PUNYASHLOK AHILYADEVI HOLKAR, SOLAPUR UNIVERSITY, SOLAPUR
University Examination - March /April 2022

B.TECH Part- Sem-

Subject - Extra High Voltage AC Transmission

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raperico	de-197045802
Time	

SLR-FI-290 Set-A co

Max. Marks:

Q1. The percentage por	wer loss in 750 k\	transmission line is r	rearly equal to
A. 3.27		B. 4.76	S
C. 0.78	J. 20.	D. 2.5	

Q2. A sphere-sphere gap is used in F	HV laboratories for
Measurement of EHV	B. Calibrating other measuring apparatus
Both A and B	D. None of these

Q35 The conductors of an EHV line	e is selected ć	n the basis of	-3°°
Current carrying capacity	SOF	B. Corona and RI performance	64 Ja
Line voltage	* OF THE PERSON NAMED IN COLUMN TO PERSON NA	D. None of these	A. JA.

Q4. The bundle conductors are preferred for	EHV transmission line because
A. It is easy to fabricate thin conductors and combine them to make a bundle	Overall inductance of the line is reduced and corona loss and radio influences are minimum
Height of the tower is reduced and hence cheap transmission	D. Fabrication of the conductor is cheap

্যুত্ত. The velocity of travelling wave th	rough a cable of relative permittivity 9 is
A. 9×108 m/sec	B. 3×108 m/sec
C.	D.
108 m/sec	None of the above

Q6.		6				
Transfer	reactance	of a	line	is	reduced	by
	200					_

F1-290 - A - 1

, 360	A47
A.	B. (+ 37 32)
Series compensation	Shunt compensation
c	
Mixed series & shunt compensation	D. 25
- 1	It cannot be compensated
Q7.5	• 6
a Voltage gradient on a trans	
A. Noltage gradient on a transmission lin	ne conductor is highest
	1 04
At the surface of the conductor	At the centre of the conductor
C.	
At the distance equal to one radius from	D.
the surface	None of these
J ₍₁₎	-0
Q8.	
An infinite bus bar has a surge impeda	
A.	nce equal to
Zero 45th	B. infinite
C. 6	infinite
69	67
Surge impedance of the transmission line	D.
connected to it	All of these
	All of these
Q9.2°	
Which of the fallowing	ion for nower fragment
A.	ion for power frequency is as per IS?
2.5%	B
C.	^
+5%	D.
+370	+2.5%
Q10.	N
Transmission lines are transposed to	313-72-31
Transmission lines are transposed to	Net 1
Transmission lines are transposed to	B. Similar
Transmission lines are transposed to	Net 1
Transmission lines are transposed to . Reduce corona loss?	B. Similar
Reduce corona loss? Prevent interference with neighbouring	B. Reduce skin effect D.
Transmission lines are transposed to . Reduce corona loss?	B. Reduce skin effect
Reduce corona loss? Prevent interference with neighbouring telephone lines	B. Reduce skin effect D.
Transmission lines are transposed to Reduce corona loss? Prevent interference with neighbouring telephone lines	B. Reduce skin effect D. Prevent short circuit between any two lines
Transmission lines are transposed to Reduce corona loss? Prevent interference with neighbouring telephone lines 11.7 For 100% series compensation, resonance	B. Reduce skin effect D. Prevent short circuit between any two lines
Transmission lines are transposed to Reduce corona loss? Prevent interference with neighbouring telephone lines	B. Reduce skin effect D. Prevent short circuit between any two lines
Transmission lines are transposed to Reduce corona loss? Prevent interference with neighbouring telephone lines 11.7 For 100% series compensation, resonance	B. Reduce skin effect D. Prevent short circuit between any two lines
Transmission lines are transposed to Reduce corona loss? Prevent interference with neighbouring telephone lines 11.7 For 100% series compensation, resonance	B. Reduce skin effect D. Prevent short circuit between any two lines e occur at B. 50% of Power frequency
Transmission lines are transposed to Reduce corona loss? Prevent interference with neighbouring telephone lines 11.7 For 100% series compensation, resonance lower frequency	B. Reduce skin effect D. Prevent short circuit between any two lines e occur at B. 50% of Power frequency D.
Transmission lines are transposed to Reduce corona loss? Prevent interference with neighbouring telephone lines 11.7 For 100% series compensation, resonance	B. Reduce skin effect D. Prevent short circuit between any two lines e occur at B. 50% of Power frequency
Transmission lines are transposed to Reduce corona loss Prevent interference with neighbouring telephone lines 11.7 For 100% series compensation, resonance lower frequency 0% of Power frequency	B. Reduce skin effect D. Prevent short circuit between any two lines e occur at B. 50% of Power frequency D.
Transmission lines are transposed to Reduce corona loss? Prevent interference with neighbouring telephone lines 11.7 For 100% series compensation, resonance lower frequency 0% of Power frequency	B. Reduce skin effect D. Prevent short circuit between any two lines e occur at B. 50% of Power frequency D. None of the above
Transmission lines are transposed to Reduce corona loss Prevent interference with neighbouring telephone lines 11.7 For 100% series compensation, resonance lower frequency 0% of Power frequency	B. Reduce skin effect D. Prevent short circuit between any two lines e occur at B. 50% of Power frequency D. None of the above
Transmission lines are transposed to Reduce corona loss? Prevent interference with neighbouring telephone lines 11.7 For 100% series compensation, resonance lower frequency 0% of Power frequency	B. Reduce skin effect D. Prevent short circuit between any two lines e occur at B. 50% of Power frequency D. None of the above
Transmission lines are transposed to Reduce corona loss? Prevent interference with neighbouring telephone lines 11.7 For 100% series compensation, resonance lower frequency 0% of Power frequency 2. he power loss due to corona effect dependency	B. Reduce skin effect D. Prevent short circuit between any two lines e occur at B. 50% of Power frequency D. None of the above
Transmission lines are transposed to Reduce corona loss? Prevent interference with neighbouring telephone lines 11.7 For 100% series compensation, resonance lower frequency 0% of Power frequency	B. Reduce skin effect D. Prevent short circuit between any two lines e occur at B. 50% of Power frequency D. None of the above

