**KERALA AGRICULTURAL UNIVERSITY**
**B.Tech. (Food Technology) 2022 Admission**
**II Semester Final Examination - September 2023**

Beas.1206       Basic Electronics Engineering (2+1)       **Marks: 50**
                                                        **Time: 2 hours**

**I**      **State True or False**          (10x1=10)
1. Zener diode can be used as voltage regulator.
2. Emitter, Gate & Anode are the three terminals of BJT.
3. Logic gates always produce its output as Zero's and One's.
   **Fill in the blanks**
4. An ideal voltage regulator has a voltage regulation of...................
5. The maximum efficiency of full wave rectification is.....................
6. The ratio of the total swing of the output of a clamper to its input total swing is ................
7. RC phase shift oscillators contains a minimum of .............. Phase shift network.
8. An oscillator employs ..............feedback.
9. Write the correct match from the given pair..............
   Diode    -   Insulator
   Copper  -   semiconductor
   Rubber  -   Insulator
   Glass    -   conductor
10. The ability of the transducer to produce an identical output when stimulated by the same input is called....................

**II**      **Write short notes on ANY FIVE of the following**          (5x2=10)
1. Draw the V-1 characteristics of PN junction Diode.
2. Define Intrinsic semiconductor.
3. What is meant by line regulation?
4. List out any four application of BJT.
5. Illustrate any four ideal OP-AMP characteristics.
6. What is meant by active transducer?
7. Define seebeck effect.

**III**      **Answer ANY FIVE of the following.**          (5x4=20)
1. Write short notes on Zener breakdown.
2. With a neat sketch, describe about Voltage Doubler circuit.
3. Explain the operation of NPN type BJT.
4. Write short notes on OP AMP as differentiator.
5. Draw the logic diagram of Half adder circuit and explain its truth table.
6. Compare sensors vs transducer.
7. Write a brief notes on bimetal strip thermocouple.

**IV**      **Write an essay on ANY ONE of the following**          (1x10=10)
1. Describe in detail about the construction and operation of half wave and bridge type full rectifier, With neat circuit diagram and waveforms
2. With a neat sketch, explain the operation of Wein bridge oscillator.

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