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**3rd Sem. / Automobile, Mech. Engg. /Mechanical  
(Tools & Die Design)**

**Subject : Basics of Electrical & Electronics Engineering**

Time : 3 Hrs.

M.M. : 60

**SECTION-A**

**Note:** Multiple choice questions. All questions are compulsory (6x1=6)

- Q.1 Unit of Impedance is (CO2)  
a) ohm                                      b) tesla  
c) hertz                                     d) weber
- Q.2 The power factor at resonance in RLC circuit is (CO1)  
a) 0    b) 1  
c) 2    d) infinite
- Q.3 Frequency of dc is (CO1)  
a) zero                                        b) 230hz  
c) 440hz                                      d) infinite
- Q.4 The device which convert ac into dc is (CO1)  
a) substation                                b) stabilizer  
c) rectifier                                    d) transformer
- Q.5 Expand RMS value (CO2)  
a) read mean square                      b) ram mean square  
c) root mean square                        d) root mean square

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- Q.6 An induction motor convert (CO5)  
a) mechanical to electronics energy  
b) electronics to mechanical  
c) electrical to mechanical  
d) mechanical to electrical

**SECTION-B**

**Note:** Objective/ Completion type questions. All questions are compulsory. (6x1=6)

- Q.7 Define average value of AC. (CO1)
- Q.8 What is the full form of MMF. (CO3)
- Q.9 In circuit voltage is measured by \_\_\_\_\_ (CO1)
- Q.10 The current which does not change its direction is known as \_\_\_\_\_ current (CO1)
- Q.11 Define AC (CO1)
- Q.12 Earthing is done to prevent \_\_\_\_\_ to the user. (CO2)

**SECTION-C**

**Note:** Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

- Q.13 Explain kirchoffs current law (CO2)

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Q.14 Explain ideal current source. Draw its vi characteristics. (CO2)

Q.15 Distinguish between conductor insulator and semi conductor on the basis energy band diagram (CO7)

Q.16 Draw and explain vi characteristics of PN junction diode. (CO7)

Q.17 Differentiate between AC and DC (CO1)

Q.18 List five disadvantages of low power factor (CO2)

Q.19 Define the following and state their units (CO2)

a) Electrical energy    b) Electrical power

Q.20 Write short note of flame proof motor (CO5)

Q.21 State the different between phase wire neutral wire earth wire (CO4)

Q.22 Give five differences between MCB & ELCB (CO6)

### SECTION-D

**Note:** Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

Q.23 Describe working of transformer with the help of suitable diagram. What are the various types of losses in transformer? (CO3)

Q.24 Explain the function of emitter base and collector of in operation junction transistors? (CO7)

Q.25 Describe construction and working principle of single phase induction motor (CO5)