

141/2015

Maximum : 100 marks

Time : 1 hour and 15 minutes

1. The value of absolute permittivity is :  
(A)  $8.854 \times 10^{-12}$  H/M  
(B)  $8.854 \times 10^{-12}$  F/M  
(C)  $4\pi \times 10^{-7}$  H/M  
(D)  $4\pi \times 10^{-7}$  F/M
2. The equation for find out the energy stored in a coil is :  
(A)  $\frac{1}{2} LI^2$   
(B)  $\frac{1}{2} L\phi^2$   
(C)  $\frac{1}{2} LB^2$   
(D)  $\frac{1}{2} LI$
3. The Dummy coil used in a DC generator :  
(A) To compensate Demagnetizing effect  
(B) To compensate cross magnetizing effect  
(C) To reduce commutation  
(D) For Mechanical balancing
4. The transformer oil used in transformer provides :  
(A) Insulation and lubrication  
(B) Cooling and lubrication  
(C) Insulation and cooling  
(D) Cooling, Insulation and lubrication
5. The critical resistance of a DC shunt generator is the resistance of :  
(A) Armature  
(B) Field  
(C) Load  
(D) None of these
6. The polarity of interpole in the case of a DC generator is :  
(A) Same as that of main pole ahead  
(B) Same as that of main pole behind  
(C) North pole or South pole  
(D) None of these
7. Which characteristic of a motor is mainly considered for its industrial application?  
(A) Electrical characteristic  
(B) Power of motor  
(C) Speed torque characteristic  
(D) Over all characteristics
8. Ward – Leonard Method of Speed control is basically a:  
(A) Frequency control method  
(B) Voltage control method  
(C) Current control method  
(D) Flore control method

9. The Primary equivalent of Secondary current  $I_2$  of a transformer in the equivalent circuit of transformer is :
- (A)  $KI_2$  (B)  $I_1/K$   
 (C)  $I_2/K$  (D)  $K^2I_2$
10. In a transformer the half load copper loss is 600 W. Its full load copper loss will be :
- (A) 600 Watt (B) 1200 Watt  
 (C) 2400 Watt (D) 300 Watt
11. Condition for maximum efficiency in a transformer is :
- (A)  $\frac{R_{01}}{V \cos \phi} = \frac{W_1}{VI \cos \phi}$  (B)  $\frac{R_{01}}{X_{01}} = \frac{W_1}{X_{02}}$   
 (C)  $\frac{R_{02}}{V \cos \phi} = \frac{W_1}{V_1 I_1 \cos \phi_1}$  (D)  $\frac{R_{01}}{V_1 \cos \phi_1} = \frac{W_1}{V_1 I_1^2 \cos \phi_1}$
12. When the frequency is doubled, what are the change in eddy current and hysteresis loss :
- (A) Hysteresis loss doubled, Eddy current loss doubled  
 (B) Hysteresis loss doubled, Eddy current loss quadrupled  
 (C) No change in hysteresis and Eddy current loss  
 (D) Hysteresis remaining same Eddy current loss reduced to half
13. The most economical connection for small and high voltage transmission is :
- (A) Star – Delta (B) Delta – Star  
 (C) Star – Star (D) Delta – Delta
14. A 100 KVA Delta transformer one of the phase of secondary is get out of order. How much load it can carry :
- (A) 100 KVA (B) 50 KVA  
 (C) 67.3 KVA (D) 57.7 KVA
15. The frequency of Rotor Current at the time of starting of an induction Motor is :
- (A) Supply frequency (B) Slip frequency  
 (C)  $1/\text{Slip}$  frequency (D) None of these
16. In two watt meter method of power measurement one Watt meter ( $W_2$ ) shows negative reading to get actual reading :
- (A)  $W_1 + W_2$  (B)  $W_1 - W_2$   
 (C)  $W_1$  only (D)  $W_2$  only