and the same of th	D. 157 251
c. 🔥	D. 51
Both A & B	None of the above
10.	Trone of the tibove
Q13. C'	all a
Third mode of propagation is called as	. o. ?
A.S.	B.
1 Line to ground	Phase to phase
Ċ.	D.
Homopolar 🔥	Inter-phase
(5)	Inter-priose
Q14.	
The function of steel wire in an ACSP con	nductor is to
A. nu	B.
Compensate for skin effect	Take care of surges
C.	D. sp
Provide additional mechanical strength	Reduce inductance
- G	Neduce inductories
Q15.	7 253
What does the standing wave ratio (SWR) of unity imply?
Α.	
Transmission line is open circuited	Transmission line is short circuited
C. 20°	D.
Transmission lines characteristic	Transmission lines characteristic
impedance is equal to load impedance	impedance is not equal to load impedance
25	63
Q16.	, 1A.
Draining of trapped charge of line is done	e by
A.	B. Auxiliary breaker D. Shunt reactors
Main breaker C. Air circuit breaker	D. Auxiliary breaker
C. Air circuit breaker	Shunt reactors
All circuit breaker	i - i - i - i - i - i - i - i - i - i -
Q17.	
Series capacitors are used to	and the second
A. A	B. •2°
Improve line voltage	Compensate for line inductive reactance
c. 3	Dis.
Compensate for line capacitive reactance	None of the above
()	
Q18. Refraction coefficient of current (JT) is given.	csch
Refraction coefficient of current (JT) is giv	en by
riv.	
220	$\frac{Z_0-Z_t}{z_0}$
$Z_0 \div Z_t$	Z_0+Z_t
C	D
C. 2Zt	$Z_t - Z_0$
$\overline{Z_0 + Z_t}$	$Z_0 + Z_t$
U(-0 , -(

