



KERALA AGRICULTURAL UNIVERSITY
B. Tech. (Agrl. Engg.) 2021 Admission
IV Semester Final Examination – July 2023

Sacs.2213

Applied Electronics and Instrumentation (2+1)

Marks: 50
Time: 2 hours

- I Answer the following (10x1=10)**
1. Semiconductors are made up of which group of periodic table?
 2. What do you mean by hole in a circuit?
 3. In half-wave rectification, what is the output frequency if the input frequency is 50 Hz. What is the output frequency of a full-wave rectifier for the same input frequency?
 4. Draw the symbol of zener diode.
 5. Draw the symbol of an NPN transistor.
 6. Define transducer.
 7. List any two pressure sensors.
- Fill in the blanks**
8. When a forward bias is applied to a p-n junction barrier potential.....
 9. Another name for a unity gain amplifier is..... voltage follower.
 10. Expansion of RTD is
- II Write short notes on ANY FIVE of the following (5x2=10)**
1. Explain the phenomenon of zener break down.
 2. What is the forbidden gap in semiconductors?
 3. Define intrinsic semiconductors.
 4. Define CMRR of OP-AMPs.
 5. Differentiate sensors and transducers.
 6. State the operating principle of a thermocouple.
 7. List any two methods of measuring vacuum.
- III Answer ANY FIVE of the following (5x4=20)**
1. Why does a pure semiconductor behave like an insulator at absolute zero temperature?
 2. Draw circuit diagram of zener voltage regulator.
 3. Describe working with circuit diagram and wave form of an OP AMP compactor.
 4. List characteristics of an ideal OP-AMP.
 5. Classify transducers.
 6. Draw the circuit diagram of LVDT? And explain working.
 7. Derive the expression for gauge factor of a strain gauge.
- IV Write an essay on ANY ONE of the following (1x10=10)**
1. Describe:
 - (a) clipper circuits with wave forms
 - (b) clamper with wave forms
 2. Describe any two of temperature measuring methods.
