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 **Reg. No. :**

**Question Paper Code: 32036**

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2017

Second Semester

Civil Engineering

01UEE206- BASIC ELECTRICAL AND ELECTRONICS ENGINEERING

(Common to Mechanical Engineering)

(Regulation 2013)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions.

PART A - (10 x 2 = 20 Marks)

1. State Kirchhoff’s law.

2. What is the use of copper shading band in energy meter?

3. What is meant by transformation ratio?

4. Give importance of commutator in D.C machine.

5. Give the applications of Zener diode.

6. Why transistor is called as current controlled device?

7. Compare analog and digital signals.

8. What is decade counter?

9. Write the advantages of optical fibre communication.

10. Define the term modulation.

PART - B (5 x 16 = 80 Marks)

11. (a) Briefly explain the construction and working of attraction type moving iron instrument. (16)

Or

 (b) (i) Explain in detail the errors, advantages and disadvantages of moving iron instruments. (6)

 (ii) Explain the constructional details and principle of a dynamometer type wattmeter. (10)

12. (a) Define transformer. Explain the construction of various types of transformer in

 detail and derive the emf equation of the transformer. (16)

Or

(b) Draw and explain the constructional details of a dc generator and also derive the emf equation. (16)

13. (a) Explain the half wave and full wave rectifier with neat circuit diagram and wave forms. (16)

Or

 (b) Explain the various characteristics of BJT in common emitter configuration with neat diagram. (16)

14. (a) Explain with neat sketches the output waveform of 4 bit synchronous counters

 and draw the logic diagram with the help of truth table. (16)

Or

(b) Write in detail about Analog to Digital converter and Full adder with necessary diagram. (16)

15. (a) With the help of block diagram describe the working of a satellite communication and it's short due on earth station receiver. (16)

Or

 (b) Explain the principle of Amplitude and Frequency modulation. (16)