1007

Code : 9EC31

Register Number | | | | | | | |

III Semester Diploma Examination, Nov./Dec. 2016

ANALOG ELECTRONICS CIRCUITS

Time : 3 Hours] **[Max. Marks : 100**

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

(ii) Answer any **two** full questions from the each remaining sections.

1. (a) Fill in the blanks : **5**

(i) Integrator is also referred as _____.

(ii) In open loop configuration the gain of the Op-Amp is _____.

(iii) PLL stands for _____.

(iv) Gain is expressed in terms of _____.

(v) Output frequency present in the rectifiers is called _____.

(b) Explain Schmitt trigger circuit with neat diagram. **5**

SECTION – A

2. (a) With a neat diagram, explain the operation of bridge rectifier. **6**

(b) With a neat block diagram explain the regulated power supply. **5**

(c) Define load and line regulation. **4**

3. (a) With the help of block diagram explain the operation of online UPS. **8**

(b) Explain the working of monostable multivibrator using IC-555. **7**

4. (a) What is Barkhausen criteria ? Explain. **5**

(b) Explain the concept of positive feedback. **4**

(c) With a neat block diagram explain Wein bridge oscillator. **6**

SECTION – B

5. (a) Explain the working of common emitter RC coupled amplifier with its frequency response.

(b) Define stability factor of common emitter circuit.

(c) Define the following w.r.t. amplifiers :

(i) AC load line

(ii) DC load line

(iii) Operating point

6. (a) Compare Class 'A', Class 'B' and Class 'C' power amplifiers. (Any three)

(b) With a neat block diagram explain the operation of class 'B' push-pull amplifier.

(c) Explain the working of combinational clipper circuit.

7. (a) What is clamper ? Explain +ve clamper circuit with waveforms.

(b) Explain the working of RC Integrator.

(c) List the applications of clippers and clampers.

SECTION – C

8. (a) Explain the operation of PLL with neat block diagram.

(b) Explain with a circuit, Op-Amp as summing amplifier.

(c) List the ideal characteristics of Op-Amp.

9. (a) Explain the working of Non-Inverting amplifiers and obtain the expression for voltage gain.

(b) Define CMRR.

(c) Write a short note on notch filter.

10. (a) Explain the voltage to frequency converter circuit.

(b) Explain Instrumentation amplifier using Op-Amp.

(c) Explain the concept of virtual ground.
