



# SETHU INSTITUTE OF TECHNOLOGY

(An Autonomous Institution)

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## 15UEE504-ELECTRICAL MACHINE DESIGN

### QUIZ

Name of the Student:

Roll No./Sec:

1. The average flux density of ac dc machine. if the max flux density is 0.72 and field form factor is 0.66 is .....  
a)0.47      b) 0.8      c) 1      d)0.4
2. The pole pitch for machine with  $D= 0.1925\text{m}$  and  $p= 4$  is  
a)0.85      b) 0.15      c) 0.35      d)0.25
3. IS 325-1966 is the Indian standard specifications for  
a) DC Motor      b) DC Generator      c) induction Motor      d) Transformers
4. Gap contraction factor with slots and no ducts is  
a)  $K_g= 0$       b)  $K_g= 1$       c)  $K_g= K_g$       d)  $K_g=2$
5. Real flux density is 2.2 T and permeability is  $31.4 \times 10^{-6} \text{ H/m}$ . the magnetic field intensity  
a) 70.063 AT      b) 70.063 AT/ m<sup>2</sup>      c) 70.063 AT /m      d) 70.063 AT /m<sup>3</sup>
6. MMF for air gap is 3100 AT and MMF for field is 3900 AT. The MMF for iron is  
a) 3100 AT      b) 5000 AT      c) 800 AT      d) 1000AT
7. Power transformers should be designed to have maximum efficiency  
a) at one-fourth load      (b) at one-half load      (c) at or near full load      (d) any of the above
8. In transformers using hot rolled steel, the cross-section of the yoke is made about \_\_\_\_\_ greater than that of the core  
a) 5 percent      b) 10 percent      c) 15 percent      d) 30 percent
9. Yokes with rectangular cross-section are used for  
a) small capacity transformers      (b) medium capacity transformers  
c) large capacity transformers      d) any of the above
10. The starting torque of a simple squirrel-cage motor is  
(a) Low      (b) Increases as rotor current rises  
(c) Decreases as rotor current rises      (d) High
11. In an induction motor, rotor speed is always  
(a) Less than the stator speed      (b) More than the stator speed  
(c) Equal to the stator speed      (d) None of these
12. The crawling in the induction motor is caused by  
(a) improper design of the machine      (b) low supply voltage  
(c) high loads      (d) harmonics developed in the motor.
13. An alternator is said to be over excited when it is operating at  
(a) unity power factor      (b) leading power factor  
(c) lagging power factor      (d) lagging to leading power factor.
14. The frequency of voltage generated in an alternator depends on  
(a) number of poles      (b) number of poles and rotative speed  
(c) rotative speed      (d) number of poles, rotative speed and type of winding
15. The magnitude of various voltage drops that occur in an alternator, depends on.  
(a) power factor of the load      (b) load current  
(c) power factor x load current      (d) power factor x (load current)<sup>2</sup>