2103000206030068
EXAMINATION SEPTEMBER 2024 (ATKT EXAM)
BACHELOR OF SCIENCE (SIXTH SEMESTER)
MEASUREMENTS AND INSTRUMENTATION-II - LEVEL 3

[Time: As Per Schedule] **[Max. Marks: 50]**

Instructions:
1. **Fill up strictly the following details on your answer book**
   a. Name of the Examination: **BACHELOR OF SCIENCE (SIXTH SEMESTER)**
   b. Name of the Subject: **MEASUREMENTS AND INSTRUMENTATION-II - LEVEL 3**
   c. Subject Code No: **2103000206030068**
2. Sketch neat and labelled diagram wherever necessary.
3. Figures to the right indicate full marks of the question.
4. All questions are compulsory.
5. Symbols used in the paper have their usual meaning.

Seat No:

Student's Signature

Q.1 Answer the following questions in short: **10**

i. Write the full form of AFM, and MFM.
ii. Give the voltage equation of Hall-effect.
iii. Write two application of photovoltaic cell.
iv. Write full form of PRTD.
v. Variable inductive transducer depends upon which three principles?
vi. What is the classification of the output device in an instrument?
vii. State two advantages of an analog instrument.
viii. What is the use of a digital display device?
ix. What is the use of chromatographic technique.
x. What are chemical sensor?

Q.2 (A) Attempt any one of the following. **7**

i) Explain LVDT in details.
ii) What are synchro's explain it in details.

(B) Attempt any one of the following. **3**

i) Draw the diagram of RVDT and discuss it.

ii) Explain the construction of thermistor in short

Q.3 (A) Attempt any one of the following. **7**

i) Explain piezo-electric transducer in details.
ii) Discuss capacitive transducers in details.

(B) Attempt any one of the following. **3**

i) Mention the uses of hall-effect transducer.
ii) Explain a photoconductive cell.

Q.4 (A) Attempt any one of the following. **7**

i) Explain RS-flip flop in detail with necessary diagram.
ii) Explain LED in details.

(B) Attempt any one of the following. **3**

i) Mention the advantages and disadvantages of LCD.
ii) Compare the merits of an analog instruments with a digital instrument.

Q.5 (A) Attempt any one of the following. **7**

i) Discuss the different method for measuring and studying a nanostructure.
ii) Write a detailed note on a spectrophotometer.

(B) Attempt any one of the following. **3**

i) State Bohr's postulates.
ii) State and explain the Beer's law of absorbance.

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