Seat No.

Total No. of Pages : 3

OCT-NOV 2025 WINTER EXAMINATION

1154 B.Tech. CBCS

Sub. Name: Electronics Circuit Design-II

Sub. Code: 79181/79469

Day and Date: Saturday ,06-12-2025 **Total Marks: 70**

Time: 10:30 AM To 01:00 PM

Instructions: **1. All questions are compulsory**
2. Assume suitable data wherever necessary and mention it boldly
3. Figures to the right indicate full marks

21643

Q1) Attempt following MCQ's (07*02=14) **[14]**

1. Gain of an amplifier usually expressed in db because _____ **[2]**
a) It is a small unit
b) Calculations become easy
c) Human ear response is logarithmic
d) Gain is reduced

2. The lower and upper cut off frequencies are also called _____ frequencies **[2]**
a) Sideband
b) Half-power
c) Half-resonant
d) Resonant

3. An LC oscillator designed to operates on _____frequency and RC oscillators designed to operate on _____ frequency. **[2]**
a) High, High
b) High, Low
c) Low, High
d) Low, Low

4. The 7812 regulator IC provides _____ output. **[2]**
a) 5
b) -5
c) 12
d) -12

5. Oscillators must use_____feedback. **[2]**
(a) Positive
b) Negative
(c) Both a & b
d) none of the above

6. Find the output frequency for Astable multivibrator when R1 = R2=2KΩ and C1 = C2=0.1μF and RC=5KΩ connected **[2]**
a) 3.6kHz
b) 1.4 kHz
c) 7.5 kHz
d) 2.4 kHz

7. State the reason for thermal shutdown of IC regulator? **[2]**
a) Spikes in temperature
b) Decrease in temperature
c) Fluctuation in input
d) Increase in temperature

Q2) Attempt any TWO of the following. (02*07=14) **[14]**

a. Explain RC coupled Amplifier with its frequency response **[7]**

b. Design a two stage RC coupled amplifier to meet the following specifications Rs = 600Ω,RL = 2KΩ, frequency range is 1KHz to 100KHz, Voltage Gain per stage > 60 and supply voltage = 15V.Also calculate the overall voltage gain of the RC coupled amplifier **[7]**

c. What is the need of cascading? Explain different types of coupling **[7]**

Q3) Attempt any TWO of the following. (02*07=14) **[14]**

a. What is harmonic distortion? Explain 3 point method of calculating harmonic distortion of power amplifier. **[7]**

b. Design class A Push –Pull Amplifier for following specifications:Po= 500mW, loud speaker impedance = 8Ω, Vcc = 12V **[7]**

c. Design two stage voltage series feedback amplifier with overall gain at 150 and cover 3db frequency not more than 20Hz the output should be of 15Vp-p **[7]**

Q4) Attempt any TWO of the following. (02*07=14) **[14]**

a. Draw a neat circuit diagram of astable multivibrator. Explain its operation by suitable waveforms at Base and collector **[7]**

b. State and explain Barkhausen's criteria for oscillator. Also explain amplitude stability and frequency stability **[7]**

c. Design power supply using LM723 for low voltage 5V **[7]**

Q5) Attempt any TWO of the following. (02*07=14) **[14]**

21643

a. Design Hartley Oscillator for frequency of oscillation 10MHz.Use transistor BC147. Vo (rms) =7.5V. Assume suitable data **[7]**

b. Design Schmitt Trigger for the following specifications:UTP = 3V, LTP = 1.5V, Vcc=15V, Ic(sat) = 5mA, hfe(min) = 40. **[7]**

c. Write short note on Three terminal Adjustable Positive voltage regulator (LM 317) **[7]**

End Of Question Paper

Important Note for Chief Exam Officer / SRPD Coordinator / Sr Supervisor/ Student -
This Question Paper may be distributed for following Subjects as common code.
सदरची प्रश्नपत्रिका खालील विषयांकरिता वितरित करता येईल.

1] (101) Bachelor of Engineering (79469) Electronics Circuit Design-II Part 2 SEM 4
2] (1154) B.Tech. CBCS (79181) Electronics Circuit Design-II Part 2 SEM 4

21643