C 82424 (Pages : 2) Name.....

Reg. No.....

SECOND SEMESTER B.A./B.Sc. DEGREE EXAMINATION, APRIL 2020

(CBCSS—UG)

Electronics

ELE 2C 02—ELECTRONIC CIRCUITS

(2019 Admissions)

Time : Two Hours Maximum : 60 Marks

Section A

Answer **all** *questions.*

2 *marks for each question.*

1. What is Q-point ?
2. What is the purpose of biasing a transistor ?
3. What is Zener breakdown ?
4. Define negative feedback.
5. Define sensitivity.
6. What are barkhausen conditions for oscillation ?
7. What is ripple factor of a rectifier ?
8. Differentiate between astable and monostable multivibrator.
9. What are the applications of rectifier ?
10. What is class A power amplifier ?
11. When the regulation by a Zener diode is with a varying input voltage, what happens to the voltage drop across the resistance ? Justify.
12. A transistor has an I_C of 100mA and I_B of 0.5mA. What is the value of α_{dc} ?

Section B

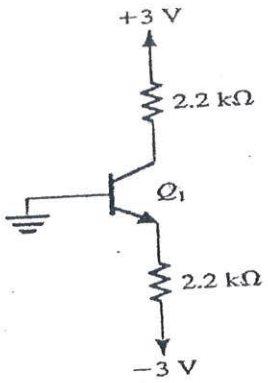
Answer **all** *questions.*

5 *marks for each question.*

13. Draw the block diagram and explain the principle and working of SMPS.
14. Explain the working of bridge rectifier with necessary diagrams.

Turn over

15. Find the emitter, base and collector voltages and currents for the given circuit. Use $\beta = 50$ and $V_{BE} = 0.8V$, independent of current.



16. What is a feedback amplifier ? What are the two types of feedbacks to an amplifier ? Explain with suitable diagrams.

17. With suitable diagram explain the working of a crystal oscillator.

18. Write a short note on RC Phase shift Oscillator.

19. What is the use of filter circuits ? Give a brief description on the basic types of RC filters.

Section C

Answer any **one** *question.*
10 *marks for each question.*

20. Explain in brief different biasing circuits of BJT with necessary diagrams and equations.

21. List out some important features of 555 Timer. Briefly explain the operation of 555 timer as Astabl and Monostable multivibrator with relevant diagrams.