ACE
Engineering College
(An Autonomous Institution)

Question Paper Code: EC404PC

ACE-R20

Semester End Examination
II B. Tech- II Semester- AUGUST/SEPTEMBER -2022
ANALOG AND PULSE CIRCUITS
ELECTRONICS AND COMMUNICATION ENGINEERING

Time: 3 Hours   Max. Marks: 70

H. T. No										

Answer any 5 Questions out of 8 Questions from the following

Q.No	Question	Marks
1. a)	With neat diagram explain the operation of cascode amplifier.	7
b)	Draw Hybrid - π model for a transistor in the CE configuration.	7
2. a)	With a neat sketch explain a negative feedback amplifier and obtain expression for its closed loop gain	7
b)	What are the different types of feedback amplifiers? Give their equivalent circuits.	7
3.	Draw the circuit diagram of RC-phase shift oscillator using BJT and derive the expression for frequency of oscillations.	14
4. a)	Draw the circuit diagram of crystal oscillator and derive the expression for its frequency of oscillations.	7
b)	What is coupling? Compare different methods of couplings used in amplifiers with applications.	7
5. a)	Draw the high frequency hybrid- π model of the transistor. Derive the expression for cutoff frequency and unity gain bandwidth product.	7
b)	With diagram, derive the expression for current gain of Darlington amplifier.	7
6. a)	Draw the circuit diagram of single tuned capacitive coupled amplifier and explain its operation in detail.	7
b)	With neat circuit and waveform explain the working principle of Miller Sweep circuit.	7
7.	Draw the push-pull class-B power amplifier and explain its operation. Show that the maximum conversion efficiency is 78.5%.	14
8.	With the help of a neat diagram and waveforms, explain the principle of operation of monostable multivibrator.	14