



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 Maharashtra, Affiliated to : University of Mumbai.

- SCHOOL OF ENGINEERING & TECHNOLOGY
 SCHOOL OF PHARMACY
 SCHOOL OF ARCHITECTURE

DEPARTMENT OF ELECTRICAL ENGINEERING

REV:00	QUESTION PAPER CLASS TEST 02	EXM-04 B	
CLASS:- TE		SEM:-V	
COURSE:-PS-II		DATE:-23/10/2018	
DURATION:- 60 min.		MARKS:- 20	
Q.01 Attempt any two: (08 Marks)			
		Marks	CO
a)	Describe the formation of transients on transmission line.	4	CO4
b)	Explain the phenomenon of Arcing ground.	4	CO4
c)	Explain the phenomenon of capacitance switching.	4	CO4
Q.02 Attempt any two: (12 Marks) (ONE)			
a)	Explain the phenomenon of traveling wave on case of termination of line as open circuit.	12	CO3
b)	Derive the equation of fault current and developing the sequence network for LLG fault on unbalance synchronous generator.	12	CO3
c)	Explain the terms protective characteristics, Dynamic voltage rise and rating in case of lightning arrester.	12	CO4

FILE NO:P25,P31

CRITERION:2.2.2,3.2.2.

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.



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 Maharashtra, Affiliated to: University of Mumbai.

- SCHOOL OF ENGINEERING & TECHNOLOGY
- SCHOOL OF PHARMACY
- SCHOOL OF ARCHITECTURE

DEPARTMENT OF ELECTRICAL ENGINEERING

REV:00	QUESTION PAPER CLASS TEST 02	EXM-04 B
CLASS:-TE		SEM:-V
COURSE:-Electrical Machines-III (EMC-III)		DATE:-23/10/18
DURATION:- 60 min.		MARKS:- 20
Q.01 Compulsary: (10 Marks)		Marks CO
a)	A 15kW, 440V, 4 poles, 50Hz, 3 phase induction motor is built with a stator diameter 0.25 and core length of 0.16. The specific electric loading is 23000 ampere conductor per meter. Using the data of this machine, determine the core dimensions, number of stator slots and number of stator conductors for a 11kW, 460V, 6pole, 50 Hz motor. Assume full load efficiency of 84% and P.F of 0.82 for each machine. The winding factor is 0.955.	10 CO2
Q.02 Attempt any two: (10 Marks)		
a)	Explain resistance split phase starting of the single phase induction motor.	05 CO3
b)	Derive the output equation of the three-phase induction motor.	05 CO4
c)	With usual notations explains Carter's coefficient.	05 CO1



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 Maharashtra, Affiliated to: University of Mumbai.

- SCHOOL OF ENGINEERING & TECHNOLOGY
- SCHOOL OF PHARMACY
- SCHOOL OF ARCHITECTURE

DEPARTMENT OF ELECTRICAL ENGINEERING

REV:00	QUESTION PAPER CLASS TEST 02	EXM-04 B
CLASS:-TE		SEM:-V
COURSE:-Electrical Machines-III (EMC-III)		DATE:- / /
DURATION:- 60 min.		MARKS:- 20
Q.01 Compulsary: (10 Marks)		Marks CO
a)	A 15kW, 440V, 4 poles, 50Hz, 3 phase induction motor is built with a stator diameter 0.25 and core length of 0.16. The specific electric loading is 23000 ampere conductor per meter. Using the data of this machine, determine the core dimensions, number of stator slots and number of stator conductors for a 11kW, 460V, 6pole, 50 Hz motor. Assume full load efficiency of 84% and P.F of 0.82 for each machine. The winding factor is 0.955.	10 CO2
Q.02 Attempt any two: (10 Marks)		
a)	Explain resistance split phase starting of the single phase induction motor.	05 CO3
b)	Derive the output equation of the three-phase induction motor.	05 CO4
c)	With usual notations explains Carter's coefficient.	05 CO1

CRITERION : 2.2.2, 3.2.2.

FILE NO : P25, P31

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.



REV:00	QUESTION PAPER CLASS TEST 02	EXM-04 B
CLASS:- TE		SEM:-V
COURSE:-CONTROL SYSTEM I		DATE:-24/10/2018
DURATION:- 60 min.		MARKS:- 20

Q.01 Attempt any two: (08 Marks)		Marks	CO
a)	Derive the expression to obtain transfer function from state space	4	CO3
b)	Explain the advantages of state space over conventional approaches.	4	CO3
c)	For a system with characteristic equation as below examine stability. $s^5 + 4s^4 + 10s^2 + 5s + 24 = 0.$	4	CO3

Q.02 Attempt any one: (12 Marks)		Marks	CO
a)	Represent the following system in state space in phase variable form and draw its state space model. $\frac{C(s)}{R(s)} = \frac{10(s+2)(s+3)}{(s+1)(s+4)(s+5)}$	12	CO4
b)	Sketch a root locus for the following transfer function as $G(s) = \frac{K}{s(s+2)(s+4)}$	12	CO5
c)	Determine whether the system is controllable or observable $X = \begin{bmatrix} 0 & 1 & 0 \\ 0 & 0 & 1 \\ -4 & -3 & -2 \end{bmatrix} X + \begin{bmatrix} 0 \\ 0 \\ 1 \end{bmatrix} u$ $y = [0 \ 5 \ 1] X$	12	CO4

CRITERION : 2.2.2, 3.2.2.
FILE NO : P25, P31

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.



