

# C.U.SHAH UNIVERSITY

## Winter Examination-2015

**Subject Name : Fundamental Electrical Engineering**

**Subject Code : 4TE01FEE1**

**Branch :B.Tech(All)**

**Semester : 1 Date :4/12/2015 Time :10:30 To 1:30 Marks :70**

Instructions:

- (1) Use of Programmable calculator & any other electronic instrument is prohibited.
  - (2) Instructions written on main answer book are strictly to be obeyed.
  - (3) Draw neat diagrams and figures (if necessary) at right places.
  - (4) Assume suitable data if needed.
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**Q-1**

**Attempt the following questions:**

**(14)**

- a) A sine wave has a frequency of 50 Hz. Its angular frequency is \_\_\_\_\_ radian/second.  
(a) 100 n (b) 50 jt (c) 25 JT (d) 5 n
- b) The period of a wave is  
(a) the same as frequency  
(b) time required to complete one cycle  
(c) expressed in amperes  
(d) none of the above
- c) The form factor is the ratio of  
(a) peak value to r.m.s. value  
(b) r.m.s. value to average value  
(c) average value to r.m.s. value  
(d) none of the above
- d) The peak value of a sine wave is 200 V. Its average value is  
(a) 127.4 V  
(b) 141.4 V  
(c) 282.8 V  
(d) 200V
- e) Tesla is a unit of  
(a) field strength



- (b) inductance
  - (c) flux density
  - (d) flux
- f)** The materials having low retentivity are suitable for making
- (a) weak magnets
  - (b) temporary magnets
  - (c) permanent magnets
  - (d) none of the above
- g)** The power consumed in a circuit element will be least when the phase difference between the current and voltage is
- (a)  $180^\circ$
  - (b)  $90^\circ$
  - (c)  $60^\circ$
  - (d)  $0^\circ$
- h)** Which of the following does not change in a transformer ?
- (a) Current
  - (b) Voltage
  - (c) Frequency
  - (d) All of the above
- i)** No-load on a transformer is carried out to determine
- (a) copper loss
  - (b) magnetising current
  - (c) magnetising current and loss
  - (d) efficiency of the transformer
- j)** The direction of current in an ac circuit
- a) is from positive to negative, b) is always in one direction, c) varies from instant to instant, d) cannot be determined
- k)** The unit of absolute permittivity of a medium
- a) Joules/ coulomb, b) newton –meter, c) farad/ meter, d) farad/ coulomb
- l)** Capacitive reactance is more when
- (a) capacitance is less and frequency of supply is less





