

## Power Electronic Controlled Drives Unit 03: Induction motor Drives I

### Question 1

In Induction motor rotor laminations are thicker than stator laminations.

Choose True or False.

☒ 1. True

Feedback:

☐ 2. False

Feedback:

### Question 2

Choose the Induction motor pole with peak speed.

Choose one answer.

☒ 1. 10

☐ 2. 12

☐ 3. 14

☐ 4. 16

### Question 3

Which starting method is the best method in Induction motor?

Choose one answer.

☐ 1. Direct online starting

☐ 2. Autotransformer starting

☐ 3. Reactance starting

☒ 4. Star-Delta starting

### Question 4

Which type of Induction motor is best for pole changing method?

Choose one answer.

☒ 1. SCIM

☐ 2. WRIM

☐ 3. Single-phase IM

☐ 4. Linear IM

### Question 5

\_\_\_\_\_ Motor operates at high power factor.

Choose one answer.

☐ 1. Capacitor start

☒ 2. Capacitor run

☐ 3. Shaded pole

☐ 4. Reluctance

### Question 6

Power input to an induction motor is given by \_\_\_\_\_

Choose one answer.

☐ 1.  $3V_{pl} \cos \Phi$

☐ 2.  $2V_{pl} \cos \Phi$

☐ 3.  $V_{pl} \cos \Phi$

☐ 4.  $5V_{pl} \cos \Phi$

### Question 7

For motoring mode, the phase angle between the stator phase voltage and stator phase current should be \_\_\_\_\_

Choose one answer.

- ☒ 1.  $< 90^\circ$
- ☐ 2.  $> 90^\circ$
- ☐ 3.  $< 40^\circ$
- ☐ 4.  $180^\circ$

Question 8

The relative speed between the stator magnetic field and rotor in the induction motor is \_\_\_\_

Choose one answer.

- ☐ 1.  $N_s$
- ☒ 2.  $N_s - N_r$
- ☐ 3.  $N_s + N_r$
- ☐ 4. 0

Question 9

The relative speed between the stator magnetic field and stator in the induction motor is \_\_\_\_

Choose one answer.

- ☒ 1.  $N_s$
- ☐ 2.  $N_s - N_r$
- ☐ 3.  $N_s + N_r$
- ☐ 4. 0

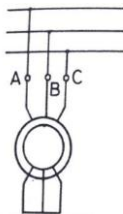
Question 10

The relative speed between the rotor and stator in the induction motor is \_\_\_\_

Choose one answer.

- ☒ 1.  $N_r$
- ☐ 2.  $N_s - N_r$
- ☐ 3.  $N_s + N_r$
- ☐ 4. 0

Question 11

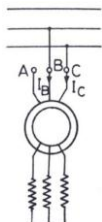


Which type of operation is this?

Choose one answer.

- ☐ 1. Braking
- ☒ 2. Motoring
- ☐ 3. both
- ☐ 4. none

Question 12

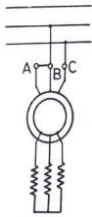


Type of connection is

Choose one answer.

- ☐ 1. one lead
- ☒ 2. two lead
- ☐ 3. three lead

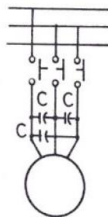
Question 13



type of connection is  
Choose one answer.

- ☐ 1. one lead
- ☐ 2. two lead
- ☒ 3. three lead
- ☐ 4. cannot say

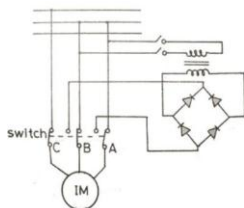
Question 14



Type of braking is  
Choose one answer.

- ☒ 1. Self-excited braking using capacitors
- ☐ 2. regenerative
- ☐ 3. dynamic
- ☐ 4. none

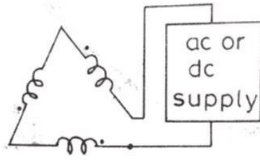
Question 15



type of braking is  
Choose one answer.

