BE (BIELT), Some III, A.T.K.T. 22/6/15. Design, management and Auditing of . Electrical systems.

Bharatiya Vidya Bhavan's SARDAR PATEL COLLEGE OF ENGINEERING

(An Autonomous Institution Affiliated to University of Mumbai)

ATKT-Examination First Half 2015

Total Marks:100 CLASS: B.E.(Electrical) SEM/VII Duration: 3 Hours

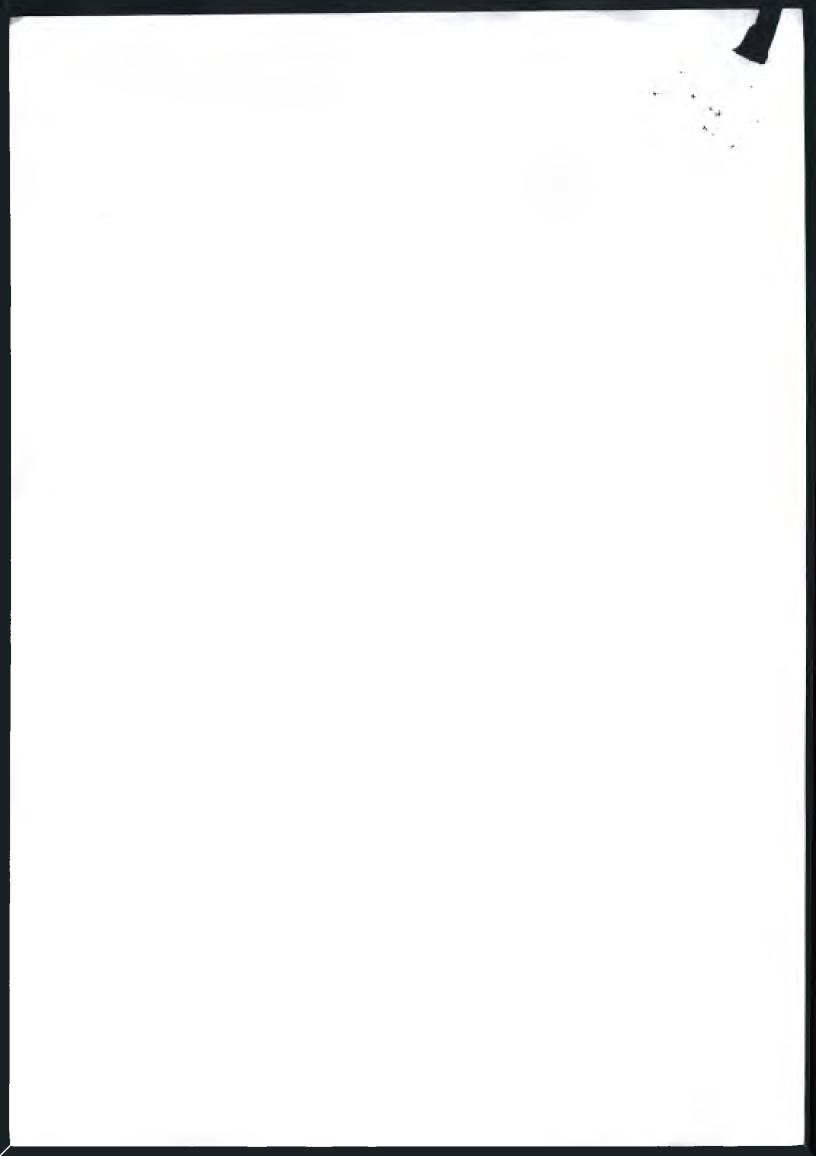
SUBJECT: Design, Management and Auditing of Electrical System

