Practical Instruction to students

You need to read Page 2 to 10 to do the online practicals

All lessons & teaching notes are to be downloaded from

www.advancedelectricaldiploma.zoomshare.com

Study Option (1)

Guided study (Online)Resources+ Online exercises+ Online Practicals Click HERE-

Also resources can be downloaded from the backup site **Study Option 1 Back up** **http://onlineclass1.zoomshare.com/**

Study Option (2)

Self study (Online) Resources+ Reference materials & Notes Click www.1790817794.zoomshare.com

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Study Option (3)

Guided study (Face to Face) & Video Mode

(1)Attend the class (2)Take part in practicals (3)Sit the examination(4)Study the video lessons in the following link

http://www.electricallessonvideos.zoomshare.com Then the resources can be downloaded from

Electrical Lesson Videos

To download all Video files

http://www.filefactory.com/file/c0b627a/n/electricallessonvideosV2.htm The file that is not available can be downloaded from
Study Option 3 Back up http://uploading.com/files/99caa72e/Electricallessonvideos

OR

http://uploading.com/files/99caa72e/Electricallessonvideos

Practicals (All students need to submit compulsory online practical assignments)

Click HERE to download practicals

Online Exercises

Click HERE to download G037+G038+G039+E046 Exercises, Click HERE to download other Exercises

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Updated links & sites

Physics Part 2 1790817794Backup References (Printed notes for all electrical units) (If file is not available , it can be downloaded from Reference Printed Lesson Back up for

Electrical Risk Assessment Project Specification 2 Power Project 2

Business Units BSBFLM 503+506+509+510+512Online Lessons (Link to download the business units study resources)
Business Unit Assignments

Back up site for www.filefactory.com lessons (Study option 2 and 3).htm

Study Option 1 and 3 Back up site for www.filefactory.com

Study Option 1 Back up **http://onlineclass1.zoomshare.com/**

Study Option 3 Back up http://uploading.com/files/99caa72e/Electricallessonvideos

Reference Printed Lesson Back up for

Electrical Risk Assessment Project Specification 2 Power Project 2

WORK PERFORMANCE (PRACTICAL)

Basic Electrical Practicals

Every student who starts the study must take part in Electrical Workshop to use the electrical equipments practically

Electrical Workshop

E001+E002+E003+E004+E005+E007+E008+E033 E101/2/3/4/5/7/8/ E137) ------ Practical/ Workshop class

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Practical Equipments study

You need to know the names of the practical equipments

electricalpracticals.doc PART (2) EQUIPMENTS ARRANGEMENTS

- You can see the names of practical equipments used in electrical laboratory.
- The photos of the equipments can be found in the following folder
- "Practical Equipments.pdf" the page number of this folder related to the name of the equipments given in electricalpracticals.doc PART (2) EQUIPMENTS ARRANGEMENTS

Then you need to take practice on how to connect the equipments. This can be firstly done on paper as follows. Whether you are doing power or electronics, you need to know the connection of both power and electronics equipments. That competency can be achieved by doing the following compulsory practicals.

(3)Compulsory Practicals

- Study the circuit & equipment connection diagrams as per instruction Word file in the folders with practical names in the given directory

Practical/ 3.Compulsory Practicals/

For example, to do the online practical for 3.1 DC Variable speed drive,

- you open the folder 3.Compulsory practical
- then 3-1 DC Variable Speed Drive folder
- then 3.1.doc word file.

In the word file (3.1.doc) it states that "**(1) Investing DC variable speed drive system, tacho meter, transducer**

Reference: Page 2 to 8 of Practical Semester 1(A) PDF"

So you open the file **"Practical Semester 1(A).pdf"**

- Then read through Page 2 to 8 circuit diagram & Study the diagram given on page 2,3,4
- Study the connection diagram on page 6,7,8

Connect the circuit on given PDF worksheet

- Open the PDF file 3-1.pdf & print out it.
- Based on your study on circuit diagram and equipments set up, you draw the connection of the equipments on PDF worksheet

Enter the data into attached Excel worksheet & plot the graph

- Open the Excel file "3.1.xls" then enter the data in to the cells as per instruction to plot the graph.

