Reg. No. :

Question Paper Code: 42507

B.E. / B.Tech. DEGREE EXAMINATION, AUGUST 2021

Second Semester

Electronics and Instrumentation Engineering

14UEI207 - ELECTRONIC DEVICES AND CIRCUITS

(Common to Instrumentation and Control Engineering)

(Regulation 2014)

Duration: 1:45 hour   Maximum: 50 Marks

PART A - (10 x 2 = 20 Marks)

(Answer any ten of the following questions)

1. Define Doping.

2. Define cutoff and active region of a transistor.

3. Write Shockley's equation.

4. What is the major difference in construction of the D-MOSFET and the E-MOSFET?

5. Why do we choose q point at the center of the load line?

6. What is biasing?

7. What is sustained oscillation?

8. What is feedback amplifier?

9. Draw a practical Clamper circuit.

10. What is UJT?

11. What is thermal runaway? How can it be avoided?

12. Compare JFET with BJT.

13. Distinguish between CE and CC amplifier.

14. State Barkhausen criterion for oscillation.

15. Mention the applications of clampers.

PART – B (3 x 10= 30 Marks)

(Answer any three of the following questions)

16.   Explain the construction and working characteristics of PN diode with a neat sketch.
                                                                                                    10)

17.   Explain the working of D-MOSFET, With the help of suitable diagrams,   (10)

18.   Draw the h-parameter equivalent circuit for a typical common emitter amplifier (10)

19.   Discuss with circuit diagram and explain the working of Wein bridge oscillators (10)

20.   Explain the working of single phase centre tapped full wave rectifier (with and
        With   out filter) with neat diagrams and derive the necessary equations.   (10)

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