Reg. No. :

# Question Paper Code : X 10362

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2020 AND APRIL/MAY 2021
Fourth Semester
Electronics and Communication Engineering
EC 8452 – ELECTRONIC CIRCUITS – II
(Common to Electronics and Telecommunication Engineering)
(Regulations 2017)

Time : Three Hours | Maximum : 100 Marks

Answer ALL questions

PART – A **(10×2=20 Marks)**

1. What is the need for negative feedback in amplifiers ?
2. What is meant by frequency compensation ?
3. State the criterion for oscillation.
4. What is meant by amplitude stabilization in oscillators ?
5. What are coil losses ?
6. What is meant by neutralization ?
7. State the condition under which the RC low pass filter can act as an integrator.
8. What is the principle behind UJT oscillator ?
9. What is meant by cross-over distortion ?
10. What is the need for DC/DC converter ?

PART – B **(5×13=65 Marks)**

11. a) With relevant expressions, analyze the shunt – shunt and shunt – series feedback amplifiers.

(OR)

b) Discuss in detail about the impact of feedback on the amplifier with single and two poles.

12. a) With relevant diagrams, explain the operation of Colpitts oscillator and derive the expression for its frequency of oscillation.

(OR)

b) With a neat diagram, explain the operation of the RC-phase shift oscillator. Also derive the expression for the frequency of oscillation.

13. a) Illustrate using simple circuit, the basic principle behind tuned amplifiers.

(OR)

b) Discuss on the impact of cascading n-stages of single tuned amplifier circuits on the overall bandwidth.

14. a) With circuit diagram, waveforms and relevant expressions, explain the operation of transistor based bistable multivibrator.

(OR)

b) Explain with circuit diagram, waveforms and relevant expressions the operation of monostable multivibrator.

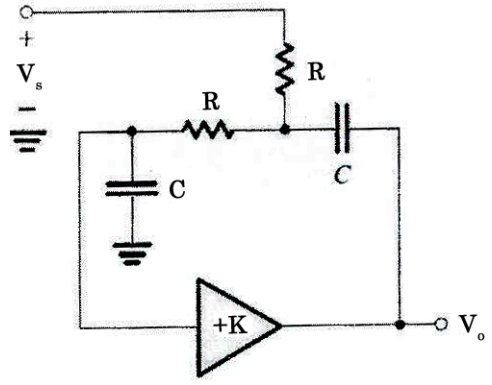
15. a) Explain with relevant diagrams, the operation of Class AB power amplifier.

(OR)

b) Explain the working of the three commonly used DC/DC converters with circuit and response diagrams.

PART – C **(1×15=15 Marks)**

16. a) For the amplifier in the figure given below, find the loop transmission L(s) and the characteristic equation. Sketch a root-locus diagram for varying K, and find the value of K that result in a maximally flat response and the value of K that makes the circuit oscillate. Assume that the amplifier has frequency – independent gain, infinite input impedance and zero output impedance.




(OR)

b) Using AC equivalent circuit analysis, derive the expression for the gain of a double tuned amplifier.