The following online practicals are required to be done by all students who are taking any unit.

3-1 DC Variable Speed Drive, 3-2 Amplifier Gain, 3-3 SCR, 3-4 Over Current Relay, 3-5 Rectifier, 3-6 Three Phase Rectification, 3-7 Three Terminal Regulator, 3-8 Current to Voltage Transducer, 3-9 Effect of transformer on power line, 3-10 Tee and Pi Equivalent Line,3-11 Variable dc drive with rectifier, 3-13+3-14 Three Phase Power Measurement

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(4) Power System Practicals

The following simulated online practicals are required to do for G015+G042+G037+G038+G039+G040+G046 units

- Study the circuit & equipment connection diagrams as per instruction Word file in the folders with practical names in the given directory

Practical/ 4.Power System Practicals/

For example, to do the online practical for 4-1 CT PT Ratio,

- you open the folder 4.Power System Practicals
- then 4-1 CT PT Ratio folder
- then 4.1.doc word file.

4.1.doc word file states that Study page 3+4 Instruction + circuit diagram , Study Page 1+2 & 5 to 7 Equipments setup.

Then open the folder **"Power System-G015+G046+G037+G038+G039+G042 Work Performance Project**

- then open the file "Practical-G015-CT Ratio"
- Study page 3+4 Instruction + circuit diagram

- Study Page 1+2 & 5 to 7 Equipments setup.

Connect the circuit on given PDF worksheet

- Open the PDF file 4-1.pdf & print out it.
- Based on your study on circuit diagram and equipments set up, you draw the connection of the equipments on PDF worksheet

Enter the data into attached Excel worksheet & plot the graph

- Open the Excel file "4.1.xls" then enter the data in to the cells as per instruction to plot the graph.

Similarly , do the following simulated online practicals

4-1 CT PT Ratio , 4-2 Watt meter Real Power, 4-3 Line air capacitance, 4-4 Inductive reactance of series coil, 4-5 Line insulator capacitance, 4-6 Load centre, 4-7 Over current relay, 4-8 UG Cable capacitance, 4-9 Voltage profile chart, 4-10 Pi & Tee network, 4-11 Transformer effect on line losses, 4-12 Transformer OCT SCT Test, 4-13 Transformer polarity test

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(5)Electrical Machine Drive Magnetics Practicals

The following simulated online practicals are required to do for G001+G002+G043+G044+G045+G010+A010 +G036 G006+G035G101+G102) units

- Study the circuit & equipment connection diagrams as per instruction Word file in the folders with practical names in the given directory

Practical/ 5.Electrical Machine Drive Magnetics Practicals/

For example, to do the online practical for" 5-1 Motor winding impedance, "

- you open the folder 5.Electrical Machine Drive Magnetics Practicals/
- then 5-1 Motor winding impedance, "folder
- then 5.1.doc word file.

5.1.doc word file states that

- Open the folder "E029-Practical 1
- Open the file "Practical-E029-Motor winding impedance.pdf"
- Study page 1 Instruction + circuit diagram
- Study Page 2 to 5Equipments setup.
- Draw the equipment connection on attached PDF worksheet

Then open the folder "**Electrical Machines+Magnetics-G001+E029+G040+G043+G044+G045 Work Performance Projects"**

then open the file "Practical-E029-Motor winding impedance.pdf"

- Study page 1 Instruction + circuit diagram
- Study Page 2 Equipments setup.

Connect the circuit on given PDF worksheet

- Open the PDF file 5-1.pdf & print out it.
- Based on your study on circuit diagram and equipments set up, you draw the connection of the equipments on PDF worksheet

If Excel file is given, Open the Excel file" then enter the data in to the cells as per instruction to plot the graph.

