

## DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

Course Code & Name : 23EET103–Electrical Circuits and Electron Devices

Faculty : Dr INDU NAIR. V, ASP/AIDS

### Puzzles/In Class Activities

#### UNIT III: WIRING, GROUNDING AND SAFETY

##### Puzzle 1

(Odd-Man-Out):

Cleat wiring, Batten wiring, Conduit wiring, Wood casing-capping

answer: Conduit wiring (Most modern and protected)

Industry: L&T Construction (Wiring types, Placement Interview)

GATE EE 2018 (Wiring systems)

##### Puzzle 2

(Short Answer):

Standard color code for earth wire in India?

Answer: Green or Green with Yellow stripe

Industry: Schneider Electric (Safety standards, In-house Training)

##### Puzzle 3

(Match the Following):

A. Phase wire → Red/Yellow/Blue

B. Neutral wire → Light Blue

C. Earth wire → Green

D. Old neutral → Black

Answer: A-Red/Yellow/Blue, B-Light Blue, C-Green, D-Black

Industry: Havells (Color code mapping, Virtual Internship)

##### Puzzle 4

(Riddle):

I'm green or striped with yellow,

Lowest resistance fellow,

Shock I safely swallow.

What am I?

Answer: Earth wire

Industry: Poly cab (Safety riddle, In-house Training)

##### Puzzle 5

(Word Scramble):

Unscramble the wiring accessory: TIPERAH

Answer: Earthing Pit (or Earth Pit)

Industry: Finolex (Earthing components, Placement Interview)

Puzzle 6(Logic Riddle):

I trip in 30 mA or less,  
Leakage current I assess,  
Save your life, I confess.

What am I?

Answer: ELCB/RCCB

Industry: Legrand (Safety devices, In-house Training)

Puzzle7

(Odd-Man-Out):

MCB, ELCB, Fuse, Ceiling rose

Answer: Ceiling rose (Not a protective device)

Industry: ABB(Protective devices group, Virtual Internship)

Puzzle8

(Short Answer):

Maximum permissible earth resistance for domestic installation?

Answer: Less than  $1 \Omega$

Industry: BEL(Earthing standards, Placement Interview)

Puzzle9

(Odd-Man-Out):

Plate earthing, Pipe earthing, Strip earthing, Over head wiring

Answer: Overhead wiring (Not an earthing method)

Industry: Siemens (Earthing types, In-house Training)

Puzzle10

(Match the Following):

A. Conduit wiring → Mechanical protection

B. Cleat wiring → Cheapest

C. Casing-capping → Wooden, old style

D. Batten wiring → PVC strip support

Answer: A-Mechanical protection, B-Cheapest, C-Wooden old style, D-PVC strip support

Industry: KEI Industries (Wiring comparison, Virtual Internship)

Puzzle11

(Riddle):

I'm buried deep with charcoal and salt,

Low resistance is my result.

What am I?

Answer: Plate Earthing/Pipe Earthing

Industry: Crompton Greaves(Earthing riddle, Placement Interview)

Puzzle 12

(Short Answer):

Name the factor applied to connected load to get maximum demand.

Answer: Diversity Factor

Industry: L&T (Load calculation, In-house Training)

Puzzle13

(Word Scramble):

Unscramble the safety device: LECB

Answer: ELCB

Industry: Schneider Electric(Safety scramble, Virtual Internship)

Puzzle14

(Odd-Man-Out):

Shock, Overload, Short circuit, Diversity factor

Answer: Diversity factor (Not a cause of accident)

Industry: Havells (Safety causes group, Placement Interview)

Puzzle15

(Match the Following):

A. MCB→ Over load & short circuit

B. ELCB→ Earth leakage

C. Fuse→ Over current

D. MCCB→ High current protection

Answer:A-Overload&shortcircuit,B-Earthleakage,C-Overcurrent,D-Highcurrentprotection Industry:

Siemens (Protective devices mapping, In-house Training)

Puzzle16

(Riddle):

I'm l am in a ted in

core, But in wiring

I'm not, I carry

current safely, Green

is my coat.

What am I?

Answer: Earth wire(not transformer core)

Industry: Polycab (Safety riddle, Virtual Internship)

Puzzle 17

(Short Answer):

Height of switch board from floor as per standard?

Answer: 1.3 to 1.5 meter (or 4–5 feet)

Industry: Anchor (Wiring layout standards, Placement Interview)

Puzzle 18

(Logic Riddle):

I sense imbalance in phase and neutral flow,

Trip fast before danger grows.

What am I?

Answer: ELCB/RCCB

Industry: Legrand (Current balanced Device, In-house Training)

Puzzle19

(Odd-Man-Out):

PVC conduit, GI conduit, Flexible conduit, Wooden batten

Answer: Wooden batten (Not a conduit)

Industry: Finolex (Conduit types, Virtual Internship)

Puzzle20

(Riddle):

Without me, shock can be fatal,

with me, current finds path neutral,

I'm mandatory in every panel.

What am I?

Answer: Earthing/Grounding

Industry: ABB(Earthing importance riddle, Placement Interview)

