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

Seat No.	

[5151]-107

F.E. EXAMINATION, 2017

BASIC ELECTRONICS ENGINEERING

(2015 PATTERN)

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

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

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

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

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

1. (*a*) Draw the construction diagram and explain working of LED. [6]

(*b*) Explain with a neat circuit diagram, function of each component in single stage CE amplifier. [6]

Or

2. (*a*) In a centre tapped FWR, the rms half secondary voltage is 10V. Assuming ideal diodes and load resistance of 2 kΩ, find : DC load current, ripple factor and efficiency of rectification. [6]

(*b*) Draw and explain drain and transfer characteristics of enhancement type P-channel MOSFET. [6]

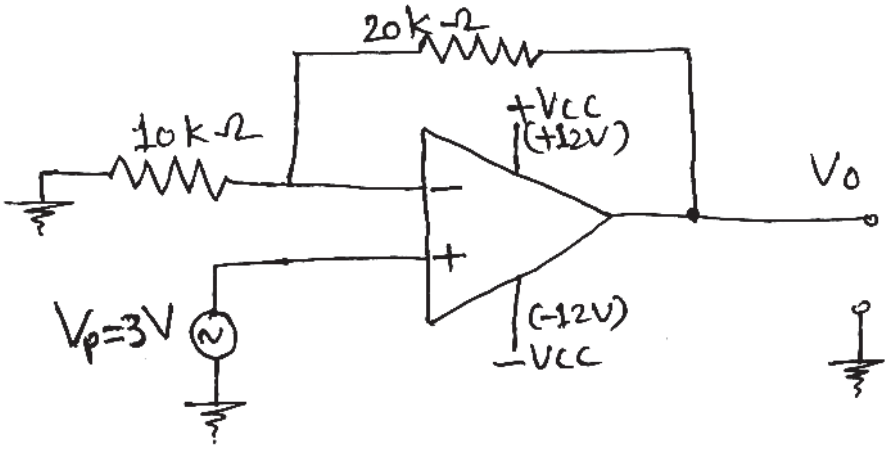
3. (*a*) Define Op-Amp. Draw and explain the functional block diagram of an Op-Amp. [6]

(*b*) Write law of commutation, law of association and law of distribution for AND and OR logic function. [6]

P.T.O.

Or

4. (*a*) Calculate output voltage 'V_O' of Op-Amp circuit shown in figure Draw I/P and O/P waveforms. [6]



(*b*) Draw and explain the block diagram of microprocessor. [6]

5. (*a*) Draw construction of DIAC and explain working with V-I characteristics. [6]

(*b*) What is electronic weighing machine ? With the help of neat block diagram explain its working. [7]

Or

6. (*a*) Define transducer. What are the selection criteria for a good transducer ? [7]

(*b*) Draw and explain the block diagram of basic instrumentation system. [6]

7. (*a*) What is electronic communication system ? Explain the elements of communication system with the help of neat block diagram. [7]

(*b*) Explain different types of cables used in communication system with neat diagrams. [6]

Or

8. (*a*) Draw neat block diagram of GSM system and explain its working. [6]

(*b*) Define modulation index with reference to AM and FM. Write equations of modulation index. Draw AM waveform for 100% modulation case. [7]