

Important Guidelines:

1. All questions in this Academic Task are compulsory.
2. It is mandatory to attempt all questions of the assignment in your own handwriting on A4 size sheets/pages with a blue colour ink pen. Any other mode of attempt (typed or printed codes or table) except hand written/drawn will not be accepted/considered as valid submission(s) under any circumstances.
3. Every attempted sheet/page should carry clear details of student such as Name, Registration number, Roll number, Question number and Page number. The page numbers should be written clearly on the bottom of every attempted sheet in a prescribed format as: for page 1; **Page 1 of 4**, for page 2; **Page 2 of 4**, for page 3; **Page 3 of 4** and for page 4; **Page 4 of 4**, in case your assignment/document is of 4 pages.
4. After attempting the answer(s), student needs to take photograph of each of these answer sheets/pages and needs to convert the **jpeg** format images into a sequential single **pdf** format document (can be done with many free online available converters).
5. This PDF file should be uploaded onto the UMS interface on or before the last date of the submission.
6. Refrain from indulging into plagiarism as copy cases will be marked zero.
7. No assignment will be accepted once the deadline is over through any other means of communication.



SET-A

Name: _____
Reg. No: _____
Section: _____

ECE 131
BASICS OF ELECTRICAL AND ELECTRONICS ENGINEERING
CA: Test -II

All questions are compulsory.

Max Marks: 30

1. Explain the I-V characteristics of Zener diode as voltage regulator. Discuss any application of the zener diode in detail.
 2. Discuss the application of diode as clipper with ideal diode and practical silicon diode. Draw the neat waveform diagrams.
 3. Elaborate the working of bridge type full wave rectifier with neat diagram and waveforms. Also discuss briefly any application area.
 4. Explain the types of transformer. Also discuss the working principle of isolation and auto transformer with neat diagram.
 5. Discuss the difference between the three phase slip ring and phase wound rotor motors and write the five application area of both types of constructions.
 6. Share a picture of any electrical/electronic appliance/device at your house and explain working of its internal circuitry as per your understanding falls under the covered syllabus.
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SET-B

Name: _____

Reg. No: _____

Section: _____

ECE 131

BASICS OF ELECTRICAL AND ELECTRONICS ENGINEERING

CA: Test -II

All questions are compulsory

Max Marks: 30

1. Discuss the application of diode as clipper with ideal diode and practical germanium diode. Draw the neat circuit diagrams and waveforms.
2. Elaborate the working of centre-tapped full wave rectifier with neat diagram and waveforms. Also discuss briefly the purpose of using rectifier in any electronic circuit example .(optional: use picture or draw circuit)
3. How and where the instrument transformers are used? Explain with a neat diagram. Also explain the working of the auto transformer with neat diagram.
4. Discuss the types of single phase induction motors with their applications. Also discuss why there is need for starters for the induction motors.
5. What do you understand by the Universal Logic Gates? Explain how the NOR gate can be used to derive the other logic gates.
6. Share a picture of any electrical/electronic appliance/device at your house and explain working of its internal circuitry as per your understanding falls under the covered syllabus.



SET-C

Name: _____

Reg. No: _____

Section: _____

ECE 131

BASICS OF ELECTRICAL AND ELECTRONICS ENGINEERING

CA: Test -II

All questions are compulsory

Max Marks: 30

1. What do you understand by the term integrated circuits? Explain the digital abstraction and significance of noise margins with the help of any practical situation.
2. Discuss the application of diode as clamper with ideal diode and practical germanium diode. Draw the neat circuit diagrams and waveforms.
3. Elaborate the working of a diode, draw and explain the forward and reverse biased characteristics. Also discuss the applications of Zener diode as voltage regulator.
4. Discuss the difference between an isolated and auto transformer with neat diagrams. Also explain the transformer losses and their effect on transformer efficiency.
5. Write a note on the speed control methods of DC motor. Also discuss the classification with five practical applications each.
6. Share a picture of any electrical/electronic appliance/device at your house and explain working of its internal circuitry as per your understanding falls under the covered syllabus.

SET-D



Name: _____
Reg. No: _____
Section: _____

ECE 131
BASICS OF ELECTRICAL AND ELECTRONICS ENGINEERING
CA: Test -II

All questions are compulsory
Max Marks: 30

1. Discuss the application of diode as clamper with ideal diode and practical silicon diode. Draw the neat circuit diagrams and waveforms.
2. Elaborate the working of half wave rectifier with neat diagram and waveforms. Also discuss the difference between the half wave and full wave rectifiers with their application areas.(optional: use picture or draw circuit)
3. How and where the power transformers are used? Explain with a neat diagram. Also explain the working of the current transformer with neat diagram.
4. Discuss the construction and working principal of DC machines. Also discuss the application areas.
5. Elaborate the universal gates and derive the other logic gates from these gates.
6. Share a picture of any electrical/electronic appliance/device at your house and explain working of its internal circuitry as per your understanding falls under the covered syllabus.

SET-E



Name: _____
Reg. No: _____
Section: _____

ECE 131
BASICS OF ELECTRICAL AND ELECTRONICS ENGINEERING
CA: Test –II

All questions are compulsory

Max Marks: 30

1. Discuss the application of diode as clipper with ideal diode, practical silicon diode. Draw the neat waveform diagrams.
2. Elaborate the working of half wave rectifier with neat diagram and waveforms. Also discuss the difference between the half wave and full wave rectifiers with their application areas.(optional: use picture or draw circuit)
3. Discuss the types of transformers with their applications. Explain with a neat diagram an isolation transformer used for electrical power transmission. Also explain the transformation ratio.
4. Explain the difference between single phase and three phase induction motors with their application in detail.
5. Discuss the pin diagram of any logic gate? Explain how the NAND gate can be used to derive the other logic gates.
6. Share a picture of any electrical/electronic appliance/device at your house and explain working of its internal circuitry as per your understanding falls under the covered syllabus.