C 81775 (Pages : 2) Name.....

Reg. No.....

# SECOND SEMESTER (CUCBCSS—UG) DEGREE EXAMINATION, APRIL 2020

Electronics

ELE 2C 02—ELECTRONIC CIRCUITS

Time : Three Hours Maximum : 64 Marks

## Part A

*Answer* **all** *questions.*

*Each question carries* 1 *mark.*

1. PIV of a Full-wave rectifier is ————.
2. In a half-wave rectifier, the average voltage across the load is ————.
3. The input frequency of a full-wave rectifier is 50 Hz. Then the ripple frequency will be ————.
4. ———— breakdown is a low voltage process.
5. ———— is the most common biasing used in voltage amplifier.
6. By negative feedback, input impedance ————.
7. An RC coupled amplifier with $C_E$ capacitor disconnected acts as ———— feedback amplifier.
8. For sustained oscillations, the product $A\beta$ = ————.
9. SMPS is used to ———— the efficiency of a regulated power supply.
10. ———— multivibrator is also called as free-running oscillator.

(10 × 1 = 10 marks)

## Part B

*Answer* **all** *questions.*

*Each question carries* 2 *marks.*

11. What is ripple factor ?
12. What is the need for rectification ?
13. Define stability factor.
14. What do you mean by frequency response ?
15. What are the various types of negative feedback amplifiers ?

16. Why heat sinks are needed in power amplifiers ?

17. What is Peizo-electric effect ?

(7 × 2 = 14 marks)

## Part C

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

18. Draw the circuit of an RC filter and explain the output waveform.

19. Explain the characteristics of 78XX regulator.

20. What is Q-point and how it can be stabilized.

21. Explain the concept of gain-bandwidth product.

22. Discuss the advantages and applications of negative feedback amplifier.

23. Draw the circuit of a class B push-pull amplifier and draw the input and output waveform.

24. Explain how oscillations can built in an LC oscillator.

25. Draw the internal block diagram of 555 1C and explain.

(5 × 4 = 20 marks)

## Part D

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

26. Draw the circuit of a bridge rectifier and explain the working. Derive the expression for ripple factor.

27. Explain the circuit and operation of RC coupled amplifier with design guidelines.

28. Derive the voltage gain, input and output impedance of a voltage series feedback amplifier.

29. With a neat circuit, explain the working of an RC oscillator. Give the condition for oscillation and expression for frequency of oscillations.

(2 × 10 = 20 marks)