If Excel file is not given, skip this step

Similarly , do the following simulated online practicals

5-1 Motor winding impedance, 5-2 Motor polarity, 5-3 DC Generator characteristics test, 5-4 Three phase motor speed measurement, 5-5 Coil inductance, 5-6 Mutual inductance, 5-7 CT PT Power system measurement, 5-8 Power transformer regulation, 5-9 Transformer connection, 5-10 Transformer OCT SCT, 5-11 Variable speed drive

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(6)Power Electronics Practicals

The following simulated online practicals are required to do for H025+H026+H045+H011+H013+H039 I008+I020 units.

- Study the circuit & equipment connection diagrams as per instruction Word file in the folders with practical names in the given directory

Practical/ 6.Power Electronics Practicals/

For example, to do the online practical for" 6-1 Class A B Rectifier "

- you open the folder 6.Power Electronics Practicals /
- then 6-1 Class A B Rectifier, "folder
- then 6.1.doc word file.

6.1.doc word file states that

- Open up the file" Class_A-B_Amplifier.zip"
- Study page 7—circuit diagram & instruction
- Study page 1 to 6--- circuit setup
- Draw the diagram on the attached PDF worksheet

- Draw the equipment connection on attached PDF worksheet

Then open the folder "**Power Electronics+Analog Electronics-H025+H026+H045 Work Performance Projects**

then open the file "Class_A-B_Amplifier.zip"

- Study page 7 Instruction + circuit diagram
- Study Page 1 to 6 Equipments setup.

Connect the circuit on given PDF worksheet

- Open the PDF file 6-1.pdf & print out it.
- Based on your study on circuit diagram and equipments set up, you draw the connection of the equipments on PDF worksheet

If Excel file is given, Open the Excel file" then enter the data in to the cells as per instruction to plot the graph.

If Excel file is not given, skip this step

Similarly , do the following simulated online practicals

6-1 Class A B Rectifier, 6-2 Inverting Non Inverting Amplifier, 6-3 SCR Phase control, 6-5 Inverting amplifier, 6-6 Op Amp Comparator, 6-7 Precision half wave rectifier, 6-8 Variable frequency drive, 6-9 Three phase rectifier, 6-10 Three terminals regulator, 6-11 PWM, 6-12 Mini Lab, 6-13 Variable drive system

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(7)Process control practicals

The following online practicals are required to do for I001+I002+I003+I004+I005+I006+I008+I020 units.

- Study the circuit & equipment connection diagrams as per instruction Word file in the folders with practical names in the given directory

Practical/ 7.Process control practicals/

For example, to do the online practical for" 7-1 Process control practical 1 "

- you open the folder 7.Process control practicals /
- then 7-1 Process control practical 1 "folder
- then 7.1.doc word file.

7.1.doc word file states that Open the file: Process Control.pdf

Study Page 1, 2, 5

The given figure contains the equipment set up and operation of belt conveyor drive.

Sketch (1) Block diagram of it

(2) Write the operation of the circuit

Describe the detailed components.

(1) Belt drive conveyor

(2) Limit switch

(3) Forward/ Reverse jogging system

(4) Speed controller

(5) Motor starter

(6) Emergency stop

(7) PLC control system

Perform the internet research and submit your findings.

Then open the folder "**process control"**

- Study Page 1, 2, 5

Sketch (1) Block diagram of it

(2) Write the operation of the circuit

Describe the detailed components.

(1) Belt drive conveyor

(2) Limit switch

(3) Forward/ Reverse jogging system

(4) Speed controller

(5) Motor starter

(6) Emergency stop

(7) PLC control system

Perform the internet research and submit your findings

Similarly , do the following simulated online practicals

7.1, 7.2, 7.3,

Another practical

For example, to do the online practical for" 7-5. Process control practicals- Motor proportional control

Open 7. Process control practical

Open the file "7-5..doc"

Word file 7-5..doc states that

- Open I006
- Study the circuit diagram + instruction in Page 7,8,10,31,45,46
- Study the circuit setup in page 1,2,3,4,5,6,9
- Draw the block diagram of the equipments setup

Open the file I006 Practicals.pdf

- Study the circuit diagram + instruction in Page 7,8,10,31,45,46
- Study the circuit setup in page 1,2,3,4,5,6,9
- Draw the block diagram of the equipments setup on the paper

Similarly , do the following simulated online practicals

7.6, 7.7

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(8)Renewable Energy Practicals

The following simulated online practicals are required to do for K units.