- ☒ 1. Two Loads DC Dynamic Braking
- ☐ 2. Three Loads DC Dynamic Braking
- ☐ 3. both
- ☐ 4. none

Question 16



type of braking is

Choose one answer.

- ☐ 1. dc dynamic braking
- ☒ 2. zero sequence braking
- ☐ 3. ac dynamic braking
- ☐ 4. none

Question 17

-----type of braking all the three stator phases are connected in series and single phase AC or DC is connected across them

Choose one answer.

- ☐ 1. ac dynamic braking
- ☐ 2. dc dynamic braking
- ☒ 3. zero sequence braking
- ☐ 4. negative sequence braking

Question 18

current in all the stator windings are co-phasal in zero sequence braking

Choose True or False.

- ☒ 1. True
- ☐ 2. False

Question 19

Plugging induction motor braking is done by reversing the phase sequence of the motor

Choose True or False.

- ☒ 1. True
- ☐ 2. False

Question 20

If the air gap between the rotor and stator of a 3-phase induction motor is increased, then choose one answer.

- ☐ 1. Load Current is increased
- ☒ 2. Leakage reactance is increased
- ☐ 3. No-load current is increased
- ☐ 4. Leakage reactance is decreased

Question 21

For higher efficiency of 3-phase induction motor, the slip should be

Choose one answer.

- ☒ 1. As small as possible
- ☐ 2. Large
- ☐ 3. Very large
- ☐ 4. Unity

Question 22

The starting torque of a 3-phase induction motor is ..... supply voltage.

Choose one answer.

## Power Electronic Controlled Drives Unit 03: Induction motor Drives I

- ☐ 1. Independent of
- ☐ 2. Inversely proportional
- ☐ 3. Directly proportional
- ☒ 4. Directly proportional to square

### Question 23

A high starting torque can be obtained in a 3-phase induction motor by  
Choose one answer.

- ☐ 1. Increasing Rotor Reactance
- ☒ 2. Increasing Rotor Resistance
- ☐ 3. Decreasing Rotor Resistance
- ☐ 4. Any of the above

### Question 24

The rotor current in a 3-phase induction motor is ..... slip.  
Choose one answer.

- ☒ 1. Directly proportional to
- ☐ 2. None of the above
- ☐ 3. Inversely Proportional to
- ☐ 4. Independent

### Question 25

The maximum EMF is induced in the rotor of a 3-phase induction motor when it  
Choose one answer.

- ☐ 1. No-Load
- ☐ 2. Half-load
- ☒ 3. is blocked
- ☐ 4. Full-load

### Question 26

The torque characteristic of a 3-phase induction motor is similar to that of  
Choose one answer.

- ☐ 1. DC differentially compound motor
- ☒ 2. DC Shunt Motor
- ☐ 3. DC Series Motor
- ☐ 4. DC cumulatively compounded Motor

### Question 27

The rotor winding of a 3-phase wound rotor induction motor is generally.....connected.  
Choose one answer.

- ☐ 1. Partially Delta & Partially Star
- ☐ 2. delta
- ☐ 3. neutral
- ☒ 4. Star

### Question 28

The full load slip of an induction motor varies from  
Choose one answer.

- ☐ 1. 100%
- ☒ 2. 2-7%
- ☐ 3. 50%
- ☐ 4. 10-20%

### Question 29

If the frequency of 3-phase supply to the stator of a 3-phase induction motor is increased, then synchronous speed

Choose one answer.

- ☒ 1. Increased
- ☐ 2. Remain unchanged
- ☐ 3. Decreased
- ☐ 4. None of the above

Question 30

What happens if the fifth harmonics is given to the induction motor?

Choose one answer.

- ☐ 1. Short-circuit the motor
- ☐ 2. None of the above
- ☒ 3. The motor will rotate in reverse direction
- ☐ 4. The motor will rotate in the same direction