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**BIEL-027**

# DECVI / DELVI / DCSVI / ACECVI / ACELVI / ACSVI

## Term-End Examination

00136

**June, 2015**

## BIEL-027 : APPLIED ELECTRONICS

*Time : 2 hours* *Maximum Marks : 70*

***Note :*** *Answer **five** questions in all. All questions carry equal marks. Question number 1 is **compulsory**.*

**1.** (a) In Class A operation Q point will be in the mid of _____ .

(b) FET is _____ devise.

(i) current controlled

(ii) voltage controlled

(iii) both current and voltage controlled

(iv) None of these

(c) In a parallel tuned amplifier circuit having R = 10 Ω, L = 20 mH and C = 0·05 μF, the resonance frequency will be

(i) 10 kHz

(ii) 5 kHz

(iii) 17 kHz

(iv) 2 kHz

(d) _____ oscillator has highest frequency stability.

(e) Transistor operates as an 'ON' switch in _____ region and as an 'OFF' switch in _____ region.

(f) The function of commutating capacitor is to improve the switching characteristics of the circuit. (True/False)

(g) Monostable multivibrators are also called monoshot multivibrators. (True/False) *7×2=14*

**2.** (a) Draw and explain the Class A transformer coupled resistive load amplifier. Also find out its efficiency.

(b) Draw and explain the double tuned amplifier. Also explain its frequency response curve. *2×7=14*

**3.** (a) Draw and explain the Wein bridge oscillator.

(b) An amplifier with voltage gain of 60 dB uses 1/20 of its output in negative feedback. Calculate the gain with feedback in dB.

*2×7=14*

4. Draw the output waveform for the following Clipper (Figure 1) and Clamper (Figure 2): 2×7=14

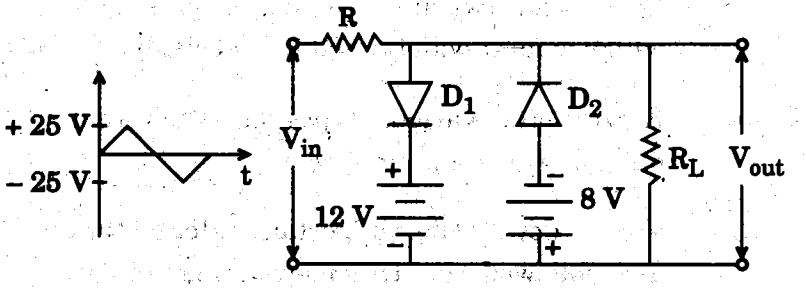


*Figure 1*

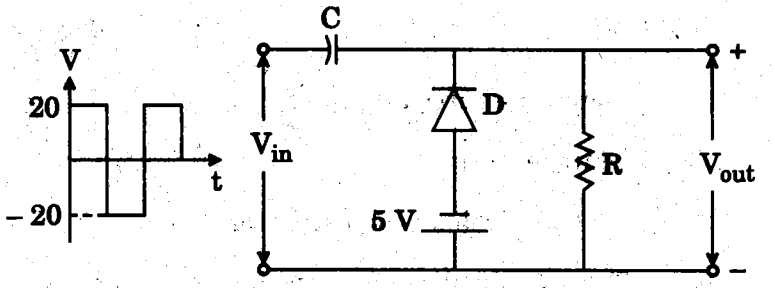


*Figure 2*

5. (a) Explain the operation of Schmitt trigger with the help of a neat diagram. Also draw the waveform.

(b) Explain the operation of Astable multivibrator with the help of suitable diagram. 2×7=14

6. (a) Draw and explain the operation of Miller sweep generator.

   (b) Draw and explain the sweep generator which is most widely used in Television. $2 \times 7 = 14$

7. (a) Explain the various types of faults that occur in electronic circuits.

   (b) Write down the important steps that are followed in trouble-shooting of an electronic circuit. $2 \times 7 = 14$

8. Write short notes on any ***four*** of the following : $4 \times 3\frac{1}{2} = 14$

   (a) Common source amplifier

   (b) Clamper circuits

   (c) UJT as a relaxation oscillator

   (d) Trouble-shooting of multivibrator

   (e) Classification of power amplifiers

   (f) RC Differentiator circuit