/s | Inaccurate<br>0 point |
|--|------------------------|-----------------------|
| 1. From the left edge of the wiring board to the circuit breaker |                        |                       |
| 2. From the ceiling line of wiring board to the meter base       |                        |                       |
| 3. From meter base to the panel board                            |                        |                       |
| 4. From panel board to the SPO                                   |                        |                       |
| 5. From SPO to CO  |                        |                       |
| 6. From panel board to the square box                            |                        |                       |
| 7. From CO to square box going up                                |                        |                       |
| 8. From square box to the left 3 way switch                      |                        |                       |
| 9. From square box to the right 3 way switch                     |                        |                       |
| 10. From square box to the left 3 way switch going up            |                        |                       |
| 11. From square box to the right 3 way switch going up           |                        |                       |
| 12. From wiring board to the entrance cap back                   |                        |                       |
| <b>TOTAL</b>   |                        |                       |

**2.2 WIRE SPLICES** -----**5%**

All joints inside the square box should be a rat tail joints. 1.0 points should be deducted for every joints that is not acceptable to the code requirement as to each mechanical and electrical characteristics. For uniformity of judging, the length of rat tail joints from the point of skinned wire up to the tip of the joints should be 25 mm to 50 mm. No tolerance is allowed.

|              | Acceptable<br>1.0 point/s | Not<br>Acceptable<br>0 point |
|--------------|---------------------------|------------------------------|
| 1.           |                           |                              |
| 2.           |                           |                              |
| 3.           |                           |                              |
| 4.           |                           |                              |
| 5.           |                           |                              |
| <b>TOTAL</b> |                           |                              |

**2.3 ALLOWANCE OF WIRE** -----**5%**

The wires should be meeting at the center of the box and to be measured up to the tip of the joints without electrical tape. Allowance of wire from the box should not less than 150 mm and not more that 160 mm. This is applicable to the square box only. 1.0 should be deducted for every item observed to have deviated from the required measurement.

| ITEM : SQUARE BOX | Acceptable<br>1.0 point/s | Not<br>Acceptable<br>0 point |
|-------------------|---------------------------|------------------------------|
| 1.                |                           |                              |
| 2.                |                           |                              |
| 3.                |                           |                              |
| 4.                |                           |                              |
| 5.                |                           |                              |



**2.4 CONNECTORS****8%**

All connectors should be based on the raceway used. PVC connector for PVC pipe and EMT connector for the EMT conduit. .73 should be deducted to every item observed that deviates the standard.

|              | Acceptable<br>.73 point/s | Unacceptable<br>0 point |
|--------------|---------------------------|-------------------------|
| 1.           |                           |                         |
| 2.           |                           |                         |
| 3.           |                           |                         |
| 4.           |                           |                         |
| 5.           |                           |                         |
| 6.           |                           |                         |
| 7.           |                           |                         |
| 8.           |                           |                         |
| 9.           |                           |                         |
| 10.          |                           |                         |
| 11.          |                           |                         |
| <b>TOTAL</b> |                           |                         |

**2.5 OFFSET BENDING****8%**

All tip of the pipe or raceway should be bended in offset based on the boxes used. From entrance cap up to the meter base then to the panel board down to the different fixture below. .53 points should be deducted for every item that deviates the standard offset.

|              | Acceptable<br>.53 point/s | Unacceptable<br>0 point |
|--------------|---------------------------|-------------------------|
| 1.           |                           |                         |
| 2.           |                           |                         |
| 3.           |                           |                         |
| 4.           |                           |                         |
| 5.           |                           |                         |
| 6.           |                           |                         |
| 7.           |                           |                         |
| 8.           |                           |                         |
| 9.           |                           |                         |
| 10.          |                           |                         |
| 11.          |                           |                         |
| 12.          |                           |                         |
| 13.          |                           |                         |
| 14.          |                           |                         |
| 15.          |                           |                         |
| <b>TOTAL</b> |                           |                         |

**2.6 RIGHT ANGLE BEND ( 90 DEGREES )****8%**

There are four right angle bend in the diagram. 2 points should be deducted for every item that did not meet the 90 degrees angle.

|              | Acceptable<br>2.0 point/s | Unacceptable<br>0 point |
|--------------|---------------------------|-------------------------|
| 1.           |                           |                         |
| 2.           |                           |                         |
| 3.           |                           |                         |
| 4.           |                           |                         |
| <b>TOTAL</b> |                           |                         |

**2.7 LOCKNUT AND BUSHING****1%**

There is only one locknut and bushing to be installed in the given diagram. This is applicable for the ¾ IMC raceway mounted to the panel board.

|              | Acceptable<br>1.0 point/s | Unacceptable<br>0 point |
|--------------|---------------------------|-------------------------|
| 1.           |                           |                         |
| 2.           |                           |                         |
| <b>TOTAL</b> |                           |                         |

