

<b>2E2304</b>	Roll No.	Total No of Pages: <b>3</b>
	<b>2E2304</b> <b>B. Tech. II Sem. (Main) Exam., May – 2018</b> <b>EE -101 Basic Electrical &amp; Electronics Engineering</b>	

**Time: 3 Hours**

**Maximum Marks: 80**  
**Min. Passing Marks: 28**

*Instructions to Candidates:*

*Attempt any five questions including Question No. 1, which is Compulsory. All questions carry equal marks. Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly. Use of following supporting material is permitted during examination. (Mentioned in form No.205)*

1. NIL

2. NIL

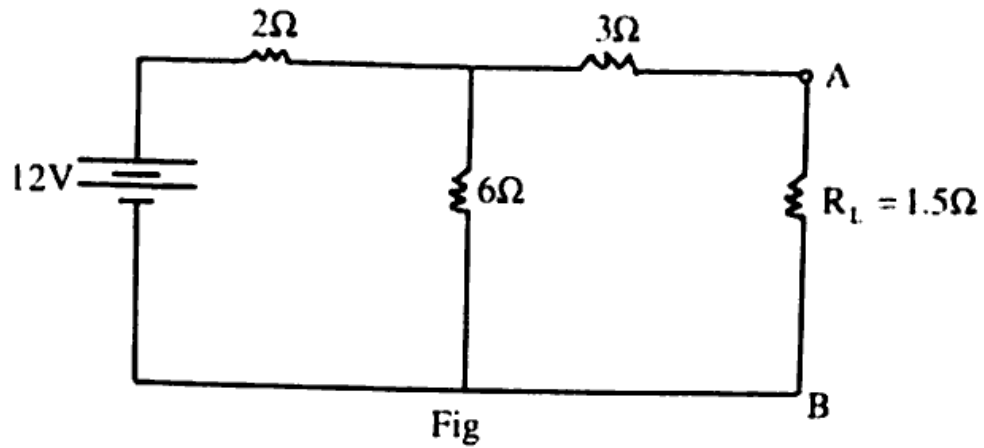
**Q.1 COMPULSORY**

Answers for each sub – question be given in about 25 words.

[8×2=16]

- (a) Explain Zener diode operation
- (b) State Fleming's Left hand rule.
- (c) Implement an XOR gate using NOR gates only.
- (d) Explain commutator working in DC Motor.
- (e) Convert  $(689)_{10}$  into hexadecimal.
- (f) Find the average value of Periodic sine wave for complete cycle which is clamped to half its Positive Maximum Value. <http://www.rtuonline.com>
- (g) Establish relation of Power Consumed in balanced 3 – Phase load.
- (h) Explain Statically & Dynamically induced emf with examples.

- Q.2 (a) Explain Principle, construction and working of 3 – Phase Induction Motor, with suitable diagram. [8]
- (b) Find the r. m. s. value of sine wave for complete cycle which is clamped to half its negative Maximum Value. [8]
- Q.3 (a) Explain Principle of operation of Transformer and Draw its Phasor diagram referred to secondary side, supplying Leading Power factor Load. [8]
- (b) Explain the Principle of operation of D. C. generator and also derive its E. M. F. equations. <http://www.rtuonline.com> [8]
- Q.4 (a) Explain Principle of operation and characteristics of P – N junction diode. [8]
- (b) Explain Principle of operation and characteristics of BJT. [8]
- Q.5 (a) Using Boolean Techniques simplify the following expression: [8]
- $$Y = (A+B+C).(A+B)$$
- (b) Draw the truth table of universal logic gates. [8]
- Q.6 (a) What is the value of series resistance required when 20watts, 15volts, 1000 milliampere Zener diode are connected in series to obtain 20volts regulated output from 40 volts d.c. source. [8]
- (b) (i) State and Explain Norton's theorem [2]
- (ii) Find the load current  $I_L$  in  $R_L$  [6]



Fig

Q.7 (a) Explain PMMC instruments with suitable diagrams and necessary formulas. [8]

(b) Explain AC watt hour meter with suitable diagram and necessary Mathematics

formulas. <http://www.rtuonline.com>

[8]

-----  
<http://www.rtuonline.com>

Whatsapp @ 9300930012

Your old paper & get 10/-

पुराने पेपर्स भेजे और 10 रुपये पायें,

Paytm or Google Pay से