Ç	Q.P. Code: 19EE0203												R	19		
F	Reg	g. No:	nulo ;	25de	10(10)	izeut	6.5.84	213.5	in the B	(1659 <sup>4</sup> )	1.05 V	14.15	]			
SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY .: PUTTUR																
					,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	IL U	(AU	TONC	OMOL	US)	i Lei	ntol	<b>U</b> UIII		UII	
		B.Tec	h II Y	ear l	Seme	ster S	Supp	lemer	ntary	Exan	ninati	ons [	Decemb	oer-20	21	
					(171	ELE	CTRI	CAL	MAC	HINE	S-I					
т	ime	· 3 hours			(EI	ectrica	al and	Electr	onics	Engin	eering	g)		Mov	Monk	a. 60
1	1111	. J nours			( )		1.17:	TT. 14	E 1		0.14	1		Iviax.	WIAIK	S: 00
					(Ans	wer a	I FIVE		S S X L	z = 6	0 Mar	KS)				
1	я	Deduce a	n expr	ression	fore	mfea	uation	of D	I-I C Gen	erator	9				13	6M
	b	An 8-pole lap connected armature has 960 conductors a flux of 40 m Wh per pole										nole	L3	6M		
		and a speed of 400 r.p.m. Calculate the emf generated on open circuit. If the											20	UIVI		
armature were wave connected, at what speed it must be driven to generat													erate 40	0 V.		
								OF	R							
2		What are	the va	rious	charac	teristic	es of c	ompo	und ge	enerate	ors?				L1	12M
					4			UNIJ	<b>[-II</b>							
3	a	Distinguish between generator and motor action. Derive the equation for the back										back	L3	6M		
		e.m.f of DC motor?														
	b	Find the torque exerted by a 4-pole series motor whose armature has										1200	L3	<b>6M</b>		
	conductors Connected up in wave winding. The motor current is 10A and th												e flux			
		per pole is	s 0.02	Wb.				OI	)							
4		Why is a starter necessary for a DC motor? Explain the working of a three-point														12M
		starter with the help of a neat diagram?												point		
						U		UNIT	-III							
5		Explain th	ne pro	cedure	e for ol	otainir	ig the	efficie	ency b	y usir	ig bral	ke test	on DC	shunt	L2	12M
		machine.														
								OF	2							
6		Explain ir	n detai	l abou	it the p	arallel	opera	ation o	of DC :	series	gener	ators.			L2	12M
-		D' (1			1.0		<u> </u>	UNIT	-IV							
7	a h	Discuss the $\Delta = 10 \text{KV}$	$\Delta 22$	struct: $00/40$	0V tra	eatures	s of tra	anstor	mers. $1-5$	Draw	neat d -12	lagrar	ns.	and	L2	6M
	U	X2=0.48	$\Omega$ , $De$	termin	ne the	equiva	lent i	mpeda	nce o	f the t	ransfo	rmer	referred	to(i)	LS	UIVI
		primary si	ide (ii)	seco	ndary s	ide.		mpeau		t the t	runore	inner i	leieirea	(1)		
								OF	ł							
8	a	What is a	n idea	l tran	sforme	r? Als	so exp	lain tl	ne ope	ration	of an	ideal	single	phase	L2	<b>6M</b>
	h	An ideal	er und 25KV	er no $\Delta trar$	load co	onditional production of the second s	on.	urng o	on the	nrim	ra mi	ndina	and 10	turna	12	6M
	U	on the se	conda	ry wi	nding.	The	prima	ry is	conne	cted t	0300	00V.5	50HZ su	ipply.	L	UIVI
		Calculate	(i) pr	imary	and s	econd	ary cu	irrents	at fu	ll load	d (ii)	secon	dary em	f and		
		(iii) the m	aximu	im coi	e flux.			TINTE	N NZ							
9	а	Draw the	Conne	ection	diagra	mofe	nen d	elta co	-V	ed thr	ee-nh	ase tra	nsforme	r	1.2	6M
9	a	on the se Calculate (iii) the m	conda (i) pr aximu Conne	ry wi imary im con	nding. and so re flux. diagra	The cond	prima ary cu	ry is irrents UNIT elta co	connect	cted t ll load	o 300 d (ii) ee-pha	oV, 5 second	bold for the subscription of the second seco	ipply. f and r.	L2 L2	6M

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**b** Compare a Three –phase transformer with single phase transformer in detail.

6M

L2

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transformer.

OR

- 10 a Determine load shared by two transformers are each transformer when connected L2 6M in parallel With equal voltage ratios.
  b Draw and explain the Connection diagram of Y-Δ & Δ-Y connected 3-phase L2 6M
  - \*\*\* END \*\*\*