2018

M.Sc.

2nd Semester Examination

ELECTRONICS

PAPER—ELC-204

Subject Code—27

Full Marks : 50

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

(Introduction to Electronics and Electronic Waste Management)

Answer Q. No. *1* and any *three* from the rest.

1. (a) What is an electronic material ?

(b) Convert from binary system to decimal system 11.1101.

(c) Define e-waste.

(d) What are the sources of e-waste in India ?

(e) What do you understand by 'environmentally sound management of e-waste' ? 5×2

2. (a) What is a p-n junction diode ? How does a barrier field appear across a p-n junction ?

(b) Draw the circuit diagram of a forward and reverse biased p-n junction diode. Draw the characteristic curve and explain its nature. (2+2)+(1½+1½+1+2)

3. (a) What do you mean by positive and negative logic systems ? Determine the binary equivalent of : (i) 17, (ii) 26.25.

(b) Explain conbinational and sequential circuits with examples. Verify the Boolean identity : $A = \bar{A}B = A + B$.

(2+1½+1½)+(3+2)

4. Describe the effects of e-waste on the environment and health. 5+5

5. Explain e-waste management strategies in Indian context. 10

6. Describe the dynamics of e-waste generation in India. Explain the salient features of the e-waste (Management and Handling) Rules, 2011. 5+5

[Internal Assessment — 10 Marks]

———