

ANJUMAN-I-ISLAM'S

KALSEKAR TECHNICAL CAMPUS, NEW PANVEL

Approved by: All India Council for Technical Education, Council of Architecture, Pharmacy Council of India New Delhi, Recognised by: Directorate of Technical Education, Govt. of Matherashira, Affiliated to: University of Mumbul.

DEPARTMENT OF ELECTRICAL ENGINEERING

	REV:00	DEPARTMENT OF ELECTRICAL ENGINEERING	EXM-04	1(a)
CL	ASS:- SE	SEM:- IV		
SU	BJECT:- Pov	wer System-1 DATE: 27/10	02/2018	
DU	RATION:- 1	Hr MARKS:- 2	20	
	1 A	CLASS TEST 01		
Q.0	1 Attempt a	nny TWO: (5 Marks each)	Marks	CO
1	What are ac system.	dvantages and disadvantages of DC transmission system over AC transmission	5	1
2	Define sag.	And draw single line diagram of AC power system	5	2
3		sulators used with overhead line? What are the advantages of pin type and type insulator?	5	1
Q.0	1 Attempt a	ny ONE: (10 Marks)		Z.,
1	Derive an a	pproximate expression for sag in overhead line with towers at different levels.	10	2
2	Define and	explain string efficiency. What are different methods to improve it?	10	2

In novative Teaching - Exuberant Learning

Vision: To be the most sought after academic, research and practice based department of Electrical Engineering that others would wish to emulate.



## KALSEKAR TECHNICAL CAMPUS, NEW PANVEL

Approved by : All India Council for Technical Education, Council of Architecture, Pharmacy Council of India New Delhi,

Recognised by : Directorate of Technical Education, Govt. of Maharashtra, Affiliated to : University of Mumbai.

SCHOOL OF ENGINEERING & TECHNOLOGY

SCHOOL OF PHARMACY

### DEPARTMENT OF ELECTRICAL ENGINEERING

REV:00	DEPARTMENT OF ELECTRICAL ENGINEERING		EXM-04(a)	a)
CLASS:- SE		SEM:- IV		
SUBJECT:- AM IV		1	27/02/18	
DURATION:- 1hr		S		
	CLASS TEST 01			
Q.01 Attempt any	Q.01 Attempt any TWO: (10 Marks)	13.6%	Marks	CO
1 3 1	-1]			3
If $A = 2$ 2	$-1$ , find the characteristic roots and characteristic vectors of $A^2$		,	1
2 2				
Verify Cayle:	Verify Cayley-Hamilton Theorem for $A = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$ and hence find $A^{-1}$ and $A^3 = 5A^2$		Orl	CO2
3   If $A = \begin{bmatrix} 3 & -4 \\ 1 & -1 \end{bmatrix}$ , find $A^{100}$	-4], find A <sup>100</sup>		5 1	CO2
Q.02 Attempt any	Q.02 Attempt any TWO: (10 Marks)		ΔΙ	
1 Find the extre	Find the extremal of $\int_{x_1}^{x_2} y \sqrt{1 + y'^2} dx$	111	S MB	CO1
2 Find the curv	Find the curve $y = f(x)$ for which $\int_{x_1}^{x_2} y \sqrt{1 + y'^2} dx$ is minimum subject to the constraint		5	COI
$\int_{x_1}^{x_2} \sqrt{1 + y'^2}  dx = \ell$	$dx = \ell$		V1 1	
3 Using Rayleig	Using Rayleigh-Ritz method, find an approximate solution for the extremals of		54	COI
$\int_0^1 (y'^2 - 2y)$	$\int_0^1 (y'^2 - 2y - 2xy)  dx \text{ with } y(0) = 2, y(1) = 1$	1		

Vision : To be the most sought after academic, research and practice based department of Electrical Engineering nnovative Teaching Lexuberant Learning



## KALSEKAR TECHNICAL CAMPUS, NEW PANVEL

Approved by : All India Council for Technical Education, Council of Architecture, Pharmacy Council of India New Delhi, Recognised by : Directorate of Technical Education, Govt. of Maharashtra, Affibraed to : University of Mumbai.

SCHOOL OF ARCHITECTURE

SCHOOL OF PHARMACY SCHOOL OF ENGINEERING & TECHNOLOGY

	WUMBAI - IND	DEPARTMENT OF FIECTRICAL ENGINEERING		
	REV:00	DEPARTMENT OF ELECTRICAL ENGINEERING		EXM-04(a)
CL	CLASS:- SE		SEM: IV	
SU	SUBJECT:- EFW		DATE: OS	0 0 0 0
DU	DURATION:- 1hr		MARKS: 20	0110
		CLASS TEST 01	Trickey.	
Q.0	Q.01 Attempt any TWO: (10 Marks)			-
A	Express the vect	Express the vector A in cartesian coordinate system if A= 2cos O ar + 71 aO - 4aO	-	TATALKS CO
B	Transform vect	Transform vector field F into cylindrical coordinate system if F = 10 ax - 8av + 6az at	697 at	7 0
	point (10,-8,6)		0 41	0
0	State and expla	State and explain Divergence theorem.		5 CO2
0.0	Q.02 Attempt any TWO: (10 Marks)	WO: (10 Marks)		N
A	Three equal poi	A Three equal point charges of 2 μC are located in free space at (0.0.0.0), (2.0.0), & (0.2.0.0)	120)	5 (0)
	respectively. Fi	respectively. Find net force on the fourth charge of 5 µC at (2,2,0)		Ala
В	Find the electric located at p1(1,	Find the electric field intensity at point P(1,1,1) caused by four identical point charges located at p1(1,1,0),p2(-1,1,0),p3(-1,-1,0) & p4(1,-1,0)	rges	5 CO2
0	Calculate the di If $\overline{D} = 4x^3y^3z^2$	Calculate the divergence of field at the point indicated P(1,2,3) If $\overline{D} = 4x^3y^3z^2a\overline{x} + 3x^4y^2z^2a\overline{y} + 2x^4y^3za\overline{z}$		NAV. 602
		lec. It		