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 Maharashtra, Affiliated to: University of Mumbai.

- SCHOOL OF ENGINEERING & TECHNOLOGY
 SCHOOL OF PHARMACY
 SCHOOL OF ARCHITECTURE

DEPARTMENT OF ELECTRICAL ENGINEERING

REV:00	QUESTION PAPER CLASS TEST 2	EXM-04 A
CLASS:- <u>TE</u>		SEM:- <u>V</u>
SUBJECT:- <u>PE</u>		DATE:- <u>24/10/2018</u>
DURATION:- 60 min.		MARKS:- 20
Q.01 Attempt any 02		Marks
a)	Explain the working of full wave controlled circuit using Diac and Triac with waveform.	04
b)	Draw and explain the operation of 3 phase Cycloconverter.	04
c)	Explain the need of neutralisation of Harmonics in inverters.	04
Q.02 Attempt any 01		Marks
a)	Draw and explain 3 phase bridge inverter with 120° conduction mode with appropriate waveforms.	12
b)	Draw and explain 3 phase bridge inverter with 180° conduction mode with appropriate waveforms.	12
		CO



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 Maharashtra, Affiliated to: University of Mumbai.

- SCHOOL OF ENGINEERING & TECHNOLOGY
 SCHOOL OF PHARMACY
 SCHOOL OF ARCHITECTURE

DEPARTMENT OF ELECTRICAL ENGINEERING

REV:00	QUESTION PAPER CLASS TEST 2	EXM-04 A
CLASS:- <u>TE</u>		SEM:- <u>V</u>
SUBJECT:- <u>PE</u>		DATE:- <u>/10/2018</u>
DURATION:- 60 min.		MARKS:- 20
Q.01 Attempt any 02		Marks
a)	Explain the working of full wave controlled circuit using Diac and Triac with waveform.	04
b)	Draw and explain the operation of 3 phase Cycloconverter.	04
c)	Explain the need of neutralisation of Harmonics in inverters.	04
Q.02 Attempt any 01		Marks
a)	Draw and explain 3 phase bridge inverter with 120° conduction mode with appropriate waveforms.	12
b)	Draw and explain 3 phase bridge inverter with 180° conduction mode with appropriate waveforms.	12
		CO



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 Maharashtra, Affiliated to : University of Mumbai.

- SCHOOL OF ENGINEERING & TECHNOLOGY
- SCHOOL OF PHARMACY
- SCHOOL OF ARCHITECTURE

DEPARTMENT OF ELECTRICAL ENGINEERING

REV:00	QUESTION PAPER CLASS TEST 02	EXM-04 B	
CLASS:-TE		SEM:-V	
COURSE:-REES		DATE:- 25/10/18	
DURATION:-60 min.		MARKS:- 20	
Q.01 Attempt any one: (08 Marks)		Marks	CO
a)	Draw the power converter topology for DFIG in wind turbines and describe the working principle in brief	08	CO3
b)	Comparison of various fuel cells based on their applications, advantages and challenges	08	CO4
c)	Draw and describe any one hybrid power system based on renewable energy sources and energy storage	08	CO6
Q.02 Attempt any two: (12 Marks)			
a)	Explain and compare features of horizontal axis wind turbine (HAWT) and vertical axis wind turbine (VAWT)	06	CO3
b)	Describe the working principle of Fuel cell and its electrical characteristics	06	CO4
c)	Explain the use of battery and ultra-capacitor as a hybrid energy storage system for electric vehicle application	06	CO6



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 Maharashtra, Affiliated to : University of Mumbai.

- SCHOOL OF ENGINEERING & TECHNOLOGY
- SCHOOL OF PHARMACY
- SCHOOL OF ARCHITECTURE

DEPARTMENT OF ELECTRICAL ENGINEERING

REV:00	QUESTION PAPER CLASS TEST 02	EXM-04 B	
CLASS:-TE		SEM:-V	
COURSE: REES		DATE:-	
DURATION:- 60 min.		MARKS:- 20	
Q.01 Attempt any one: (08 Marks)		Marks	CO
a)	Draw the power converter topology for DFIG in wind turbines and describe the working principle in brief	08	CO3
b)	Comparison of various fuel cells based on their applications, advantages and challenges	08	CO4
c)	Draw and describe any one hybrid power system based on renewable energy sources and energy storage	08	CO6
Q.02 Attempt any two: (12 Marks)			
a)	Explain and compare features of horizontal axis wind turbine (HAWT) and vertical axis wind turbine (VAWT)	06	CO3
b)	Describe the working principle of Fuel cell and its electrical characteristics	06	CO4
c)	Explain the use of battery and ultra-capacitor as a hybrid energy storage system for electric vehicle application	06	CO6

CRITERION : 2.2.2.

FILE NO : P25.

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.