



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Technology and Science
Choice Based Credit System (CBCS) in the Light of NEP-2020

| COURSE CODE | CATE-GORY | COURSE NAME | TEACHING & EVALUATION SCHEME | | | | | | | | |
|----------------|-----------|---|------------------------------|---------------|----------------------|-------------------------|----------------------|---|---|---|---------|
| | | | THEORY | | | PRACTICAL | | L | T | P | CREDITS |
| | | | END SEM University Exam | Two Term Exam | Teachers Assessment* | END SEM University Exam | Teachers Assessment* | | | | |
| GUEE101 | GE | Residential Wiring and Electrical Appliances | 60 | 20 | 20 | 0 | 0 | 3 | 0 | 0 | 3 |

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit.

***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Objectives:

To impart the basic knowledge of Basics of electrical wiring, appliances and safety.

Course Outcomes:

After the successful completion of this course students will be able to

1. Acquire necessary skills/hand on experience/ working knowledge on single phase and three phase connections, basics of electrical wiring with electrical protection devices.
2. Learns circuit series in electric home appliances.
3. Have knowledge of various wiring techniques used.
4. Understand the working principles of different household domestic appliances.
5. Check the electrical connections at household.
6. Learn about basic concept of Safety

Syllabus:

UNIT I

9 Hrs.

Introduction: Voltage, Current, RMS and peak values, Resistance, Capacitance, Inductance, Electrical conductors and Insulators, Ohm's law, Series and parallel combinations of resistors, Electrical energy, Power, Power factor, Single phase and three phase connections, consumption of electrical power.

UNIT II

8 Hrs.

Basics of House wiring: Star and delta connection, Introduction to wiring symbols used in single and three phase electrical diagrams, Concept regarding correct techniques of interpreting electrical diagrams regarding electrical circuits.

UNIT III

8 Hrs.

Electric shock: first aid for electric shock, Overloading , Earthing and its necessity, short circuiting , Fuses , MCB , ELCB, Insulation, Inverter, UPS

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UNIT IV **9 Hrs.**
Electrical Appliances: Principles of working, parts and servicing of Electric fan, Electric Iron box, Water heater; Induction heater, Microwave oven; Refrigerator, Concept of illumination, Electric bulbs, CFL, LED lights, Energy efficiency in electrical appliances, IS codes & IE codes.


UNIT V **9 Hrs.**
Safety Rules and Principles: Types of hazards involved in electrical, First Aid ,Fire extinguisher, Safety drills, Types and use of PPEs as per general and electrical safety norms.

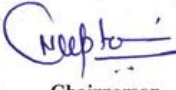
Text Books:

1. B.L.Theraja, , "A Text book on Electrical Technology". S.Chand & Co.
2. K.UMA RAO, " Basics of Electrical Engineering".

References:

1. M.G.Say, ELBSEdn , "Performance and design of AC machines".
2. BPB Publications "Handbook of Repair & Maintenance of domestic electronics appliances"
3. S.P.Bali, "Consumer Electronics", Pearson
4. K.P.Anwer, "Domestic Appliances Servicing", Scholar Institute Publications


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