



Reg. No. :

Name :

**Third Semester B.Tech. Degree Examination, November 2013
(2008 Scheme)**

08.304 : ELECTRONIC CIRCUITS (R, F)

Time : 3 Hours

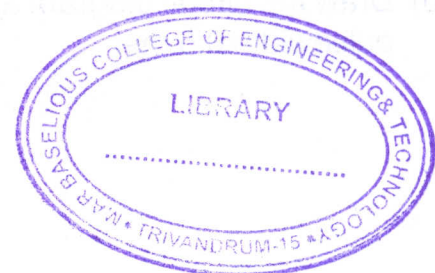
Max. Marks : 100

PART – A

Answer **all** questions.

1. What are the advantages of emitter follower configuration ?
2. A low pass filter with cut off frequency 2 KHz uses a capacitor of $0.01 \mu F$. Draw the circuit and find the resistance value.
3. Explain the importance of zener diode in voltage regulation.
4. Draw the block diagram of an Online UPS.
5. Why bistable multivibrator is called as a frequency divider ?
6. What is the significance of emitter bypass capacitor in RC coupled amplifier ?
7. What is a slicer ? Draw the circuit and waveforms.
8. Write down the characteristic features of OpAmps.
9. Compare Butterworth and Chebyshev filters.
10. What are the advantages of differential amplifiers ?

(10×4=40 Marks)



P.T.O.



PART – B

Answer **any one** question from **each** Module.

MODULE – I

11. A diode has internal resistance 28Ω and it has to supply power to a $1K\Omega$ load from 230 V, 50 Hz supply. Determine.
- a) Peak load current
 - b) DC load current
 - c) AC load current
 - d) Diode voltages
 - e) Percentage regulation. 20

OR

12. a) Explain the response of a RC high pass filter for an input of a) pulse b) sine c) square wave. Show the waveform. 16
- b) Define rectification efficiency. 4

MODULE – II

13. a) Draw the circuit of a Hartley oscillator and explain its working. 6
- b) Give the complete design procedure for RC coupled amplifier which has the following parameters :
- $V_i = 40 \text{ mV}$, $V_o = 6 \text{ V}$, transistor $\beta = 125$. 14

OR

14. a) Draw the internal diagram of 555 IC and explain its working. 8
- b) Draw the circuit diagram and output waveforms for obtaining a pulse of pulsewidth 0.5 ms. 12



MODULE – III

15. a) Draw the block diagram of an Op-Amp and specify the function of each block. **12**
- b) Define the following terms for an Op-Amp :
- i) Slew rate
 - ii) CMRR
 - iii) Input offset voltage
 - iv) Input bias current. **8**
- OR
16. a) Design a low pass Butterworth filter of cutoff frequency 2 KHz. **12**
- b) Draw the circuit diagram of RC phase shift oscillator using Op-Amp. **8**

