



RAN - 2003000205020094

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T.Y.B.Sc. (Sem. - V) Examination November - 2023

Electronics (Paper - IX)

Basic Measurement System

सूचना : / Instructions

(१)

नीचे दृशविले निशानीवाणी विगतो उत्तरवली पर अवश्य लपववी.
Fill up strictly the details of signs on your answer book

Name of the Examination:

T.Y.B.Sc. (Sem. - V)

Name of the Subject :

Electronics (Paper - IX)

Subject Code No.: 2003000205020094

Seat No.:

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Student's Signature

- (2) Figure on the right indicates full marks.
- (3) All symbols and abbreviations have their usual meaning.
- (4) Non-programmable calculators are allows.
- (5) Q.1 is compulsory.
- (6) Assume data, if necessary.

Q. 1 Answer in brief .

8

- A) What is the resolution of 4 1/2 digit display on 1 V & 10V ranges?
- B) Define : (1) Accuracy (2) Precision
- C) What do you understand by relative error?
- D) Draw the schematic of a general ac bridge.

Q.2 A) Derive the balance equation of an AC bridge.

7

B) Write short note on Desauty Bridge.

7

OR

Q.2 A) Write short note on Capacitive Transducer.

7

B) Explain Thermistor characteristics and applications.

7

- Q-3** A) Explain different types of inputs for an instrumentation system.
Also discuss the two methods of correction for these inputs. 7
- B) Three resistances have the following ratings:
 $R_1 = 35 \Omega \pm 5\%$, $R_2 = 75 \Omega \pm 5\%$, $R_3 = 50 \Omega \pm 5\%$ 7
Determine the limiting errors in percentage when resistances are connected in series.

OR

- Q-3** A) What is an AC bridge? Describe the Maxwell Bridge with necessary equations. 7
- B) Discuss the advantages and disadvantages of Maxwell Bridge. 7

Q. 4 Write short note on. (Any TWO)

- A) Selection of transducer 7
- B) Shearing Bridge 7
- C) LVDT
- D) Electromagnetic flow meter. 7
- E) Gaussian Error Distribution 7