Reg. No. : | | | | | | | | | | |

Question Paper Code: 32306

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2018

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. What are the limitations of ohm'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. What is meant by uncontrolled rectifiers?
7. Compare analog and digital signals.
8. What is decade counter?
9. Write the advantages of optical fibre communication.
10. What are the basic types of communication systems?

PART - B (5 x 16 = 80 Marks)

11. (a) (i) A line voltage of 400 V is applied to three phase star connected identical impedances each containing of a 4 Ω resistance in series with 3 Ω inductive reactance. Find (a) line current (b) total power supplied. (8)

(ii) Explain the construction details and principle of operation of an attraction type moving iron instrument. (8)

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

Or

(b) (i) With neat diagram, explain the basic components of satellite communication. (8)

(ii) Explain the block diagram of optical fiber communication systems. (8)