

INDIAN MARITIME UNIVERSITY
(A Central University, Government of India)
May-June 2018 End Semester Examinations
Diploma in Nautical Science (DNS)
Semester : I
Applied Electricity & Electronics (UD11T1103)

Date: 06-06-2018
Time: 2 Hrs

Max.Marks: 70
Pass Marks: 25

Answer any SEVEN questions. Each carry 10 marks

Section A: Electricity

1. (a) State and explain OHMs law. Also explain how resistance changes with temperature. (5)
(b) Explain generation of static electricity and its hazards. (5)
(c) What do you meant by heating effect of electric current. Give any two example of this effect . (5)
2. (a) When a current passes through a coil what effect do you observed? Explain with reference to straight conductor. (5)
(b) Show the circuit of three capacitors C1,C2,C3 connected in series and parallel. State the formula for equivalent capacitance in both the cases.(5)
3. What principle is used in AC generator? Show its construction and explain its working in detail with necessary diagrams. (10)
4. How will you convert galvanometer into ammeter and voltmeter? Describe with necessary circuit connections. (10)

Section B: Electronics

5. (a) What are the types of transistor? Show the symbols for each. Also draw the circuits of different modes of connections of transistor. (5)
(b) What are the input characteristics of a transistor? Describe the circuit with necessary waveforms. (5)
(c) Show the complete circuit of transistor CE amplifier. (5)
6. (a) What are the oscillator circuits? Where they are primarily used? Show the basic LC tank circuit. (5)

(b) Explain why piezo crystals are used for frequency stability? (5)

7. Explain in detail the process of Amplitude modulation with necessary waveforms. State the formula for modulation index and AM wave expression. (10)

8. (a) With the help of block diagram explain the circuit of radio receiver. (5)

(b) Show the diagrams only for RADAR transmitter, receiver and antenna. (5)