# KALSEKAR TECHNICAL CAMPUS, NEW PANVEL

Approved by : All India Council for Technical Education, Council of Architecture, Pharmacy Council of India New Delhi, Recognised by : Directorate of Technical Education, Govt. of Maharachtra, Affiliated to : University of Munibol.

SCHOOL OF ARCHITECTURE

SCHOOL OF ENGINEERING & TECHNOLOGY

	REV:00	DEPARTMENT OF ELECTRICAL ENGINEERING	EXM-04(a)	4(a)
CL	CLASS:- SE	SE	SEM:- IV	
SU	SUBJECT:- EMC-II	DA DA	DATE: - 28 /02/18	
DU	DURATION: - 1hr	MINISTRA	MARKS:- 20	
	а анаристипентник Миней Ангения (Алгения) (МУК) (С) (С) (С) (С) (С) (С) (С) (С) (С) (С	CLASS TEST 019 MARINACI *		
0.0	Q.01 Attempt any TWO: (08 Marks)	WO: (08 Marks)	Marks	CO
Н	Derive EMF equation of transformer.	on of transformer.	4	CO1
2	Define voltage reg	Define voltage regulation and derive condition for zero and max voltage	4	CO1
	regulation.	CALLETTE	10	
ω	Explain polarity test on transformer	st on transformer.	-14	CO 1
Q.C	2 Attempt any T	Q.02 Attempt any TWO: (12 Marks)	1	
1	Explain separation	Explain separation of hystersis and eddy current losses.	866	CO1
2	Explain with neat	Explain with neat diagram sumpher test on two identical transformer.	NW NW	CO1
ω	Two transformer s ref to sec are (1+j	Two transformer shares a load of $400 \text{kva}$ at 0.8 pf lag. Their eq impedances ref to sec are $(1+j2.5)$ and $(1.5+j3)$ ohm respectively calculate load share by		C01
	each transformer.	SEK NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NOISE NO	NAU	
boom a monda				and commences and an analysis and an analysis of



## KALSEKAR TECHNICAL CAMPUS, NEW PANVEL

Approved by : All India Council for Technical Education, Council of Architecture, Pharmacy Council of India New Delhi, Reaganised by : Directorate of Technical Education, Govt. of Maharashtra, Affiliated to : University of Mumbai.

□ SCHOOL OF ARCHITECTURE

SCHOOL OF ENGINEERING & TECHNOLOGY SCHOOL OF PHARMACY

SUBJECT:- ADIC DURATION:- 1hr Q.01 Attempt any TWO: (10 Marks) CLASS:- SE Q.02 Attempt any ONE: (10 Marks) REV:00 Explain Integrator using op-amp. Also explain Practical Integrator. Explain virtual short concept and virtual ground concept. Explain Instrumentation Amplifer with an application. Explain Slew rate and CMRR. Draw and Explain block diagram of Op-amp. DEPARTMENT OF ELECTRICAL ENGINEERING DEPARTMENT OF ELECTRICAL ENGINEERING CLASS TEST 01 MARKS:- 20 DATE:- 0/10/18 SEM:- III EXM-04(a) 10 10 CO2 CO2 CO1 CO2 CO COI

that others would wish to emulate. Vision : To be the most sought after academic, research and practice based department of Electrical Engineering Exuberant Learning

SCHOOL OF ENGINEERING & TECHNOLOGY



### ANJUMAN-I-ISLAM'S

### KALSEKAR TECHNICAL CAMPUS, NEW PANVEL

□ SCHOOL OF PHARMACY

Approved by : All India Council for Technical Education, Council of Architecture, Pharmacy Council of India New Delhi, Recognised by : Directorate of Technical Education, Govt. of Maharashtra, Affiliated to : University of Mumbai.

□ SCHOOL OF ARCHITECTURE

DEPARTMENT OF ELECTRICAL ENGINEERING DEPARTMENT OF ELECTRICAL ENGINEERING SEM:-IV CLASS:- SE DATE:-SUBJECT:-EN MARKS:- 20 DURATION:- 1 Hr CLASS TEST 01 Marks CO Q.01 Attempt any ONE: (10 Marks) Find  $I_A$  and  $I_B$  by using mesh analysis.  $5\Omega$ CO1 IOTB 5.12 10V Find voltage V<sub>X</sub> by using nodal analysis CO1 Q.02 Attempt any ONE: (10 Marks) a Find the current I<sub>X</sub> by using superposition theorem. 10 CO1 5.0 INAVIMU(\*)30A IND 201 Find Thevenin's equivalent. 10 CO1 10 V

Innovative Teaching - Exuberant Learning

Vision: To be the most sought after academic, research and practice based department of Electrical Engineering that others would wish to emulate.