QP CODE: 24020505

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Reg No : .....

Name : .....

B.Sc DEGREE (CBCS) REGULAR / IMPROVEMENT / REAPPEARANCE EXAMINATIONS, MAY 2024

Second Semester

B.Sc Physics Model I

Complementary Course - EL2CMT02 - ELECTRONICS - AMPLIFIERS, OSCILLATORS AND POWER ELECTRONICS

2017 ADMISSION ONWARDS

84B24537

Time: 3 Hours Max. Marks : 60

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Part A

*Answer any **ten** questions.*

*Each question carries **1** mark.*

1. Draw the circuit of Transistor as an amplifier.
2. Draw the circuit of a single stage common emitter amplifier .
3. How much is the voltage gain of single stage common emitter ampliifer?
4. What is the diasdvantage of negative feedback?
5. What is the effect of negative voltage feedback in input impedance?
6. Write the expression for ouput impedance of emitter follower circuit.
7. What is an oscillatory circuit?
8. Mention the factors determining frequency stability of an oscillatory circuit.
9. Draw the circuit of Colpitts oscillator.
10. What is drain characteristics of JFET?
11. Draw the symbol of SCR.
12. What are the advantages of UJT?

(10×1=10)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. Explain the Phase reversal in common emitter amplifier by circuit diagram explanation and by graphical demonstration.

14. Draw and explain the Dc equivalent circuit and also DC load line of single stage common emitter ampliifer.

15. Draw and explain the AC equivalent circuit and also the AC load line of single stage common emitter ampliifer.

16. Draw and explain the working of Phase shift oscillator? Mention its advantages.

17. Explain the piezo electric effect and also draw the electrical equivalent circuit of crystal.

18. Describe the principle of operation of N channel JFET and P channel JFET.

19. Explain the different JFET Parameters.

20. Explain the working of voltage divider biased circuit.

21. Describe the working of DIAC.

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **10** marks.*

22. Derive the expression of Input Impedance of CE Amplifier, Also describe the Voltage Gain Stability.

23. Derive the expression for the gain of Negative Voltage Feedback Amplifiers and also mention the Advantages of Negative Voltage Feedback Amplifiers.

24. Compare Oscillators And Amplifiers?Also classifiy Oscillator and mention applications of Sinusoidal Oscillators.

25. Explain the working of Triac.

(2×10=20)