- Attempt any FIVE question out of SEVEN questions Answers to all sub questions should be grouped together Figures to the right indicate full marks In the absence of any data, make suitable assumptions and justify the same. 1687er. Q.1a) Discuss the major protection equipments used in receiving substation. (10)b) What is the concept of payback period pertaining to the financial analysis technique? (05)c) Explain the need of low voltage switchgear. (05)Q.2a) What are the different methods employed to regulate the power factor in modern power system. (10)b) What is the concept of green building? (10)Q.3a) What is the necessity of electrical load management and maximum demand control? (10)b) Discuss the various factors to be considered while selecting the site for substation. (10)**Q.4a)** The three phase Diesel Generator set is supplying the isolated load through the cable having
- impedance (0.01+j0.02) ohm per phase. The terminal voltage (at the load end) is 1100V and load is 10000 KVA. Calculate the source voltage (at the generator terminals) for: (08)
- (i) 0.8 p.f. leading load
- (ii) 0.8 p.f. lagging load

Draw the phasor diagram in both cases. (04)

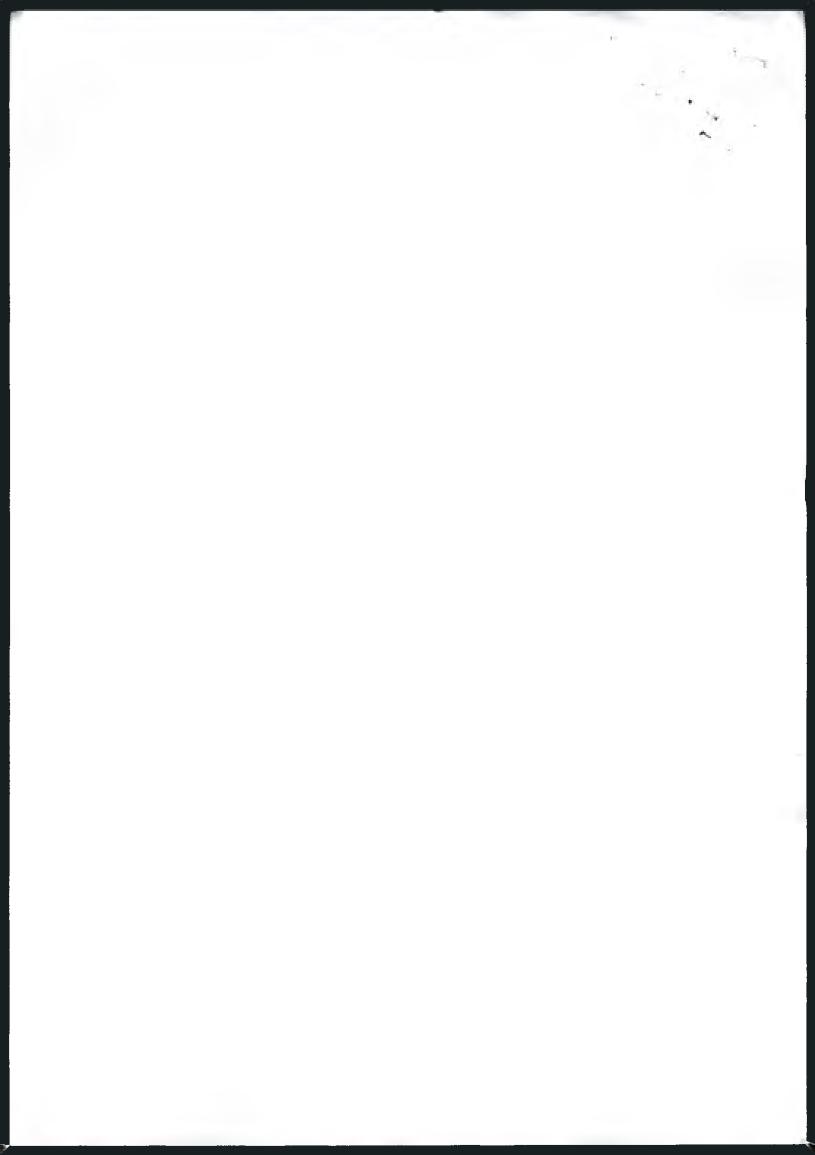
b) Discuss various factors to be considered in cable's conductor sizing (80)

Page. O



BECElelt), som- III, A.T.K.T., 22/6/15. Delign, management & Auditing of Electrical systems.

