KINGS
COLLEGE OF ENGINEERING

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

B.E. ECE

SUB.CODE : EC 2251 **YEAR/ SEMESTER: II / IV**

SUB.NAME : ELECTRONIC CIRCUITS-II

UNIT I
FEEDBACK AMPLIFIERS
Part A (2Marks)

1. Define positive feedback?
2. Define negative feedback?
3. Define sensitivity?
4. What are the types of feedback?
5. Define feedback?
6. Write the expression for input and output resistance of voltage series feedback amplifier.
7. Give an example for voltage-series feedback.
8. Write the expression for input and output resistance of current shunt feedback amplifier.
9. Give the properties of negative feedback.
10. Give the effect of negative feedback on amplifier characteristics.

Part-B (16 Marks)

1. What will happen when a step input voltage is applied to the high pass RC Circuit? (16)
2. Explain the relevant information, how the negative feedback improves stability (16)
   reduce noise and increase input impedance? (16)
3. Explain voltage shunt feedback amplifiers? (16)
4. Explain current series feedback amplifiers? (16)
5. Explain the classification of amplifiers? (16)
6. Explain current shunt and voltage shunt feedback amplifiers? (16)

UNIT II
OSCILLATORS
Part A (2Marks)

1. What is Oscillator circuit?
2. What are the classifications of Oscillators?
3. Define Barhausen Criterion.
4. What are the types of feedback oscillators?
5. What are the conditions for oscillation?
6. Define Piezoelectric effect.

7. Draw the equivalent circuit of crystal oscillator.
8. What is Miller crystal oscillator? Explain its operation.
9. State the frequency for RC phase shift oscillator.
10. Define Oscillator
11.Define Blocking Oscillator?
12. What are the two important elements of Blocking Oscillator?
13. What are the applications of blocking Oscillator?
14. Give the expression for co-efficient of coupling
15. Give the formula for transformation ratio
16. Define rise time
17. Define overshoot.
18. Define flat top response.
19. Define droop or a tilt
20. What are the applications of pulse transformer.
21. When do the core saturates?
22. What is the other name of astable Blocking Oscillator
23. What are the two types of astable Blocking Oscillator?
24. Define Sweeptime in sawtooth generator
25. What is the other name of sawtooth generator?
26. Define Displacement error in the sawtooth generator?
27.What is constant current charging?
28. What is the miller circuit

Part-B (16 Marks)

1. With simple diagrams explain the operation of negative resistance oscillator using tunnel diode? (16)
2. Explain RC phase shift oscillator? (16)
3. Explain Clapp's oscillator and derive the expression for frequency of oscillation. (16)
Also explain how frequency stability can be improved Clapp's oscillator. (16)
4. Explain Hartly oscillator and derive the equation for oscillation? (16)
5. Explain pierce crystal oscillator and derive the equation for oscillation? (16)

UNIT III
TUNED AMPLIFIERS
Part A (2Marks)

1. What is a tuned amplifier?
2. What is the expression for resonant frequency?
3. What happens to the circuit above and below resonance?
4. What are the different coil losses?
5. What is Q factor?
6. What is dissipation factor?
7. What is the classification of tuned amplifiers?
8. What is a single tuned amplifier?

9. What are the advantages of tuned amplifiers?
10. What are the disadvantages of tuned amplifiers?
11. What is neutralization?
12. What are double tuned amplifiers?
13. What is a stagger tuned amplifier?
14. What are the advantages of stagger tuned amplifier?
15. What are the different types of neutralization?
16. What is rice neutralization?
17. What is unloaded Q?
18. What are the applications of mixer circuits?
19. What is up converter?

Part-B (16 Marks)

1. Explain in detail about single tuned amplifier (16)
2. Explain in detail about double tuned amplifier. (16)
3. Explain in detail about stagger-tuned amplifier (16)
4. Compare single tuned and double tuned amplifier (16)
5. Explain the different types of neutralization? (16)

UNIT IV
WAVE SHAPING AND MULTIVIBRATOR CIRCUITS

Part A (2Marks)

1 What is an amplifier?
2. How are amplifiers classified according to the input?
3. How are amplifiers classified according to the transistor configuration?
4. What is the different analysis available to analyze a transistor?
5. How can a DC equivalent circuit of an amplifier be obtained?
6. How can a AC equivalent circuit of a amplifier be obtained?
7. What is feed back?
8. What is the disadvantage of negative feed back?
9. Define sensitivity.
10. Define Desensitivity.

Part-B (16 Marks)

1. Explain bistableMultivibrator and its types? (16)
2. Explain about speedup capacitors or commutating capacitors. (16)
3. Explain about Monostable Multivibrator. (16)
4. Explain about collector coupled astableMultivibrator. (16)
5. Explain emitter coupled astableMultivibrator. (16)
6. Write in detail about Schmitt Trigger circuit? (16)

UNIT V
BLOCKING OSCILLATORS AND TIMEBASE GENERATORS

Part A (2Marks)

1. What is a Multivibrator?
2. Name the types of Multivibrators?
3. How many stable states do bistable Multivibrator have?
4. When will the circuit change from stable state in bistable Multivibrator ?
5. What are the different names of bistable Multivibrator?
6. What are the applications of bistable Multivibrator?
7. What are the other names of monostable Multivibrator?
8. Why is monostable Multivibrator called gatting circuit?
9. Why is monostable Multivibrator called delay circuit?
10. What is the main characteristics of Astable Multivibrator
11. What is the other name of Astable Multivibrator- why is it called so?
12. What are the two types of transistor bistable Multivibrator?
13. Why does one of the transistors start conducting ahead of other?
14. What are the two stable states of bistable Multivibrator?
15. What finally decides the shape of the waveform for bistable multivibrator?
16. How are the values R1, R2 and VBB chosen in bistable Multivibrator?
17. What is the self biased Multivibrator?
18. What are the other names of speed up capacitors?
19. Define transition time?
20. What is the value of commutating capacitor?
21. Define resolving time.
22. Give the expression of fmax with respect to resolving time
23. Define gate width
24. What are the advantages of monostable Multivibrator.
25. What are the applications of astable Multivibtrator.
26.What is a complementary Multivibrator

Part-B (16 Marks)

1. Explain about pulse transformer? (16)
2. Explain Monostable blocking oscillator using emitter timing? (16)
3. Write about the core saturation method. (16)
4. Write about astable blocking oscillator. (16)
5. Write about UJT saw tooth generator. (16)