



BT MRE - IV - 08 - 037

***B. Tech Degree IV Semester Examination in
Marine Engineering, November 2008***

MRE 404 MARINE ELECTRONICS

Time : 3 Hours

Maximum Marks : 100

- I. (a) Why is Class B amplifier more efficient than Class A? (8)
(b) Differentiate between voltage amplifiers and power amplifiers. (4)
(c) Draw and explain the working of a non-inverting amplifier using op-amp. (8)
- OR**
- II. Draw the circuit and explain the working of a push-pull amplifier. What is the advantage of using a phase-inverter circuit in it? (20)
- III. Draw and explain the working of a Digital to Analog (DAC) converter. (20)
- OR**
- IV. (a) Draw the circuit diagram of a 3 bit Up Counter and explain it. (8)
(b) What is a multiplexer? (4)
(c) Draw the circuit of a Master Slave JK flipflop using gates and explain it. (8)
- V. (a) Explain the working of SCR. Describe its Characteristic Curve. (10)
(b) Draw the circuit diagram and load waveforms of a Controlled rectifier. Explain its working. (10)
- OR**
- VI. (a) Write briefly on the working of a 1 bit read/ write memory. (15)
(b) Differentiate between RAM, ROM, EPROM. (5)
- VII. (a) Explain the need for modulation. (5)
(b) Differentiate between AM, FM and PM. (10)
(c) Draw the block diagram of an AM receiver. (5)
- OR**
- VIII. (a) Draw and explain the working of a RADAR, with the help of a neat block diagram. (15)
(b) Write a short note on pulse communication methods. (5)
- IX. With a neat schematic, explain the working of a Cathode Ray Oscilloscope. (20)
- OR**
- X. Draw and explain the block schematic of Any Two among the following : (2 x 10 = 20)
(i) Frequency meter
(ii) Multimeter
(iii) Signal Generator.
