

INDIAN MARITIME UNIVERSITY
(A Central University, Government of India)
End Semester Examination Dec 2019/Jan 2020
B.Sc. (Nautical Science)
Semester -I
UG21T2206 - Nautical Physics– IV

Date: 11.12.2019
Time: 3 Hours

Max Marks: 70
Pass Marks: 35

NOTE: Attempt any SEVEN questions.
All questions carry equal marks.
All Drawings to be neatly labelled

7x10 = 70

1. Explain PN junction diode in details and draw the characteristics curve. (10 Marks)
2. What is Zener Diode? Explain its operation & the characteristics of a Zener diode with a neat diagram (10 Marks)
3. Show the detail circuit of transistor CE amplifier. Explain the function of each component used in the circuit. (10 Marks)
4. Draw the circuit diagram of a RC Phase shift oscillator and Derive the expression for its frequency of oscillation. (10 Marks)
5. With neat sketch, Explain the working of Bridge wave Rectifier and why filters is required in rectifier. (10 Marks)
6. What are the three modes in which a transistor can operate? Draw diagram for each mode of operations and label it. (10 Marks)
7. Write short note on following:
 - i) LED (5 Marks)
 - ii) 7 Segment Display. (5 Marks)
8. Write short notes on calibration, Accuracy, Precision. (10 Marks)
9. How does the Venturitube work? (10 Marks)
