Roll No. ……………… 1211026

Diploma / Integrated B.Tech 2nd Semester Examination

June, 2013

Basics of Electrical and Electronics Engg.

Subject Code: EEL010

Time Allowed: 03 hours. Maximum Marks: 100

Before answering the question paper the candidate should ensure that they have been supplied the correct question paper. Complaints in this regard, if any, shall not be entertained after the examination.

Note: Attempt any five questions and all questions carry equal marks.

1(a) Define the following: Electric Current, Electric Potential, & Potential Difference. (6)

(b) Define Resistance, on which factors it depend & what is effect of temperature on resistance. (6)

(c) Define Ohm’s law, its apps & limitations. (4)

(d) Define the Power, Energy in brief, their unit also. (4)

2(a) Explain the Kirchhoff’s current law & Voltage law with some suitable example. (10)

(b) Explain Nodal Analysis. (10)

3(a) Differentiate between AC & DC (4)

(b) Define Cycle, Frequency, Time period, Amplitude, Avg.Value, RMS value, Max.value, Form Factor & Peak Factor. (10)

(c) Explain Construction & Working of Nickel-Cadmium cell. (6)

4(a) Explain the Block Diagram of a Thermal Power Station. (10)

5(a) What are the Active & Passive Component. (4)

(b) Explain the OR, AND & NOT Logic Gates with their truth table. (6)

(c) Attempt Any Four.

(i) Convert Binary number 1011.11 into its Equivalent Decimal number.

(ii) Convert Decimal number 19 into its Equivalent Binary number.

(iii) What is Electronics? Give its applications.

(iv) Explain about colour coding of resistance with example.

(v) Differentiate between Analog and Digital signals.

6(a) What are Intrinsic & Extrinsic Semiconductor. (5)

(b) Differentiate between Metal, Insulator & Semiconductor. (5)

(c) Explain P-N Junction Diode & its V-I Characteristics (10)