**2.8 THREADED IMC OR RSC SIZE ¾ -----4%**

IMC or RSC size ¾ should be properly threaded when mounting the entrance cap up to the meterbase. There is no connector for the said item. All mounting processes should be through threading the pipe. 1 point should be deducted to the item that deviates the standard.

| ITEM FOR ¾ RACEWAY ONLY | Acceptable<br>1.0 point/s | Unacceptable<br>0 point |
|-------------------------|---------------------------|-------------------------|
| 1.                      |                           |                         |
| 2.                      |                           |                         |
| 3.                      |                           |                         |
| 4.                      |                           |                         |
| <b>TOTAL</b>            |                           |                         |

**2.9 RACEWAY CLIP AND CLAMP -----7%**

All clip and clamp should be on the applied raceway materials. Use PVC clamp for the PVC pipe and conduit clamp for the conduit pipe . A minimum of two clamps per run except the service entrance raceway which is a ¾ IMC conduit. 0.5 points should be deducted for every run or item that did not follow the given standard.

| ITEM         | Acceptable<br>0.5 point/s | Unacceptable<br>0 point |
|--------------|---------------------------|-------------------------|
| 1.           |                           |                         |
| 2.           |                           |                         |
| 3.           |                           |                         |
| 4.           |                           |                         |
| 5.           |                           |                         |
| 6.           |                           |                         |
| 7.           |                           |                         |
| 8.           |                           |                         |
| 9.           |                           |                         |
| 10.          |                           |                         |
| 11.          |                           |                         |
| 12.          |                           |                         |
| 13.          |                           |                         |
| 14.          |                           |                         |
| <b>TOTAL</b> |                           |                         |

**3.0 SCREW -----4%**

Screwing of boxes should be of minimum of two ( 2 ) for the utility and junction boxes, three to four ( 3 to 4 ) for the bigger boxes. 0.2 points should be deducted for every item that deviates the standard.

| ITEM         | Acceptable<br>0.2 point/s | Unacceptable<br>0 point |
|--------------|---------------------------|-------------------------|
| 1.           |                           |                         |
| 2.           |                           |                         |
| 3.           |                           |                         |
| 4.           |                           |                         |
| 5.           |                           |                         |
| 6.           |                           |                         |
| 7.           |                           |                         |
| 8.           |                           |                         |
| 9.           |                           |                         |
| 10.          |                           |                         |
| 11.          |                           |                         |
| 12.          |                           |                         |
| 13.          |                           |                         |
| 14.          |                           |                         |
| 15.          |                           |                         |
| 16.          |                           |                         |
| 17.          |                           |                         |
| 18.          |                           |                         |
| 19.          |                           |                         |
| 20.          |                           |                         |
| <b>TOTAL</b> |                           |                         |

### 3. Time Management

10%

|           |                                  |           |
|-----------|----------------------------------|-----------|
| Finished: | 30 minutes before the time       | 10 points |
|           | 25 to 29 minutes before the time | 9 points  |
|           | 20 to 24 minutes before the time | 8 points  |
|           | 15 to 19 minutes before the time | 7 points  |
|           | 10 to 14 minutes before the time | 6 points  |
|           | 5 to 9 minutes before the time   | 5 points  |
|           | 1 to 4 minutes before the time   | 4 points  |
|           | Within the time                  | 3 points  |
|           | Unfinished                       | 2 points  |

### 4. Safety

5%

Two point five (2.5) deduction shall be applied for an injury noticed to the contestant while the contest is in progress. Another two point five (2.5) points deduction shall be given for shorted circuits in tapping the line to the main source.

### 5. Communication Skills

5%

| 5   | 4  | 3  | 2   | 1  |
|---|--|--|---|--|
| Able to clearly discuss/explain with confidence all of the following:<br>a. process<br>b. function<br>- tools<br>- materials<br>- equipment<br>c. cost of production<br>d. employability<br>e. business opportunity | Able to clearly discuss/explain with confidence only 4 of the following:<br>a. process<br>b. function<br>- tools<br>- materials<br>- equipment<br>c. cost of production<br>d. employability<br>e. business opportunity | Able to clearly discuss/explain with confidence only 3 of the following:<br>a. process<br>b. function<br>- tools<br>- materials<br>- equipment<br>c. cost of production<br>d. employability<br>e. business opportunity | Able to clearly discuss/explain with confidence only 2 of the following:<br>a. process<br>b. function<br>- tools<br>- materials<br>- equipment<br>c. cost of<br>d. employability<br>e. business opportunity | Able to clearly discuss/explain with confidence only 1 of the following:<br>a. process<br>b. function<br>- tools<br>- materials<br>- equipment<br>c. cost of production<br>d. employability<br>e. business opportunity |

### SUMMARY:

|      |                      |   |   |      |
|------|----------------------|---|---|------|
| I.   | Functionality        | - | - | 24%  |
| II.  | Workmanship          | - | - | 56%  |
| III. | Time Management      | - | - | 10%  |
| IV.  | Safety               | - | - | 5%   |
| V.   | Communication Skills | - | - | 5%   |
|      | TOTAL >>>>           |   |   | 100% |