



**UNIVERSITY OF NORTH BENGAL**  
B.Sc. Honours 4th Semester Examination, 2021

**CC10-PHYSICS**

**ANALOG SYSTEMS AND APPLICATIONS**

Full Marks: 40

**ASSIGNMENT**

*The figures in the margin indicate full marks.  
All symbols are of usual significance.*

**For each question, the candidates will be graded according to the quality of the presentation of the topic (8 marks) and originality of language (2 marks).  
Maximum word limit of each topic is 400**

**Write short notes on any *four* of the following topics**

10×4 = 40

1. Zener diode as voltage regulator
2. Half-wave rectifier with calculation of ripple factor and rectification efficiency
3. Barkhausen's stability criterion and RC phase shift oscillation
4. Negative feedback in amplifiers
5. Analysis of single stage CE amplifier using hybrid model
6. Linear Applications of operational amplifiers

—x—