

Ph D Entrance Examination Model Question Paper-2014

ELECTRICAL AND ELECTRONICS ENGINEERING

Duration: 2.00 Hours

Total Marks = 100

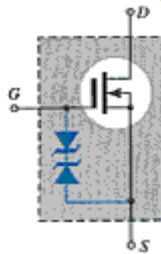
Note :

- 1) The question paper is in **TWO** parts, viz: Part-I and Part-II;
- 2) **Part-I** consists 50 questions of objective type carrying 1 mark each (50 x 1 = 50 marks)
- 3) **Part-II** consists of 25 questions of objective type carrying 2 marks each (25 x 2 = 50 marks)
- 4) All questions are compulsory.

PART-I

(50 x 1 = 50)

- 1) In the active region, while the collector-base junction is _____-biased, the base-emitter is _____-biased.
 - a) Forward, Forward
 - b) Forward, Reverse
 - c) Reverse, Forward
 - d) Reverse, Reverse
- 2) What is the purpose of adding two zener diode to the MOSFET in the figure below



- a) To reduce the input impedance
- b) To protect the MOSFET for both polarities
- c) To increase the input impedance
- d) None of the above

PART – II

(25 x 2 = 50)

1) A 240V, 50Hz supply feeds a highly inductive load of 50 Ohm resistance through a half controlled thyristor bridge. When the firing angle $\alpha=45^\circ$, the load power is

- a) 418 W
- b) 512 W
- c) 367 W
- d) 128 W

2) A d.c. to d.c. chopper operates from a 48 V source with a resistive load of 240hm. The chopper frequency is 250Hz. When $T_{on}= 3 \text{ ms}$, the rms current is

- a) 1.5A
- b) 15mA
- c) 1.73A
- d) 173mA

