



ELIZADE UNIVERSITY

ILARA-MOKIN

ONDO STATE

FACULTY: Basic and Applied Sciences
DEPARTMENT: Physical and Chemical Sciences
SECOND SEMESTER B.Sc DEGREE EXAMINATIONS
2017/2018 ACADEMIC SESSION

COURSE CODE: PHY 208

COURSE TITLE: WORK SHOP PRACTICE I

DURATION: 3 HOURS

HOD's SIGNATURE

TOTAL MARKS: 60

Matriculation Number: _____

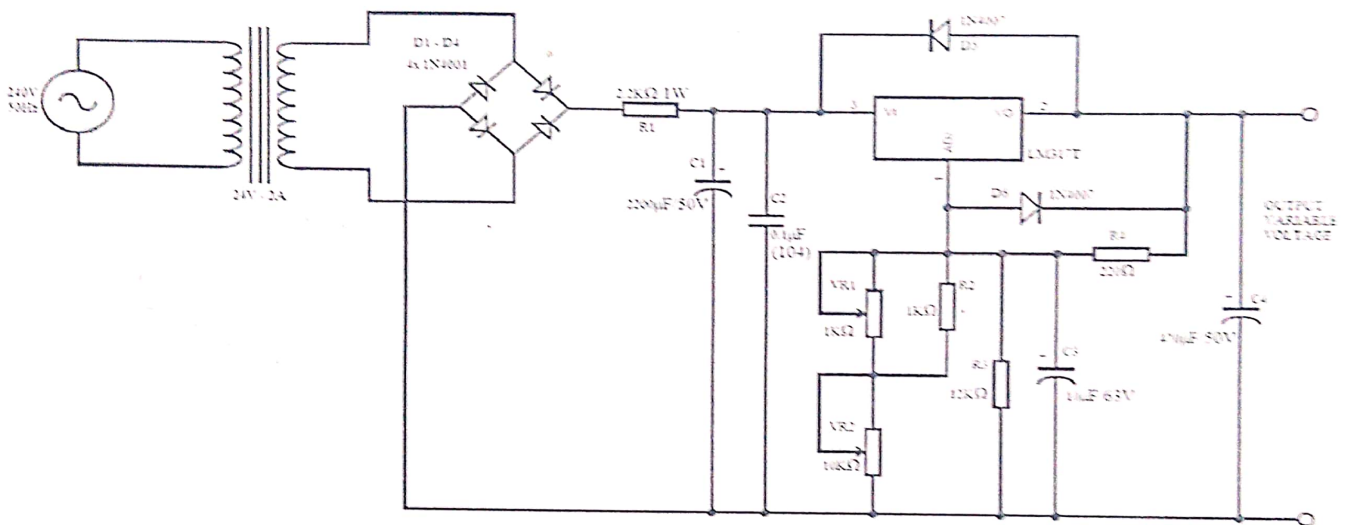
INSTRUCTIONS:

1. Write your matriculation number in the space provided above and also on the cover page of the exam booklet.
2. This question paper consists of 2 pages with printing on both sides.
3. Answer all questions in the examination booklet provided.
4. Box your final answers.

GIVEN COMPONENTS: Transformer, Voltage regulator (LM317), Capacitors, Diodes, Resistor, Diode and Vero board.

THEORY: Transformer rated 24V at 2A and bridge rectifier is used to convert the AC voltage to DC. This is given to LM317 through capacitors. In order to have different output voltage, two variable resistors of values are used for large change in voltage and for fine adjustments. With the help of this DC power supply, the output voltage can be varied from 1.2V to 24V at a current of 1A. This circuit can be used as reliable DC source.

CIRCUIT:



1. What type of IC is LM317?
2. Draw the circuit lay out of the above circuit diagram
3. State the function of the following in the circuit above
 - (i) $D_1 - D_4$
 - (ii) Variable Resistor VR_1 and VR_2
 - (iii) LM317
 - (iv). Transformer
 - (v) Capacitor C_1 , C_2 and C_4
4. Suggest a title for this circuit diagram with the reason and state one major advantage of it
5. Suggest what must be done to LM317 in other to avoid overheating.
6. What is the amount of voltage needed by $D_1 - D_4$ for full operation?