

GANPAT UNIVERSITY
B. TECH. SEM- V (MARINE ENGINEERING)
REGULAR EXAMINATION NOV-DEC 2016
2MR506: ELECTRONICS

TIME: 3 HRS

TOTAL MARKS: 60

Instructions: (1) This Question paper has two sections. Attempt each section in separate answer book.
 (2) Figures on right indicate marks.
 (3) Be precise and to the point in answering the descriptive questions.

SECTION: I

- Q.1 (A) What is use of clipper circuit? Explain positive and negative clipper circuit with waveform. (5)
 (B) Explain half wave rectifier circuit with wave form. (3)
 (C) Define: Modulation and Demodulation. (2)
- OR**
- Q.1 (A) Draw and explain the architecture microcontroller. (5)
 (B) Simplify the following Boolean Function. (3)
 $A(\bar{A} + C)(\bar{A}B + \bar{C})$
 (C) Design Half Adder. (2)
- Q.2 (A) What is Flip-Flop? Draw and explain RS Flip-Flop using NAND gates only. (5)
 (B) Explain the working principle RADAR system using block diagram. (5)
- OR**
- Q.2 (A) draw and explain: Microprocessor-Based System with Buses (5)
 (B) What is the use of MUX and DEMUX? Explain 4*1 multiplexer in detail (5)
- Q.3 (A) What is need of Modulation? Explain in detail. (5)
 (B) Write a short note on superheterodyne receiver. (5)

SECTION: II

- Q.4 (A) Explain the Inverting and Noninverting configuration of Op-amp. (5)
 (B) Explain Cathode Ray Oscilloscope using block diagram. (5)
- OR**
- Q.4 (A) What is use of function generator? Explain function generator working using block diagram. (5)
 (B) How OP-AMP can act as a comparator? (5)
- Q.5 (A) List out the characteristics of an ideal Op-amp. (5)
 (B) Draw the block diagram of 555 timer ICs. Explain the function of each part. (5)
- OR**
- Q.5 (A) What is use of voltage regulators? Explain shunt Voltage Regulator. (5)
 (B) What is IC? List out its merits and demerits. List out types of it. (5)
- Q.6 (A) Explain the detailed construction of a bipolar junction transistor (5)
 (B) Write a short note on RC oscillator. (5)

END OF PAPER