-1

010	8'
Q19.	7,30
A. Pulse type	, to 1
A	s Interference to radio broadcast
Y) = -	
C. C.	Pulse less type
Glow corona	D. •°
1	None of the above
Q20. Difference between	g*
Difference between	, vc.
impedance impedance	and characteristic impodance is that in sure
A	and characteristic impedance is that in surge
Line resistance is considered	В.
	Line impedance is assumed to be zero
Line capacitance is assumed to be zero	D.
assumed to be zero	
021	Line resistance is assumed to be zero
In lossless transmission line theoretica	ego.
A. A	ally have
r=1=0 .500	В
C.	l=g=0
g = ಒ€ 0	
50	$ \begin{array}{c} \mathbf{D}, & \mathbf{C} \\ \mathbf{r} \neq \mathbf{G} = 0 \end{array} $
O22	1 1 7 d = 0
Q22.	ys.
	ys.
If the shunt admittance of the transmis	ssion line is neglected, the maximum power
If the shunt admittance of the transmis	ssion line is neglected, the maximum power
If the shunt admittance of the transmis will occur when torque angle A.	ssion line is neglected, the maximum power
If the shunt admittance of the transmis will occur when torque angle A. 45°	ssion line is neglected, the maximum power
If the shunt admittance of the transmis will occur when torque angle A.	ssion line is neglected, the maximum power
If the shunt admittance of the transmis will occur when torque angle A. 45° C. 90°	ssion line is neglected, the maximum power
If the shunt admittance of the transmis will occur when torque angle A. 45° C. 90°	B90° D. 180°
If the shunt admittance of the transmis will occur when torque angle A. 45° C. 90°	B90° D. 180°
If the shunt admittance of the transmis will occur when torque angle A. 45° C. 90° Why are the conductors used for higher	B90° D. 180° voltage transmission stranded?
If the shunt admittance of the transmis will occur when torque angle A. 45° C. 90° Why are the conductors used for higher of the transmis will be conductored as a conductor of the transmis will be conductored.	B90° D. 180° voltage transmission stranded?
If the shunt admittance of the transmis will occur when torque angle A. 45° C. 90° Why are the conductors used for higher of the transmis will occur when torque angle Ease of handling	B90° D. 180° voltage transmission stranded? B. Cheaper cost
If the shunt admittance of the transmis will occur when torque angle A. 45° C. 90° Why are the conductors used for higher of the transmis will be conductored as a conductor of the transmis will be conductored.	B90° D. 180° voltage transmission stranded? B. Cheaper cost D.
If the shunt admittance of the transmis will occur when torque angle A. 45° C. 90° Why are the conductors used for higher of the conducto	ssion line is neglected, the maximum power B90° D. 180° voltage transmission stranded? B. Cheaper cost D. Increase in tensile strand
If the shunt admittance of the transmis will occur when torque angle A. 45° C. 90° Why are the conductors used for higher of the conducto	ssion line is neglected, the maximum power B90° D. 180° voltage transmission stranded? B. Cheaper cost D. Increase in tensile strand
If the shunt admittance of the transmis will occur when torque angle A. 45° C. 90° Why are the conductors used for higher of the transmission line. Reduced resistivity 14. On a lightly loaded transmission line.	Ssion line is neglected, the maximum power B90° D. 180° voltage transmission stranded? B. Cheaper cost D. Increase in tensile strength.
If the shunt admittance of the transmis will occur when torque angle A. 45° C. 90° Why are the conductors used for higher of the conducto	B90° D. 180° voltage transmission stranded? B. Cheaper cost D. Increase in tensile strength.
If the shunt admittance of the transmis will occur when torque angle A. 45° C. 90° Why are the conductors used for higher of the conducto	B90° D. 180° voltage transmission stranded? B. Cheaper cost D. Increase in tensile strength.
If the shunt admittance of the transmis will occur when torque angle A. 45° C. 90° C. Why are the conductors used for higher of the conduc	voltage transmission stranded? B. -90° D. 180° Voltage transmission stranded? B. Cheaper cost D. Increase in tensile strength. B. Receiving end voltage cap's area.
If the shunt admittance of the transmis will occur when torque angle A. 45° C. 90° Why are the conductors used for higher of the conducto	voltage transmission stranded? B. -90° D. 180° Voltage transmission stranded? B. Cheaper cost D. Increase in tensile strength. B. Receiving end voltage cap's area.
If the shunt admittance of the transmis will occur when torque angle A. 45° C. 90° C. Why are the conductors used for higher of the transmission line Reduced resistivity A. On a lightly loaded transmission line ecceiving end voltage can exceed sending and voltage	B90° D. 180° voltage transmission stranded? B. Cheaper cost D. Increase in tensile strength.
If the shunt admittance of the transmis will occur when torque angle A. 45° C. 90° C. Why are the conductors used for higher of the conduc	B90° D. 180° Voltage transmission stranded? B. Cheaper cost D. Increase in tensile strength. B. Receiving end voltage can's exceed sending end voltage D. D.
If the shunt admittance of the transmis will occur when torque angle A. 45° C. 90° Reduced resistivity A. On a lightly loaded transmission line ecciving end voltage can exceed sending and voltage pacitive charging current is reduced	B90° D. 180° Voltage transmission stranded? B. Cheaper cost D. Increase in tensile strength. B. Receiving end voltage can's exceed sending end voltage
If the shunt admittance of the transmis will occur when torque angle A. 45° C. 90° C. Why are the conductors used for higher of the transmission line Reduced resistivity A. On a lightly loaded transmission line ecceiving end voltage can exceed sending and voltage	voltage transmission stranded? B. Cheaper cost D. Increase in tensile strength. B. Receiving end voltage can's exceed sending end voltage D. None of these

