

Code No: RT22023

R13**SET - 1****II B. Tech II Semester Supplementary Examinations, November - 2018****PULSE AND DIGITAL CIRCUITS**

(Com. to EEE, ECE, ECC, BME, EIE)

Time: 3 hours

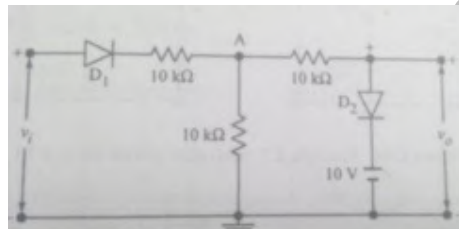
Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)2. Answer **ALL** the question in **Part-A**3. Answer any **THREE** Questions from **Part-B****PART -A**

1. a) Explain why initial voltage distribution is determined by capacitors in attenuators. (4M)
- b) How to choose the value of resistance of resistor in clipping circuits. (4M)
- c) Define the terms UTP and LTP with reference to a Schmitt trigger and write the expressions for them. (4M)
- d) What are the merits and demerits of TTL. (4M)
- e) Define the terms sweep time and restoration time. (4M)
- f) Mention few applications of sampling gates. (2M)

PART -B

2. a) Using relevant diagrams and wave forms explain the response of a highpass RC circuit to step input. Obtain the expression for its output voltage. (10M)
- b) Explain how transistor can operate as a switch using relevant diagram. Also explain the terms turn-on and turn-off time. (6M)
3. a) Obtain the transfer characteristic for the clipper circuit shown in figure below. (10M)



- b) State and prove clamping circuit theorem. (6M)
4. a) Design an astable multivibrator to generate a square wave of frequency 2kHz. (8M)
- b) Explain the operation of a fixed- bias transistor binary using relevant diagrams. (8M)
5. a) Explain the operation of a 2 input ECL OR/NOR gate. (10M)
- b) Compare and contrast different logic families. (6M)
6. a) Explain the operation of a transistor current sweep. (10M)
- b) Write in about various methods of generating time base waveforms and explain any one of the method? (6M)
7. a) Explain frequency division in the sweep circuit. (8M)
- b) Explain frequency division? What is the effect of pulse amplitude and width on frequency division? (8M)