

# 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

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□ SCHOOL OF ARCHITECTURE

#### DEPARTMENT OF ELECTRICAL ENGINEERING

	EVAA C. E
REV:00 QUESTION PAPER CLASS TEST 01	EXM-04 B
CLASS:- TE ELECTRICAL.	SEM:-
COURSE:- CONTROL SYSTEM II	DATE:-  6 / 02/ 2019
DURATION:- 60 min.	MARKS:- 20
Q1. Attempt any to [smarks].	
a) For the system shown below a	design an
ideal compensator	· Assume
damping ratio le = 0.174].[Assur	ne orep +/P)
PI TO THE PROPERTY OF THE PROP	$c(s)$ . $\underline{c(oi)}$
R(s) > K	figa
b) For the system shown in fig-a	design [col]
Lag compensator to improve steady	state emor
by a factor of 10. (Assume a	g=0174).
92. Attempt any one [12 marks]	
1 ( 120 motern through helpin) design	an Idea
Derivative compensator to gally 10%	
three fold reduction is settling time	2. [[0]]
S(S+4) (S+6)	
	the value of
(b) For the system shown below Find gain 'K' to yield 9.5% overshoo	E. (Assume step I/P)
Jan 1	
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	1/5 (5)
	(CO2)

CRITERION: 2.2.2, 3.2.2.

FILE NO: P25, P31

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RE	V:00	QUESTION PAPER CLASS TEST 01		EXM-04 B	
CLASS	S:TE Ele	ctrical	SEM:-VI		
COUP	RSE:-Elec	trical Machine-IV	DATE:- 14 /	02/2019	
DURA	ATION:-	60 min.	MARKS:- 20		
Q.01	Attemp	t any two: (08 Marks)		Marks	СО
a)	a) Describe the construction of three phase synchronous machine in brief with neat diagram.				CO1
b)	Define armature reaction and explain for unity power factor in brief.				COI
c) Explain the reason of parallel operation of alternator.			04	C01	
Q.02	Attemp	t any two: (12 Marks)			
a) I	Derive an	emf equation of an alternator and hence explain coil span factor and distribu	ition factor.	06	CO1
b) What is parallel operation of an alternator and gives the necessary conditions.				06	CO1
c) A 3 phase ,16 pole alternator has resultant air gap flux of 0.06 wb per pole. The flux is distributed sinusoidally over the pole. The stator has 2 slots per pole per phase and 4 conductors per slot are accommodated in two layers. The coil span is 150 electrical degree. Calculate the phase and line induced voltages when machine runs at 375 rpm.				06	CO1



### ANJUMAN-I-ISLAM'S

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RI	EV:00	<b>QUESTION PAPER CLASS TEST 01</b>		EXM-04 B	/
CLAS	S:- <b>TE</b> Elec	ctrical	SEM:-VI		
COURSE:-Electrical Machine-IV DATE:- 14 / 0				02 / 2019	
DURA	ATION:-	60 min.	MARKS:- 20	1	
Q.01	Attempt	any two: (08 Marks)		Marks	СО
a)	Describe the construction of three phase synchronous machine in brief with neat diagram.				CO1
b)	Define armature reaction and explain for unity power factor in brief.			04	CO1
c)	c) Explain the reason of parallel operation of alternator.			04	C01
Q.02	Attempt	any two: (12 Marks)			
a)	Derive an e	mf equation of an alternator and hence explain coil span factor and distribu	tion factor.	06	CO1
b)	What is par	allel operation of an alternator and gives the necessary conditions.		06	CO1
8	sinusoidally accommoda	16 pole alternator has resultant air gap flux of 0.06 wb per pole. The flux is over the pole. The stator has 2 slots per pole per phase and 4 conductors pated in two layers. The coil span is 150 electrical degree. Calculate the phastages when machine runs at 375 rpm.	er slot are	06	C01

CRITERION: 2.2.2, 3.2.2.

FILE NO: P30,31

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#### DEPARTMENT OF ELECTRICAL ENGINEERING

REV:00	EV:00 QUESTION PAPER CLASS TEST 01 EX		
CLASS:-TE	SEM:	VI	
COURSE:- I	PSE DATE	:- 14//02 / 2019	
DURATION:- 60 min. MARKS:- 20			
Q.01 Attem	pt any Two: (08 Marks)	Marks	СО
a) Explain	the working principle of current transformer and potential transformer.	4	CO1
b) Draw t	ypical protection circuit and explain the phenomenon of fault clearing.	4	CO2
c) Write a	note on isolator.	4	CO1
Q.02 Attem	pt any One: (12 Marks)	<del></del>	
	ingle line diagram and show all substation devices and their functions.	12	C01
B) Explain	different types of circuit breakers in brief.	12	CO2
C) Write a	note on HRC Fuse.	12	CO2



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REV:00	QUESTION PAPER CLASS TEST 01	EXM-04 B	
CLASS:-TE	SEM: VI		
COURSE:- PSE	DATE:- 1	4//02 / 2019	
DURATION:- 60	) min. MARKS:-	20	
Q.01 Attempt any T		Marks	СО
	working principle of current transformer and potential transformer.	4	CO1
b) Draw typical	protection circuit and explain the phenomenon of fault clearing.	4	CO2
c) Write a note	on isolator.	4	CO1
Q.02 Attempt any O	ne: (12 Marks)		
a) Draw single l	ine diagram and show all substation devices and their functions.	12	CO1
		-	
b) Explain differen	nt types of circuit breakers in brief.	12	CO2
c) Write a note or	HRC Fuse.	12	CO2

CRITERION: 2.2.2, 3.2.2.

