Register Number: ……..

B.E DEGREE EXAMINATIONS: APRIL/MAY 2014

(Regulation 2009)

Sixth Semester

ELECTRICAL AND ELECTRONICS ENGINEERING

EEE 342 : Industrial Electronics

Time: Three Hours **Maximum Marks: 100**

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. Which of the following converter used for two quadrant control?
   a) Full converter b) Half converter
   c) Half wave converter d) Dual converter
2. Which of the following method is used for below rated speed applications?
   a) Armature voltage control b) Field current
   c) Supply voltage control d) All of the above
3. _____ is the slip controlled drive
   a) Cyclo -converter fed drive b) AC voltage controller fed drive
   c) VSI fed drive d) All the above
4. The motor having slip energy recovery scheme can be braked by means of
   a) Regenerative b) Plugging
   c) Dynamic braking d) All the above
5. UPS power supply is used in
   a) computers b) Communication links
   c) Essential instrumentations d) All of the above
6. In a variable speed induction motor drive, the v/f ratio is kept constant over a wide range of its frequency variation. The motor operates in
   a) Constant power mode b) Constant torque mode
   c) Variable power and variable torque mode d) Constant slip mode
7. In a photo Diode , the photocurrent is generated at
   a) Either of the junctions b) The emitter-base junction
   c) The collector-base junction d) Both the junctions
8. RF dielectric heating is used for
   a) Highly conducting materials b) Highly insulating materials
   c) Magnetic materials d) Lossy insulating materials
9. Induction heating is done for
   a) Good conductors b) Not very good conductors
   c) semiconductors d) insulators
10. The Light emitting diode is
    a) A display Device b) An amplify device
    c) A storage Device d) None Of the above

PART B (10 x 2 = 20 Marks)

11. Draw the control characteristics of a single phase full converter
12. What are the conventional methods to control the speed of the DC motor?
13. What is meant by dynamic breaking?
14. List out the factors affecting the mode of a chopper.
15. Compare CSI and VSI.
16. Write the application of opto coupler?
17. What is the principle of smoke detector?
18. List the applications of dielectric heating.
19. What is the use of liquid level indicators?
20. What is meant by servo system?

PART C (5 x 14 = 70 Marks)

21. a) Explain the operation of Three phase full converter fed DC motor (RLE load) with waveforms.

(OR)

b) Discuss the operation of two quadrant chopper fed DC drive.

22. a) Explain about the stator voltage control method with neat sketch.

(OR)

b) Explain PWM inverter feeding a three-phase induction motor with its wave forms.

23. a) Briefly explain (i) Uninterrupted power supplies (7)
    (ii) Battery driven vehicle. (7)

(OR)

b) Explain the operation of tap changing transformers.

24. a) Explain the operation of liquid level indicators

(OR)

b) Briefly explain (i) LED (7)

(ii) photo-voltaic cells. (7)

25. a) Discuss about micro computer based servo amplifier.

(OR)

b) (i) Compare induction heating with dielectric heating. (7)

(ii) Write short notes on high frequency power sources. (7)

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