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

Seat No.	

[5152]-144

S.E. (Electrical) (I Sem.) EXAMINATION, 2017

ANALOG AND DIGITAL ELECTRONICS

(2012 PATTERN)

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

N.B. **:—** (*i*) Answer Q. No. **1** *or* Q. No. **2**, Q. No. **3** *or* Q. No. **4**, Q. No. **5** *or* Q. No. **6**, Q. No. **7** *or* Q. No. **8**.

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

(*iii*) Figures to the right indicate full marks.

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

(*v*) Use of non-programmable calculator is allowed.

1. (*a*) Perform the following arithmetic operations Convert : [6]

(*i*) $(623.77)_8 = (\ )_{10}$

(*ii*) $(2ACF.D)_{16} = (\ )_8$

(*b*) Write short notes on : [6]

(*i*) Gray code and its binary conversion

(*ii*) Excess-3 code

Or

2. (*a*) Explain the working of serial input serial output shift (SISO) register with a neat circuit diagram. [6]

(*b*) Explain the working of Master–Slave JK flip-flop. [6]

P.T.O.

3. (*a*) Explain the function of 78XXX and 79XX voltage regulator. [6]

(*b*) Explain OP AMP as a V-I & I-V converter. [7]

Or

4. (*a*) Compare open loop & closed loop configuration of OP-AMP. [6]

(*b*) Draw neat diagram & explain operation of OP-AMP as square wave generator with waveforms. [7]

5. (*a*) Write a short note on Darlington pair. [6]

(*b*) Define important parameters of JFET. [7]

Or

6. (*a*) Write short note on Push Pull amplifier with waveforms. [7]

(*b*) Draw and explain RC coupled amplifier with frequency response. [6]

7. (*a*) Explain the working of single phase full wave bridge rectifier with R load and draw its output voltage and current waveforms. [6]

(*b*) Why filters are required ? Explain LC Filter. [6]

Or

8. (*a*) Explain working of three phase full wave bridge rectifier with R load. [6]

(*b*) A half wave rectifier employs a diode having forward resistance if 10 ohm. If input voltage to the rectifier circuit is 12 V rms, find the dc output voltage at a load of 100 mA and PIV. [6]