C **Reg. No. :** | | | | | | | | | | | | |

Question Paper Code: U2326

B.E./B.Tech. DEGREE EXAMINATION, NOV 2024

Second Semester

Civil Engineering

21UEE226- Basic Electrical and Electronics Engineering

(Regulations 2021)

(Common to Mechanical and Agriculture Engineering)

Duration: Three hours Maximum: 100 Marks

Answer All Questions

PART A - (5x 1 = 5 Marks)

1. Which one is considered as active element? CO1- U

   (a) Resistor (b) Inductor (c) Capacitor (d) Battery

2. Load saturation characteristics of a d.c. generator gives relation between CO1- U

   (a) V and Ia (b) E and Ia (c) Eo and If (d) E and If

3. A capacitor start, capacitor run single phase induction motor is basically a CO3- U

   (a) ac series motor (b) dc series motor

   (c) 2 phase induction motor (d) 3 phase induction motor

4. Which of the following is not a component of a stepper motor? CO4- U

   (a) Windings (b) Rotor and Stator (c) Commutator (d) Brush

5. The majority carriers of P-type semiconductor are _____ . CO5- U

   (a) Electrons (b) Holes (c) Electron-hole pair (d) all of the above

PART – B (5 x 3= 15 Marks)

6. A 5 Ω resistor has a voltage rating of 100V, What is its power rating by applying above values? CO1- App

7. What is the function of commutator in a DC generator? CO2- U

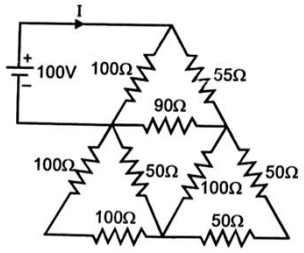
8. Define pull out torque in synchronous motor. CO3- U

9. Outline types of AC servo motor. CO4- U

10. What is zener effect? CO5- U

PART – C (5 x 16= 80Marks)

11. (a) Solve the total current taken from the source. CO1-App (16)



Or

(b) Identify the difference between series and parallel circuit. CO1-App (16)

12. (a) Illustrate the characteristics of different types of DC Motor. CO3-U (16)

Or

(b) Illustrate and explain the general layout of single phase transformer. CO3-U (16)

13. (a) List the Types of single phase induction motor and explain any two. CO3-U (16)

Or

(b) Outline types single phase synchronous motor and explain briefly about any one. CO3-U (16)

14. (a) Explain the Construction, Principle of operation and applications of AC servo motor. CO4-U (16)

Or

(b) Explain the Construction, Principle of operation and applications of Linear induction motor. CO4-U (16)

15. (a) With the neat block diagram explain in detail about the data acquisition system. CO5-U (16)

Or

(b) Explain in detail about any two types of digital to analog converters with neat diagram CO5-U (16)