A			
Increases a	В.	21.30.	
C.	Decrease	:5¢P	
Will not change	D. 25	7	
n)	Will Incre	ase proportionally	
200	.,		
Q26.	•		
The crest time of pulse properties fo	r novitivo susta la		d
A.	positive cycle is		
20 ns	₩ B.	.11).
C.	30 ns		
40 ns	D.	برون	
1.	50 ns		
, D			
Q27.		• 2	-
Q27. Which of the following method may lead transmission line?	be used to inject r	eactive power in the	
A.	В.	~u ⁰	
Series capacitor		ous capacitors	
c.	D.	5 capacitors	
Both A & B. C.		h*	
· ·	None of the		
Q28. ₆₅ * Tine velocity of propagation of electro	-02		
Tip velocity of many and	N. N.		
A.	magnetic waves	on overhead line is	
٠.	, 5 B.		Popula
3 x 108 m/s	₫ 3 x 108 kn	n/s	0
C	~ _		
	D.	4	
3 x 1010 m/s		n/hour	
	D. 3 x 108 km		
Q29. Charging current of a line is more at			
Q29. Charging current of a line is more at	3 x 108 kn		
Q29. Charging current of a line is more at	3 x 108 kn		
Charging current of a line is more at the Mid-point	3 x 108 kn B. Sending e	233 Vests	
Charging current of a line is more at the Mid-point	B. Sending e. D.	nd Nanagar	
Charging current of a line is more at the Mid-point	3 x 108 kn B. Sending e	nd Nanagar	
Charging current of a line is more at A. Mid-point Receiving end	B. Sending e. D. One-third	nd Nanagar	
Charging current of a line is more at Mid-point Receiving end	B. Sending e. One-third	nd 1-333 Con	
Charging current of a line is more at the Mid-point the Receiving end to the Mid-point	B. Sending e. One-third	nd 1-333 Con	
Charging current of a line is more at Mid-point Receiving end 30. Insulation of the modern EHV lines is a second content of the modern is a	B. Sending e D. One-third	nd 1-333 Con	
Cap. Charging current of a line is more at A. Mid-point Receiving end 30. Insulation of the modern EHV lines is a lighting voltage	B. Sending e D. One-third	nd 17.33 of line	
Charging current of a line is more at A. Mid-point Receiving end 30. Insulation of the modern EHV lines is one in the modern current of a line is one at a line is more at a line is one at a line is more at a line is one at a	B. Sending e. D. One-third designed based of Switching	nd 17.33 of line	- 12
Charging current of a line is more at Mid-point Receiving end 30. Insulation of the modern EHV lines is a lighting voltage	B. Sending e. D. One-third designed based of B. Switching	nd 17.33 of line	7,3
Charging current of a line is more at Mid-point Receiving end 30. Insulation of the modern EHV lines is a lighting voltage	B. Sending e. D. One-third designed based of Switching	nd 17.33 of line	\$1.23
Charging current of a line is more at Mid-point Receiving end 30. Insulation of the modern EHV lines is compared to the modern and the modern are selected to the modern and the modern are selected to the modern and the modern are selected to the modern are sele	B. Sending e. D. One-third designed based of B. Switching	nd 17.33 of line	7.3
Charging current of a line is more at A. Mid-point Receiving end A. Receiv	B. Sending e. D. One-third designed based of B. Switching D. RI	nd 17.33 of line	7
Charging current of a line is more at Mid-point Receiving end 30. Insulation of the modern EHV lines is of the modern and	B. Sending e. D. One-third designed based of B. Switching D. RI	nd 17.33 of line	51-2
Charging current of a line is more at Mid-point Receiving end Insulation of the modern EHV lines is corona Corona The entire line performance can be de	B. Sending e. D. One-third designed based of B. Switching D. RI	nd 17.33 of line	1,2
Charging current of a line is more at Mid-point Receiving end Insulation of the modern EHV lines is corona Corona The entire line performance can be de	B. Sending ed D. One-third Switching D. Switching D. RI	of line voltage	
Charging current of a line is more at Mid-point Receiving end 30. Insulation of the modern EHV lines is corona Corona 31. The entire line performance can be de	B. Sending e D. One-third designed based of B. Switching D. RI termined by B. Receiving e	nd 17.33 of line	31-23
Charging current of a line is more at Mid-point Receiving end Insulation of the modern EHV lines is corona Corona The entire line performance can be de	B. Sending ed D. One-third Switching D. Switching D. RI	of line voltage	V 2

