BVCTE NASHIK.

AC MACHINE

ELECTRICAL DEPARTMENT

EE5G SUBJECT COD: 17511

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1) State the method of slip measurement and describe tachometer method

2) Define synchronous speed, slip and slip speed for an induction motor.

2 Draw and label the neat sketch of autotransformer starter.

3) Define Pitch factor & Distribution factor and state the advantages of short pitched coils for

an alternator.

4) Describe star delta starter with neat labeled diagram. State its necessity for three-phase

induction motor.

5) Describe with neat sketch the principle of operation of permanent magnet stepper motor.

6) Describe the principle of operation and working of a three-phase induction motor.

7) Draw power stages of three phase induction motor. Derive relation for rotor copper loss.

8) Compare salient pole and smooth cylindrical pole type alternators on the basis of Speed,

rotor axial length, rotor diameter and windage loss.

9)Describe working of linear induction motor.

10) A three phase 16 pole alternator has a star connected winding with 144 slots and 10

conductors per slot. The flux per pole is 0.03 wb sinusoidally distributed and the speed of

prime mover is 375 rpm. Find the frequency, phase and line emfs assuming full pitched

coils.

11) A motor is to be operated from 230 V, 50 HZ, single phase AC & 220 V DC supply.

12)Identify above motor and describe its working with neat sketch.

13) Describe armature reaction with flux distribution wave forms of a three phase alternator when the nature of load on the alternator is resistive, purely inductive and purely capacitive.

14) Describe the factors affecting the regulation of three phase alternator and draw the phasor

diagrams of loaded alternator when operating power factor is lagging.

15) Describe stroboscopic method for measurement of slip with neat sketch.

16) An induction motor runs at 1780 rpm when fed from 60 Hz supply. Calculate slip, slip

speed & frequency of rotor induced emf

17) State why synchronizing of the alternators is necessary. State conditions for synchronization.

18) Describe the effect of change in excitation of an alternator operating in parallel.

19) Describe working of a.c. series motor using phasor diagram.

20) Describe the construction of two phase servomotor.

21) State various types of single phase induction motors and their applications.

22) Draw torque- speed characteristics of a.c. series motor. State it’s any two applications.

23) Define the terms pitch factor and chording factor.

24) Describe with neat sketch the working of shaded pole Induction motor.

25) Describe, why single phase induction motors are not self starting?