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(d) Saturation

**Question Paper Code: 42306** 

## B.E. / B.Tech. DEGREE EXAMINATION, DEC 2020

Second Semester

Civil Engineering

## 14UEE206 - BASIC ELECTRICAL AND ELECTRONICS ENGINEERING

(Common to Mechanical Engineering)

(Regulation 2014)

		(1	Cgulation 201	. <i>¬)</i>				
	Duration: 1.15 hrs			Maximum: 30 Marks				
		PART	A - $(6 \times 1 = 6)$	Marks)				
	(	Answer any si	x of the follow	ving question	s)			
1.	If 750 μA is flowing resistor?	g through 11 l	cΩ of resistan	ce, what is the	ne voltage drop across the			
	(a) 8.25 V	b) 82.5 V	(c) 14.6 V	(d) 146	i V			
2.	Which of the following	ng are integratin	ng instruments	?				
	<ul><li>(a) Ammeters</li><li>(c) Wattmeters</li></ul>		,	b) Voltmeters d) Ampere-ho	ur and watt-hour meters			
3.	A transformer							
	<ul><li>(a) changes AC to DC</li><li>(c) steps up or down DCvoltages</li></ul>			<ul><li>(b) changes DC to AC</li><li>(d) steps up or down ACvoltages</li></ul>				
4.	A D.C. generator wor	ks on the princi	iple of					
	(a) Lenz's law	(b) Ohm's la	aw (c) Fa	araday's law	(d) None of the above			
5.	The barrier potential f	for a silicon dio	de at 25°C is a	approximately				
	(a) 0.4V	(b) 0.3V	(c) 0.	7V (d)	0.5V			
6.	When both emitter a	nd collector ju	nctions are fo	orward biased	, the transistor is in which			

(c) Break down

(b) Cut-off

region?

(a) Active

- 7. Convert (11110111)<sub>2</sub> to Octal
  - (a) 267
- (b) 367
- (c) 376

(d) 276

- 8. With OR operation, 1+1 is
  - (a) 1
- (b) 0
- (c) 10

- (d) 2
- 9. In transistor radio receivers the number of IF amplifier stages are
  - (a) 1
- (b) 2

(c) 4

(d) 6

(8)

- 10. Radio broadcasting is a familiar example of
  - (a) space multiplexing

(b) time multiplexing

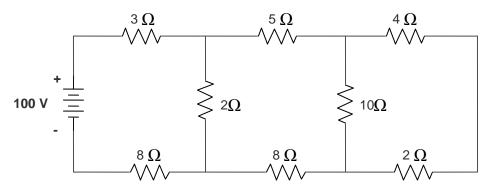
(c) frequency multiplexing

(d) none of the above

$$PART - B (3 \times 8 = 24 \text{ Marks})$$

## (Answer any three of the following questions)

11. Find the current through each branch by network reduction technique.



12. A 4 pole, wave wound generator having 40 slots and 10 conductors placed per slot.

The flux per pole is 0.02 *wb*. Calculate the generated emf when the generator is drive at 1200 *rpm*. (8)

- 13. Discuss the operation of single phase diode bridge rectifier with neat diagram. (8)
- 14. Explain in detail about T-Flip flop, S-R flip flop and J-K flip flop (8)
- 15. Why modulation is necessary? Explain frequency modulation in detail. (8)