No. of Printed Pages : **4**

BIEL-027

DECVI/DELVI/DCSVI/ACECVI/ACELVI/ACSVI

01831

Term-End Examination

December, 2012

BIEL-027 : APPLIED ELECTRONICS

Time : 2 Hours *Maximum Marks : 70*

Note : *(1) Question No. 1 is* ***compulsory.***

(2) Attempt ***any five*** *questions.*

(3) Each question carry ***equal*** *marks.*

(4) Use of scientific calculator is ***allow.***

(5) Answer must be given in English only.

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1. This question contains fill in the blanks type questions. **7x2=14**

(a) Frequency distortion in an amplifier is caused by _____ .

(b) The maximum theoretical collector circuit efficiency of transformer coupled class - A amplifier is _____ .

(c) A transistor amplifier with collector circuit efficiency of 15% is likely to be _____ .

(d) Full form of MOSFET is _____ .

(e) A bistable multivibrator has _____ .

(f) In a multivibrator, commutating capacitor reduce the _____ .

(g) Bootstrap voltage sweep generator uses _____ .

2. (a) Draw the circuit of CS amplifier. Draw and explain the frequency response of CS amplifier. 7

(b) Draw the circuit diagram of class B push pull amplifier and explain its working and concept of cross over distortion. 7

3. (a) What is Barkhausen Criterion for oscillation ? What disadvantage does a phase shift oscillator have ? How is this removed in a Wien bridge oscillator ? 7

(b) Draw a Colpitts oscillator circuit. Explain how the stable oscillations are obtained. Derive the expression for the frequency obtained. 7

4. (a) What is a UJT ? Explain its principle of construction. Give its application. 7

(b) Explain the effect of negative feedback on : 7

(i) frequency distortion

(ii) reduction of noise.

5. (a) What is the need for trouble shooting ? Explain the important steps for testing. 7

(b) Derive the o/p resistance and i/p resistance of voltage series feedback amplifier. 7

6. (a) Draw and explain the working of BMV. Give its specific application. 7

(b) Obtain the co-ordinates of Q point for the self bias circuit shown in figure (1) 7

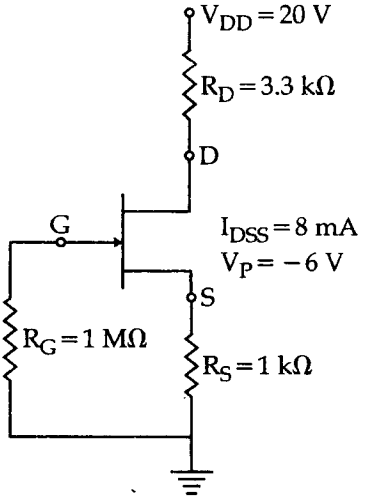

Figure - (1)

7. (a) Find the output voltage for the network of figure - 2 for the input indicated in same figure. 7

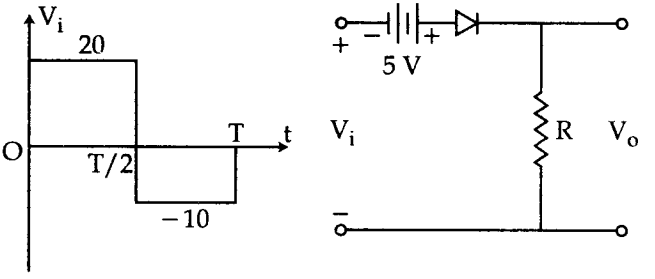

Figure - (2)

(b) Determine V_0 for the network of figure -3 for the i/p indicated in same figure. 7

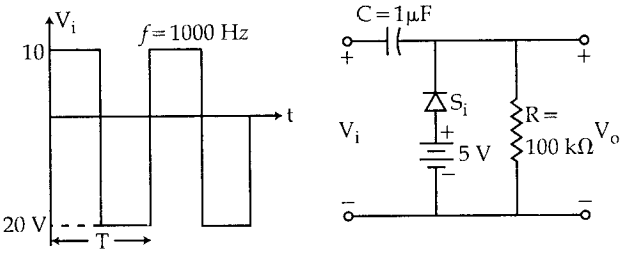

Figure - (3)

8. Write short notes on ***any four*** of the followings. **4x3.5=14**

(a) Crystal oscillator.

(b) Bootstrap sweep generator.

(c) Tuned amplifier.

(d) Depletion Type MOSFET.

(e) Trouble shooting of phase shift oscillator.

(f) Heat Sink.