Q.5a) What are the energy efficient technologies pertaining to the electrical systems.	(10)	
b) Draw Single Line Diagram of secondary substation.		
	•	
Q.6a) Discuss five measure steps in tendering process.	(10)	
b) Discuss the importance of power factor improvement from Utility point of view.	(05)	
c) What are the important factors to be considered while selecting the transformer in subs	tation?(05)	
Q.7a) Describe in brief the major equipments used in primary substation.	(12)	
b) Compare primary and secondary substation	(00)	



BE(Elelt), sem-VII, KT. Edam, 24/8/18 Electronic Instrumentation

THIB DA 106/15

Bharatiya Vidya Bhavan's SARDAR PATEL COLLEGE OF ENGINEERING

(An Autonomous Institute Affiliated to University of Mumbai)

KT (Second Half 2014-15)

Total Marks: 100

Duration: 3 Hours

10

CLASS / SEM: B.E. Electrical SEM VII

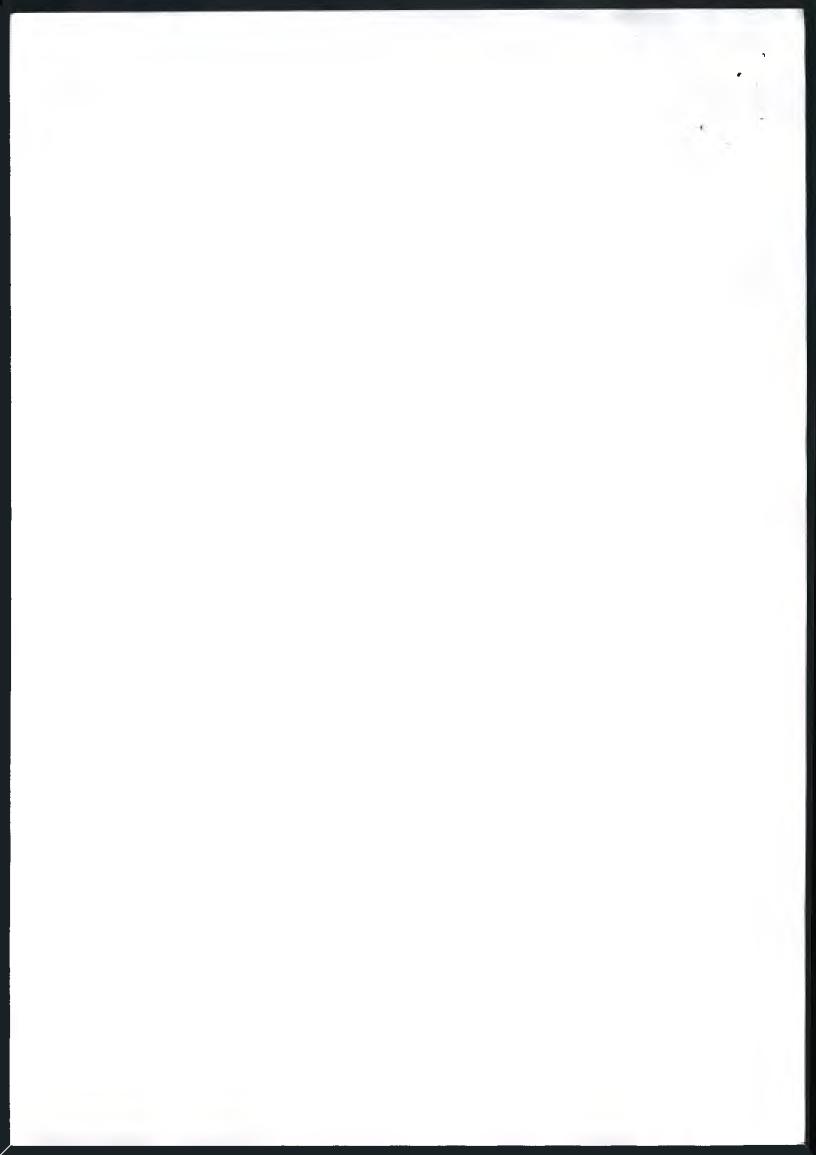
SUBJECT: Electronic Instrumentation

- Answer any FIVE out of SEVEN.
- Answer to all sub questions should be grouped together
- Figures to the right indicate full marks