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RI	EV:00 QUESTION PAPER CLASS TEST 01	EXN	Л-04 B	
CLA	SS:- THIRD YEAR	SEM:- VI	ž.	
SUB	JECT:- MA	DATE:-15	419	
DUR	RATION:- 1 HOUR	MARKS:- 20		
Q.01	Attempt any_TWO: (08 Marks)		Marks	СО
	Explain data memory structure.		04	CO2
b) Explain difference between microprocessor and microcontroller.		04	CO1	
c)	Explain status register model.	100	04	CO2
Q.02	Attempt anyTWO: (12 Marks)			
a)	Explain various addressing modes.		06	CO2
b)	Explain Table read and write instruction.		06	CO2
c)	Explain Pipelining.		06	CO2



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RE	REV:00 QUESTION PAPER CLASS T	<b>EST 01</b> EXM-04 B	w
CLAS	ASS:- THIRD YEAR	SEM:- VI	
SUB.	BJECT:- MA	DATE:-	
DUR	RATION:- 1 HOUR	MARKS:- 20	
Q.01	1 Attempt any_TWO: (08 Marks)	Marks	СО
	Explain data memory structure.	04	CO2
<b>b)</b> E	Explain difference between microprocessor and microcon	troller. 04	CO1
c) E	Explain status register model.	04	CO2
Q.02	2 Attempt anyTWO: (12 Marks)		
a) E	Explain various addressing modes.	06	CO2
b) E	Explain Table read and write instruction.	06	CO2
c) E	Explain Pipelining.	06	CO2

CRITERION: 2.2.2, 3.2.2.

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REV:00 QUESTION PAPER CLASS TEST 01	EXM-04 B
CLASS:- TE ELECTRICAL	SEM:- VI
COURSE: SIGNAL PROCESSING	DATE:- 15/02/2019
DURATION:- 60 min.	MARKS:- 20
Q1. Attempt any two [8 marks]	-
a) For the signal shown below, sketch the	e following. COI
$\chi(t)^{\frac{1}{2}}$ $\chi(t+2)$ $\chi(t+2)$ $\chi(t+2)$	(t-1).
3 x(2+) (3) x	
(-10123) E (5) x(24-1) (6) x (	t/2+1)
b) sketch the signal with respect to time	· [co1]
$Q\chi(t) = U(t) + \gamma(t-1) + 2\gamma(t-2) - \gamma(t-3) + U(t-3)$	(t-4)-24(t-5)
	(t-2)
C) find soquence For [CO1]	Sar-V value
$\Omega_{\alpha}(n) = 3\sigma(n+2) + d(n+1) + 2\sigma(n) + d(n+1)$	n-1).
2) sketen discrete signal For given seq	uence
$\chi(n) = \{-7, 6, -3, 1, 2, -5\}$	
P2. Attempt any two [6 mars].	il Villera Laboration il della constitution
1) state condition for periodicity of continu	ous time &
discrete time signals and check wh	ether the
following signals are periodic or not.	[COT]
$\rightarrow 3\sin\left(\frac{5\pi}{2}t\right) + 2\cos(3t)$	
$\rightarrow cos(n-T)$	
2) Check whether the given system for (Linear)	by, (all sality)
Time vanance, static/ bynamic)	
$\rightarrow$ 9(1)= $\chi(1)$ $=$ $\chi(1)$	
3) Determine whether the given xignal is $n(t) = e^{-ax} u(t)$	s Energy or power
$\rightarrow \chi(t) = e^{\alpha t} u(t)$	additional control of the control of

CRITERION: 2.2.2, 3.2.2.

 $\chi(n) = u(n)$ .

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**REV:00** 

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	INL V.00	QUESTION FAFER CLASS TEST OF	LASS TEST UI		,
	\$ J.				
CLA	ASS:- TE		SEM:- VI		
COL	URSE:- MICRO	DGRID	DATE:-	16/02/19	
DUI	RATION:- 60	) min.	MARKS:-	20	
Q.0	1 Attempt ar	ny TWO: (08 Marks)		Marks	СО
a)	Define micr	ogrid with neat schematic. Explain its merits.		4	CO1
b) What are some of the power quality issues in microgrid.			4	CO2	
c)	What is the	significance of storage systems in microgrid? Give the types of electric	and non-	4	CO2
	electrical st	orages in microgrid.			
	H				
Q.0	2 Attempt an	y TWO: (12 Marks)			
a)	Explain Hyb	rid (AC/DC) Microgrid (both structures).		6	CO1
b)	Explain the	various types of market model for microgrid.	*	6	CO1
c)	Explain with	diagram the various protection issues in smartgrid.		6	CO2

CRITERION: 2.2.2, 3.2.2.

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REV	V:00 QUESTION PAR	PER CLASS TEST 01	EXI	И-04 B
CLA	ASS:- TE	SEM:- VI		
COL	URSE:- MICROGRID	DATE:- 1	6/02/19	
DUF	RATION:- 60 min.	MARKS:- 2	20	
Q.0	1 Attempt any TWO: (08 Marks)		Marks	СО
a) Define microgrid with neat schematic. Explain its merits.		- 4	CO1	
b)	What are some of the power quality issues in microg	rid.	4	CO2
c) What is the significance of storage systems in microgrid? Give the types of electric and non-electrical storages in microgrid.			4	CO2
Q.02	2 Attempt any TWO: (12 Marks)			
a)	Explain Hybrid (AC/DC) Microgrid (both structures).		6	CO1
b)	Explain the various types of market model for microg		6	CO1
c)	Explain with diagram the various protection issues in	smartgrid	6	CO2

CRITERION: 2.2.2, 3.2.2.

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