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SUBJECT CODE NO:- B-2067
FACULTY OF SCIENCE AND TECHNOLOGY
B.Sc. T.Y. (Sem-V) Examination Oct/Nov 2019
Electronics Paper- XV
Power Electronics

[Time: 1:30 Hours]

[Max.Marks:50]

Please check whether you have got the right question paper.

N.B i) Attempt all questions.

Q.1 What is UJT? Describe its construction Explain its working and V-I characteristics. 20

OR

What is an electromechanical relay? Explain its basic structure. Write a note on resistive loads.

Q.2 Draw the block diagram of a dc drive control system. Explain various blocks in it. 20

OR

Write short notes on any four of the following

- a) Operating specification of optical sensor
- b) DIAC
- c) AC drive system
- d) IR compensation in variable voltage dc drive.
- e) Control panel input drive function.
- f) SCR two transistor analogy.

Q.3 Attempt the following. Select correct option from the given alternatives 10

1. A triac is basically _____ way SCR
 - a) three way SCR
 - b) two way SCR
 - c) both a and b
 - d) none of the above
2. UJT is used for _____
 - a) amplification
 - b) switching
 - c) both a and b
 - d) none of the above
3. An SCR has _____ pn junctions
 - a) Two
 - b) Three
 - c) Four
 - d) None of the above

4. A triac is a _____ switch
 - a) bidirectional
 - b) Unidirectional
 - c) Mechanical
 - d) None of the above

5. Proximity detectors are
 - a) Mechanical sensors.
 - b) electronic sensors
 - c) both a and b
 - d) none of the above

6. Holding current of a thyristor is
 - a) less than latching current.
 - b) more than latching current.
 - c) equal to latching current
 - d) zero current

7. The drive controllers converts _____ in dc drives _____
 - a) an ac source voltage to an adjustable dc voltage
 - b) a dc voltage to an ac voltage
 - c) both a and b
 - d) none of the above

8. A sensor is a device that converts
 - a) Mechanical motion into electrical signal.
 - b) Electrical quantity into physical quantity
 - c) Physical quantity into mechanical signal
 - d) None of the above

9. A UJT exhibits negative region
 - a) before the peak point
 - b) between peak and valley points
 - c) after the valley points
 - d) none of the above

10. IR compensation circuit _____ the speed regulation of the DC drives
 - a) decrease
 - b) improves
 - c) stop
 - d) none of the above