1,	a	Explain the static and dynamic characteristic of an instrument	10
	b.	Obtain step response of a first and second order measurement system	10
2	a.	Write short note on Digital Storage Oscilloscope	10
	b.	Write short note on Shaft encoders.	10
3_	a.	Explain Single and Multi channel DAS.	10
	b.	Write short note on Sweep Generators	10
4.	a	Explain with the help of neat block diagram Process control system.	10
0	b.	Explain P, PI, and PID controlling modes of a control system.	10
5.	a.	Explain Digital to analog converter using R-2R ladder	10
	b.	Write short note on telemetry and SCADA	_ 10
6	a.	Explain a programmable logic controller with a neat block diagram	10
	b.	Write a note on output latching instruction and Timer instruction.	10
7	a.	Explain the need of instrument calibration? Also explain the Risk involved in not calibrating an instrument.	10

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b. Name and explain the programming languages of a PLC?



Bharatiya Vidya Bhavan's SARDAR PATEL COLLEGE OF ENGINEERING

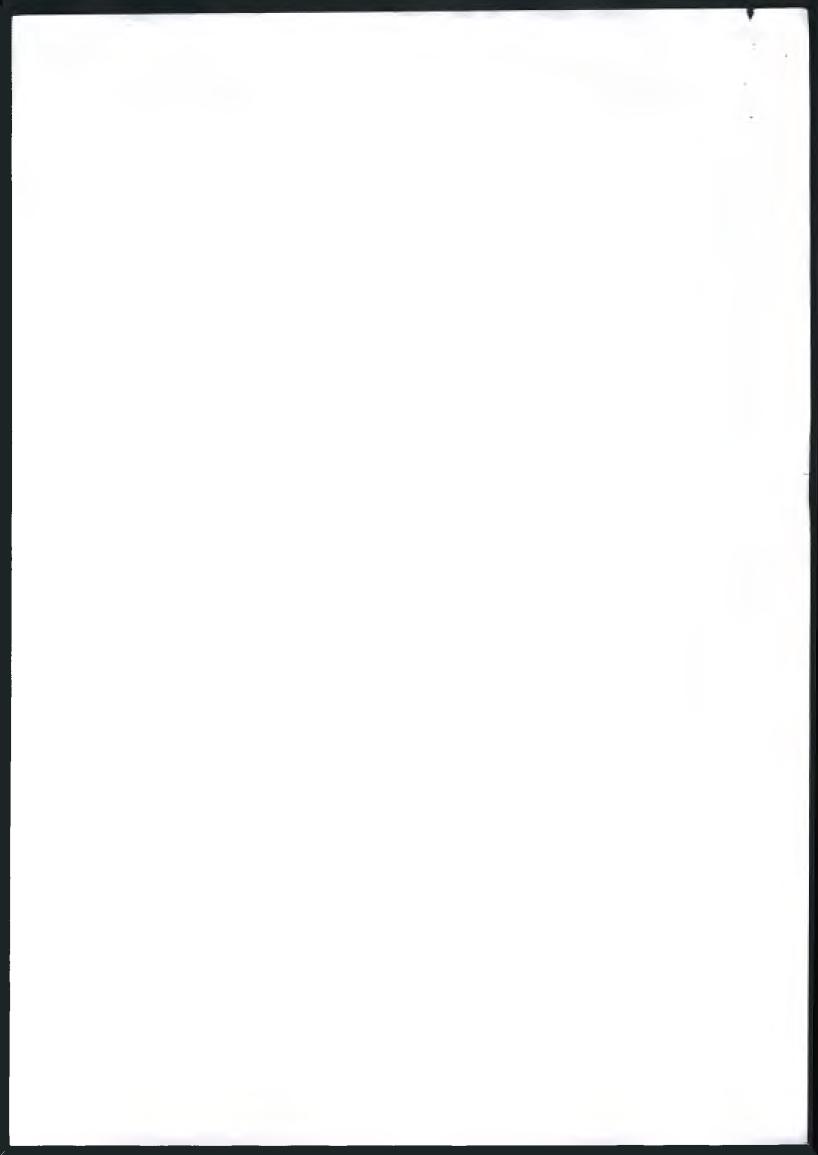
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(An autonomous institute affiliated to the university of Mumbai)

