# Bapatla Engineering College :: Bapatla
(Autonomous)

Department of Information Technology

**II -Mid Term Examination**

Date: 5-02-2021 Sub. Code: **18IT204** (**Semester-II)** Max.: 25 Marks

Class: **I/IV B.Tech, SEC: IT-A&B** Sub: **DLD** Time: 90 Min

*Answer Question No.**1** compulsorily.* (5*1=5 marks)

*Answer **ONE** question from each unit.* (2*10=20 marks)

1. **Answer all questions.**
   - **a)** how does ripple counter differ from synchronous counter
   - **b)** compare combinational and sequential circuits
   - **c)** how many flip flops are require to build MOD-12 counter
   - **d)** Difference between flip flop and register .
   - e) What is PLA?
   - f) What are different types of RAM?

**UNIT-III**

**2 a)** Derive D flip flop and JK flip flop from T flip flop . Give the procedure for flip flop conversion 5M

**b** Explain about JK Flip flop with neat diagram and characteristic table and Excitation table 5M

**(or)**

3 Explain about SR flip flop with its truth table.Write its characteristic table, excitation table and characteristic equation .Draw its logic diagram 10M

**(Or)**

**4 a)** Explain about 3-bit binary down ripple counter 5M

b)Explain the working of bi-directional shift register with a neat diagram 5M

(or)

5 a) Explain about RAM and ROM ,PROM,EEROM 5M

b)implement the following Boolean function using PAL

F(A,B,C,D)=m(4,5,6,10,11,12,14) 5M