Government Polytechnic College, Chapra,

**Assignment questions**

Branch-El Sem-4th Sub-AE

1. **Explain power amplifiers in details.**
2. **Explain class AB push pull amplifier in details.**
3. **What are different types of power amplifiers?**
4. **Explain the concept of cross over distortion.**
5. **Derive the efficiency and FOM of various power amplifiers.**
6. **Explain Silicon vs. Germanium for mobility and conductivity.**
7. **Explain class-A transformer couple amplifier and also derive the conversion frequency.**
8. **Explain the transformer less class-AB push pull amplifier.**
9. **The class-B push pull amplifier has peak output voltage of 20v, Vcc=25v and load resistance= 8 ohm. Calculate the input power, output power and Conversion efficiency.**
10. **What is need of heat sink in power transistor?**
11. **What is the concept of Tuned amplifiers and its types?**
12. **Comparison between BJT and FET.**
13. **Comparison between basic amplifiers and feedback amplifiers.**
14. **Describe in details types of negative feedback amplifiers.**
15. **Draw input/output characteristics of common emitter (CE) transistor configuration.**
16. **Explain the advantages of negative feedback in details.**
17. **What is the effect of temperature on the operating point of a transistor?**
18. **What is need of transistor biasing?**
19. **Explain the phase reversal in single stage transistor amplifier.**
20. **Explain various types of RC oscillators in details.**
21. **What are criteria of oscillator?**
22. **Explain in details of various types of LC oscillators.**
23. **Write calculation of voltage gain using AC equivalent circuit of single stage transistor amplifier.**
24. **What are applications of multi stage amplifier?**
25. **What are applications of transformer coupled amplifier?**
26. **Comparison between JFET and MOSFET.**
27. **Draw and explains input and output characteristics of common base (CB) transistor configurations.**
28. **What are different types of transistor biasing circuit? Explain them.**
29. **Draw and explain working of direct coupled amplifier.**
30. **Explain construction and operation of a p- channel JFET.**
31. **What is the necessity of wave shaping circuits?**
32. **Explain RC integrator and differentiator.**
33. **Describe Clamper and its types.**
34. **Explain Clipper and its various types.**
35. **Explain Schmitt’s trigger with suitable diagram.**
36. **Define multivibrators and its types.**
37. **Describe in details of bistable multivibrators.**
38. **Draw the pin diagram of IC555 timer.**
39. **Explains time base generator in details.**
40. **What is need for trouble shooting of various electronics circuits?**
41. **What are important steps for testing of various electronics circuits?**