- Study the circuit & equipment connection diagrams as per instruction Word file in the folders with practical names in the given directory

Practical/ 8.Renewable Energy Practicals/

For example, to do the online practical for"8.1 K035 Pulsewidth Inverter/ Regulator

- you open the folder **8.Renewable Energy Practicals** /
- then 8.1.doc word file.

8.1.doc word file states that

- Browse the folder "Renewable Energy-K032+K025+K035+K041 Work Performance Projects"
- Open the files" Practical-K035-Pulse Width Modulator.pdf"
- Study the circuit.

- Write the operation of the circuit

Then open the folder "**Renewable Energy-K032+K025+K035+K041 Work Performance Projects"**

then open the file "Practical-K035-Pulse Waidth Modulator.pdf"

- Study Instruction + circuit diagram
- Study Equipments setup.

Connect the circuit on given PDF worksheet

- Open the PDF file 8-1.pdf & print out it.
- Based on your study on circuit diagram and equipments set up, you draw the connection of the equipments on PDF worksheet

If Excel file is given, Open the Excel file" then enter the data in to the cells as per instruction to plot the graph.

If Excel file is not given, skip this step

Similarly , do the following simulated online practicals

8.1, 8.2

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(9)Electrical Fundamental Practicals

The following online practicals are required to do for E025+E029+E046+G047+G048+G049+G012+(E082)+ (E125) (7769AC+4269S)+ G049+ (G149)+(G033) +(G101+G102)+ G012 (Mechanical)+ E081A units.

- Study the circuit & equipment connection diagrams as per instruction Word file in the folders with practical names in the given directory

Practical/ 9.Electrical Fundamental Practicals/

For example, to do the online practical for" 9-1 PF Measurement "

- you open the folder 9.Electrical Fundamental Practicals /
- then 9-1 PF Measurement, "folder
- then 9.1.doc word file.

9.1.doc word file states that

Open the folder "E029 Practical 2"

Open the folder "Practical-E029-Power factor measurement"

Open the files" 11.Power factor measurement.pdf

Study Page 1,2 –Circuit diagram & instruction

Study the equipments setup on page 3 to 7

Write the operation of the circuit.

Sketch the block diagram of the setup on attached PDF worksheet.

Then open the folder "**Electrical Circuit Fundamental-E029+G002+G048+G049+E025-Work Performance Project**

- then open the file E029 Practical 2"
- Open the files" 11.Power factor measurement.pdf
- Study Page 1,2 –Circuit diagram & instruction
- Study the equipments setup on page 3 to 7
- Write the operation of the circuit.

Connect the circuit on given PDF worksheet

- Open the PDF file 9-1.pdf & print out it.
- Based on your study on circuit diagram and equipments set up, you draw the connection of the equipments on PDF worksheet

If Excel file is given, Open the Excel file" then enter the data in to the cells as per instruction to plot the graph.

If Excel file is not given, skip this step

Similarly , do the following simulated online practicals

9-1 PF Measurement, 9-2 Three Phase Unbalanced Load, 9-3 Maximum power transfer theorem, 9-4 Series RLC Circuit, 9-5 Super position theorem, 9-7 Star Delta Load

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The practicals can be done as follows

1. Study the circuit & equipment connection diagrams as per instruction Word file in the folders with practical names
2. Sketch the connection diagram on the worksheets.
3. Enter the data into Excel worksheet & plot the graph designed by Excel program
4. Submit the connection diagram worksheet & the graph.