, do	37.701
Q32. The most accurate and versatile method	od of achieving reactive power compensation
by using shi	or or acmoving reactive power compensation
A	A
Swit had capacitors r	В.
C a Capacitors r	fix'il capacitor with controlled reactor
C. 5	D.
Saturable reactor with capacitor bank	Switched capacitor with controlled reactor
	70.
Q33.	1'
Which one of the following statement	le man a de la companya de la compan
Which one of the following statement in transmission lines?	is not correct for the use of bundled conductor
Α.	(1)
Control of voltage gradients	B.
C. Sol	Reduction in corona loss
	D.
Reduction in radio interference	Increase in interference with
250	communication lines
Q34.	© C
Constant	39
Constant voltage transmission have the	e advantage(s) of
Incres	B. A.
Increase of short-circuit current of the	1 20/
System	Large reserve of lines in case of line trouble
¢:	
Improvement of power factor at the times of moderate and heavy loads	Ļ D. 63°
of moderate and heavy loads	All of these
472	76
Q35.	, K ²
Operating voltage 750 KV line gives AN a	at a level of
~0	B. 55.4 dB
	55.4.40
ć.	55.4 dB
52 J2	D.
52 dB &	
52.08	58.5 dB
	58.5 dB
	58.5 dB
	58.5 dB
Q36. Ontrol in a power transmission A.	line is achieved by B.
Q36. Voltage control in a power transmission A. Booster transformer	line is achieved by B.
Q36. Voltage control in a power transmission A. Booster transformer C.	Iine is achieved by
Q36. Voltage control in a power transmission A. Booster transformer C.	line is achieved by B. Tap-changing transformer D.
Q36. Voltage control in a power transmission A. Booster transformer C. Injection of reactive power	line is achieved by B. Tap-changing transformer
Q36. Voltage control in a power transmission A. Booster transformer C. Injection of reactive power	Iine is achieved by B. Tap-changing transformer D. All of these
Q36. Voltage control in a power transmission A. Booster transformer C. Injection of reactive power Q37. Series capacitors on transmission lines ar voltamperes are	Iine is achieved by B. Tap-changing transformer D. All of these
Q36. Voltage control in a power transmission A. Booster transformer C. Injection of reactive power Q37. Series capacitors on transmission lines ar voltamperes are	Ine is achieved by B. Tap-changing transformer D. All of these
Q36. Voltage control in a power transmission A. Booster transformer C. Injection of reactive power Q37. Series capacitors on transmission lines ar voltamperes are	Ine is achieved by B. Tap-changing transformer D. All of these The of little use when the required reactive B.
Q36. Voltage control in a power transmission A. Booster transformer C. Injection of reactive power Q37. Series capacitors on transmission lines ar voltamperes are A. Small	Iine is achieved by B. Tap-changing transformer D. All of these The of little use when the required reactive B. Large
Q36. Voltage control in a power transmission A. Booster transformer C. Injection of reactive power Q37. Series capacitors on transmission lines ar voltamperes are A.	Iine is achieved by B. Tap-changing transformer D. All of these re of little use when the required reactive B.

