Total No. of Questions—**8**] [Total No. of Printed Pages—**3**

Seat No.	

[4756]-103

F.E. (First Semester) EXAMINATION, 2015

BASIC ELECTRONICS ENGINEERING

(2012 PATTERN)

Time : Two Hours **Maximum Marks : 50**

N.B. **:—** (*i*) Figures to the right indicate full marks.

(*ii*) Neat diagrams must be drawn wherever necessary.

(*iii*) Use of electronic pocket calculator is allowed.

(*iv*) Assume suitable data, if necessary.

1. (*a*) Explain the working of positive clamper with its waveforms. [6]

(*b*) What is dc load line ? Explain the role of Q-point on dc load line. [6]

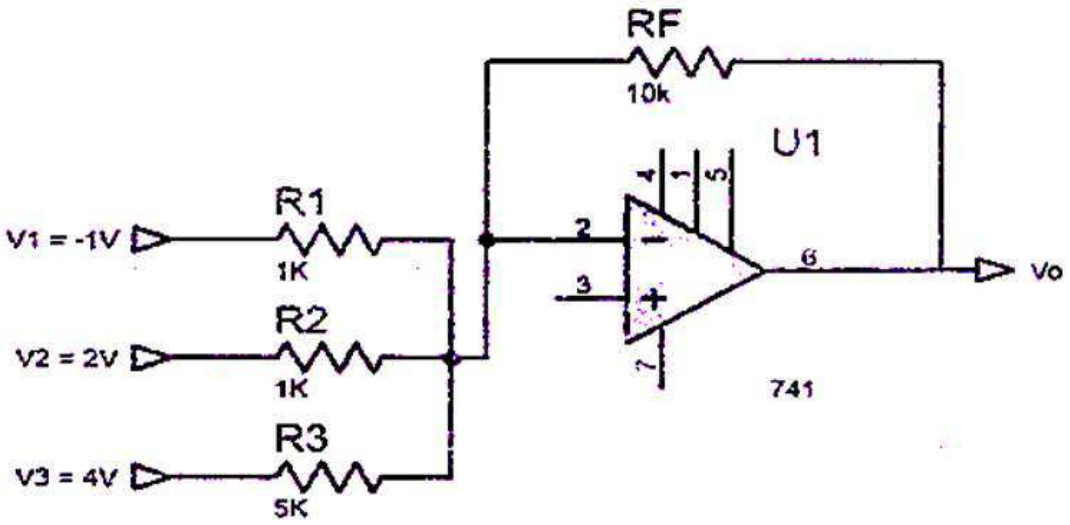
Or

2. (*a*) Explain the working of positive biased shunt clipper with its input and output waveforms. [6]

(*b*) Differentiate between CB, CE and CC configurations. [6]

P.T.O.

3. (*a*) In shown in the following Fig. let R1 = R2 = 1 kΩ, R3 = 5 kΩ, Rf = 10 kΩ, V1 = –1V, V2 = 2V and V3 = 4V. Calculate Vo. [6]



(*b*) State the IC number for the following two input logic gate : [6]

(*i*) AND

(*ii*) NAND

(*iii*) OR

(*iv*) NOR

(*v*) EX-OR

(*vi*) NOT.

Or

4. (*a*) Define the following parameters of op-amp : [6]

(*i*) BW

(*ii*) PSRR

(*iii*) CMRR.

(*b*) Draw the explain full adder using two half adder with its truth table. [6]

5. (*a*) With a neat diagram explain the construction and working of LVDT. Give its advantages, disadvantages and applications. [7]

(*b*) Draw a neat block diagram of a digital thermometer and explain its operation. [6]

Or

6. (*a*) Write a short note on Selection criterion for transducers. [7]

(*b*) Compare : [6]

(*i*) SCR and TRIAC

(*ii*) DIAC and TRIAC.

7. (*a*) Draw and explain the electromagnetic spectrum or IEEE frequency spectrum. List its applications. [7]

(*b*) Compare : AM and FM. [6]

Or

8. (*a*) What is modulation ? Explain AM technique in detail and write AM expression. [7]

(*b*) Explain the basic structure of mobile phone system. [6]