	KT-2015		
Class BE / Sem VII (Elect) Subject: High Voltage Engineering	BE (Elect)	Sem-VII.	Marks 100 6 / 6 / 6 June 3 Hrs
 Attempt any five of the seven quest Assume data wherever required wit Marks to the right indicate full mark 	in explanation /	Sem-VII, 2 Voltage Bright	ncembry Masse
Qs.I a) Explain neatly the streamer theoreb) A steady current of 600μA flows when a voltage of 11.5 kV is approurent of 62 μA flows when the constant at the previous value. W	through the plane elecolied. Determine the Todistance of separation	trode separated by a distance with the distance of the separated by a distance of the separat	(10) ance of 0.46 cm (10) a coefficient if a I the field is kept
Qs.II a) What are the important properties voltage engineering? Give some Explain with neat diagram the mineasures taken to avoid the effect b) A peak voltmeter uses an RC cirpotential divider has a ratio of I of R & C if the time constant of	e examples of solid instruction in the examples of lightening of lightening. The example of the	ilators. g phenomena? What are t & a capacitance potentia	he protective l divider. The (10)
Qs.III a) With neat diagram explain the m b) Generation of high voltages (> 40	echanism of lightening 00kv) at power freque	phenomena? ncy for testing	(10) (10)
Qs.IV Explain the following: Basic principle of operation of ele b Discuss the applications of insul			(10) s. (10)
Qs.V a) With a simple Peak voltmeter circ advantages & disadvantages of t up to 160 kv.	uit explain the measure his method peak read	ement of high voltage. Ming voltmeter is required	1ention the (10) to measure voltage
b) Explain the breakdown mechanis	sm due to treeing and t	racking?	(10)
Qs.V1 a) Operation of Cockroft-Walton v b)A sample of insulation is tested of the parameters of bridge are as for a branch with parallel combination Determine: i) the value of capacity of the sample, (iii) tanδ & (iv) pos	using a33kv, 50Hz, hig flows: standard capaci on of resistance & capaci tance of the sample ins	h voltage Schering bridg tance of 450 pF, the resistitance of values 160Ω & ulation, (ii) parallel equiv	stive branch 700 $\Omega_{ m s}$: 0.16 μ F.
Qs.VII Explain any two with neat sketche	es		(20)
 a) Three stage Marx Impulse gener b) Full impulse wave & Chopped c) Measurement of Dielectric Loss 	impulse wave		

Page-O.

d) Trigatron & Tripping circuit for Trigatron



25/06/15

Bharatiya Vidya Bhavan's SARDAR PATEL COLLEGE OF ENGINEERING

(An Autonomous Institution Affiliated to University of Mumbai)

KT-EXAMINATION 2015, JUNE

Total Marks:100

Duration: 3 Hours

CLASS/SEM :- BE(ELECTRICAL) / VII

SUBJECT: RENEWABLE ENERGY SOURCES

Answer any five Qs. from Qs. 1 to Qs.7)

Draw neat diagrams wherever required.

Answers to all sub questions should be grouped together.

Master

Explain the following:

Qs. 1		
a.	Solar thermal collectors for electricity generation.	(10)
b.	Electricity generation in a solar thermal plant - large scale systems.	(10)
Qs. 2		(10)
a.	Solar thermal collectors for heating.	(10)
b.	Latent heat storage systems.	(10)
Qs. 3		(10)
a.	Biogas plant with floating dome.	(10)
b.	Geothermal reservoir & Electricity generation.	(10)
Qs. 4		(10)
a.	Scope & economics and availability of Wave & tidal energy	. (10)
b.	Ocean thermal energy conversion	• •
Qs. 5		(10)
a.	Principle of operation of photo voltaic cell	(10)
b.	Major components & its functions for a wind turbine	(10)
Qs. 6		(10)
a.	Combined Flash & Binary geothermal power plant	(10)
b.	Horizontal & Vertical axis wind mill	(10)
Qs. 7		(10)
a.	Solar Tracking systems.	(10)
b.	Solar radiation measurements.	(10)
	· · · · · · · · · · · · · · · · · · ·	(10)

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