IV sem (COE/IT/SE)
Class Test-3 (Jan-May 2021)
Digital Electronics(EC-262)

Time: 1 Hr **marks:15**

Note: All questions are compulsory.

1.(a)Explain the following characteristics of digital integrated circuit

I. Figure of merit
II. Noise Margin
III. Fan-out **3**

(b) Compare the performance of TTL and CMOS in terms of speed, power , noise margin and packing density. **2**

2. Draw the circuit for CMOS NAND gate and explain its working. **2**

3. Differentiate between Static and Dynamic RAM and draw the circuit for each type of basic RAM cell. **3**

4. Compare the conversion time of Successive approximation type, dual slope type and flash ADC. **2**

5. An 8 bit successive approximation ADC is to be used in an application that requires a resolution of 10 mV.

(a) What analog input range can this circuit digitize?

(b) What is the nominal full-scale input voltage?

(c) What is the binary output for an analog input of 2.00 V?

(d) What will be the conversion time for the clock signal of 1 MHz

3