C 62636 (Pages : 2) Name.....

Reg. No.....

# SECOND SEMESTER (CUCBCSS—UG) DEGREE EXAMINATION MAY 2019

B.Sc. Electronics

ELE 2C 02—ELECTRONIC CIRCUITS

Time : Three Hours Maximum : 64 Marks

## Part A

*Answer* **all** *questions.*
*Each question carries* 1 *mark.*

1. The output voltage of 7915IC is ——— when a 20V input is given.
2. ——— filter cannot be used at the output of a half wave rectifier.
3. Ripple factor of a bridge rectifier is ———.
4. The transistor is in ——— region for working as an amplifier.
5. Cut-off frequencies of RC coupled amplifier are fixed at points when the gain decreases ——— dB.
6. For common collector amplifier the voltage gain is ———.
7. Theoretical efficiency of class-A amplifier is ———.
8. Cross over distortion occurs due to ———.
9. In RC phase shift oscillator $\beta$ = ———.
10. ——— feedback is used for oscillators.

(10 × 1 = 10 marks)

## Part B

*Answer* **all** *questions.*
*Each question carries* 2 *marks.*

11. Determine the PIV and DC voltage at the output of a bridge rectifier, if the transformer secondary Vm is 50 V.
12. Write short notes on inductor filters.
13. Define Q-point. What do you mean by the stability of Q-point ?
14. What will happen to the voltage gain of an amplifier, if bypass capacitor is open circuited.
15. How is power developed in power amplifier ?

**Turn over**

16. What is Barkhausan criteria ?
17. Draw the circuit of monostable multivibrator using 555 IC.

(7 × 2 = 14 marks)

## Part C

*Answer any* **five** *questions.*
*Each question carries* 4 *marks.*

18. Draw the circuit of a half wave rectifier and explain the working.
19. Draw the block diagram of SMPS and explain each block.
20. How does the gain of RC coupled amplifier decrease at low and high frequencies. Explain in detail with necessary circuit diagram and frequency response.
21. Compare CE, CB and CC BJT amplifiers.
22. Derive the gain of positive and negative feedback amplifiers.
23. What are the different types of feedbacks? Explain.
24. Draw the circuit of crystal oscillator and explain its working.
25. Explain the working principle of LC oscillators. Draw the circuit of any one of the LC oscillators.

(5 × 4 = 20 marks)

## Part D

*Answer any* **two** *questions.*
*Each question carries* 10 *marks.*

26. Explain the working of zener diode voltage regulator in detail with circuit diagram. What are load regulation and line regulation?
27. What is the need of biasing BJT ? Explain the voltage divider biasing circuit with circuit diagram.
28. Draw the circuit of push-pull class-B amplifier and explain its working.
29. Explain the working of astable multivibrator using BJT with circuit diagram and waveforms.

(2 × 10 = 20 marks)