	A' 1
A. &	B. 45
Shunt capacitor	Series capacitors
	D.
C	None of these
It is same for both series and shunt	Notice of these
	•
Q45.	sal - line will
alf the height of the transmission towe	er is decreased, the inductance of the line will
Ä.	B. A
A. Increase	Decrease
Increase	· Cl
C.	D. 455
Remain same	Increase exponentially
	000
Q46.	• •
Second mode of propagation is called a	
	as ac
A	B.
C. Line to ground	Phase to phase
c.	D. 35
Homopolar	Inter-phase
	• ''
Q47.	
	-0 ^{1/2}
By increasing potential of a conductor	
A.5°	,B.*
বাংs potential gradient increase	Insulation required is less
ी -	Insulation required is less D. Potential between conductor and ground
C. corona loss is reduced	Potential between conductor and ground
Corona loss is reduced	
0,5	decreases
048	0)
Q48.	n in recent development is
The conductor used in EHV transmission	n in recent development is
A, ., ., .,	B. 3 ¹³
	B
ACSR CF.	۵.
A. ACSR	ACAR , J
C.	ACAR ACAR
ACSR of AAAC	ACAR , J
AAAC	ACAR ACAR
AAAC Q49. Q49.	ACAR D. All of the above
Q49. Switching over-voltages are more hazare	ACAR D. All of the above
AAAC	ACAR D. All of the above
Q49. Switching over-voltages are more hazard	ACAR D. All of the above
Q49. Switching over-voltages are more hazard A. J Low voltage systems	ACAR D. All of the above dous than lightning surges in case of B. Color of the above
Q49. Switching over-voltages are more hazard A. J. Low voltage systems C.	ACAR D. All of the above dous than lightning surges in case of B. 11 kV systems D.
Q49. Switching over-voltages are more hazard A. J Low voltage systems	ACAR D. All of the above dous than lightning surges in case of B. Color of the above
Q49. Switching over-voltages are more hazard A. J Low voltage systems C. Unbalanced systems	ACAR D. All of the above dous than lightning surges in case of B. 11 kV systems D.
Q49. Switching over-voltages are more hazard A. J Low voltage systems C. Unbalanced systems	ACAR D. All of the above dous than lightning surges in case of B. 11 kV systems D. EHV and UHV systems
Q49. Switching over-voltages are more hazard A. J Low voltage systems C. Unbalanced systems	ACAR D. All of the above dous than lightning surges in case of B. 11 kV systems D. EHV and UHV systems
Q49. Switching over-voltages are more hazard A. J. Low voltage systems C. Unbalanced systems Q50. The power loss is important for the design	ACAR D. All of the above dous than lightning surges in case of B. 11 kV systems D. EHV and UHV systems
Q49. Switching over-voltages are more hazard A. J Low voltage systems C. Unbalanced systems Q50. The power loss is important for the design.	ACAR D. All of the above dous than lightning surges in case of B. C11 kV systems D. EHV and UHV systems In of B.
Q49. Switching over-voltages are more hazard A. J. Low voltage systems C. Unbalanced systems Q50. The power loss is important for the desig A. Generator	ACAR D. All of the above dous than lightning surges in case of B.S. 11 kV systems D. EHV and UHV systems
Q49. Switching over-voltages are more hazard A. J Low voltage systems C. Unbalanced systems Q50. The power loss is important for the design A. Generator C.	ACAR D. All of the above dous than lightning surges in case of B. C11 kV systems D. EHV and UHV systems
Q49. Switching over-voltages are more hazard A. J. Low voltage systems C. Unbalanced systems Q50. The power loss is important for the desig A. Generator	ACAR D. All of the above dous than lightning surges in case of B. Collins C
Q49. Switching over-voltages are more hazard A. J Low voltage systems C. Unbalanced systems Q50. The power loss is important for the design A. Generator C.	ACAR D. All of the above dous than lightning surges in case of B. 11 kV systems D. EHV and UHV systems In of B. Motor