

**Seventh Semester B.E. Degree Examination, Dec.2017/Jan.2018**  
**Testing and Commissioning of Electrical Equipment**

Time: 3 hrs.

Max. Marks:100

**Note: Answer any FIVE full questions, selecting  
atleast TWO questions from each part.**

**PART – A**

- 1 a. Name the various accessories and fitment on power transformer. (10 Marks)  
b. Explain the principle and application of Buchholz Relay. (10 Marks)
- 2 a. State the important steps in maintenance of power transformer. (10 Marks)  
b. Explain the test set – up impulse testing of power transformer. (10 Marks)
- 3 a. State the requirement of type – tests and routine test on synchronous machine. (10 Marks)  
b. What do you mean by cooling? Explain the different types of cooling of turbo – generator. (10 Marks)
- 4 a. Explain the function and principle of brushless excitation system. (10 Marks)  
b. State and explain the various abnormal conditions in synchronous generator. State respective protections. (10 Marks)

**PART – B**

- 5 a. Explain the requirement of foundation work for medium and large induction motor. (10 Marks)  
b. What are the standard specification of induction motor. (10 Marks)
- 6 a. Explain the procedure of drying out of induction motor by different method. (08 Marks)  
b. Explain the procedure storing a machine at site. (05 Marks)  
c. State the choice of motor for hazardous area. (07 Marks)
- 7 a. State the causes for vibration in induction motor, explain the harmful effect of vibration, how are vibration measured? (10 Marks)  
b. Explain the significance of balancing of rotor, how is balancing achieved. (10 Marks)
- 8 a. Explain the specification of high voltage circuit breaker. (05 Marks)  
b. What are the type of circuit breaker (based on arc quenching medium). (05 Marks)  
c. State the various maintenance of minimum oil circuit breaker. (10 Marks)

\* \* \* \* \*

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.



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E&E Engg. Dept.

Exam.

Internal Assessment

Odd Sem(2017-18)

**FIRST INTERNAL ASSESSMENT**

Sem: VII

Sub: T & C of power system Apparatus

Sub. Code: 15EE752

Date: 12/09/2018

Time: 11am -12 noon

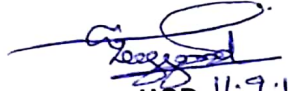
Max. Marks: 25

Note: Answer two full questions, draw sketches wherever necessary.

Q. No		Description of Question	Marks	CO	RBT
1	a	Explain impulse test on transformer with neat sketch.	7	405p2.1	L1, L2
	b	Explain the Insulation test on transformer using megger.	6	405p2.1	L1, L2
<b>OR</b>					
2	a	What is drawingout process? Explain the different drawingout methods used in transformer drying.	7	405p2.1	L1, L2
	b	Explain Volt-Ratio test and Polarity test of transformer.	6	405p2.1	L1, L2
3	a	Explain the temparture rise test on transformer.	6	405p2.1	L1, L2
	b	Mention the different types of testing of transformer.	6	405p2.1	L1, L2
<b>OR</b>					
4	a	Write the procedure for installation power transformer	6	405p2.1	L1, L2
	b	Explain with neat sketch "dielectric strength test" on transformer oil.	6	405p2.1	L1, L2

  
Course Coordinator

  
Module Coordinator

  
HOD 11.9.18



**SCHEME OF EVALUATION IA - FIRST.**

Page No : /

SEM: VII		SUBJECT: T & C of power System Apparatus	SUBJECT CODE: 15EE752	DATE: 12-09-2018	
Q.No.	Bits	DESCRIPTION		Marks	CO's
1.	a)	Impulse test on transformer. Circuit diagram — 02. Wave form — 02. Working explanation — 03.		07	LOSP2 1
<p>Fig- set up.</p>					
<p>Fig - Standard Impulse wave.</p>					
<p>Fig: Single Impulse generator.</p>					
Explanation of the circuit & working of the Impulse test.				3M	

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Course Coordinator

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Module Coordinator

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HOD 2019



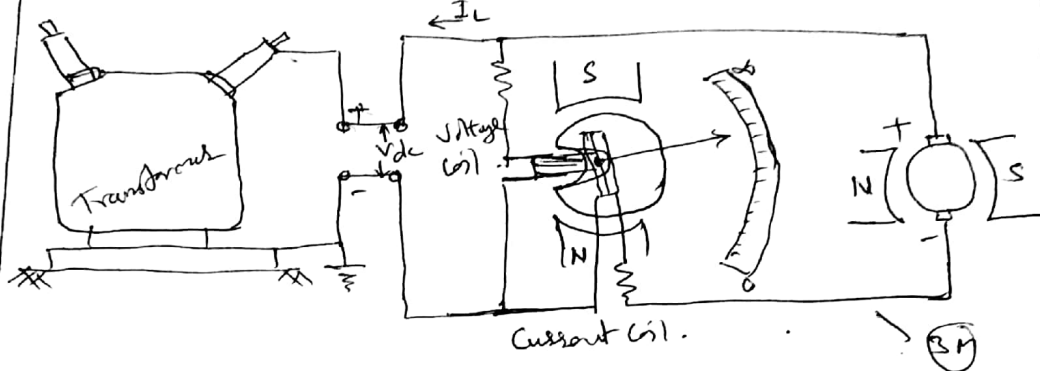
SCHEME OF EVALUATION IA -

Page No : /

SEM: VII SUBJECT: T&C power system Apparatus. SUBJECT CODE: JSEGTSL DATE:

Q.No. Bits DESCRIPTION Marks CO's

1 b) Insulation test on transformer using Megger.  
sketch of Megger ———— 03 }  
Testing of Insulation of transformer — 03. } 06.



Explanation of testing -

$$I_0 R_0 = \frac{V_{dc}}{I_{dc}} = \frac{V_{dc}}{I_c + I_l}$$

PI of Insulation.  $\frac{I_0 R_{60}}{I_0 R_{15}} > 1$

Q.2 a) Definition of drying out process — 1  
Types " — 1 }  
Any one sketch of drying out — 2 }  
Explanation any one method — 3 }

b) VOLT ratio test explanation — 03.

Polarity test → Additive polarity — 1½ }  
→ Subtractive polarity — 1½ } 03.

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HOD 20.9.18



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E &amp; E Dept

Exam

IA Scheme

2018-19 (Odd)

## SCHEME OF EVALUATION IA - FIRST.

Page No : 31

SEM: VII		SUBJECT: T&C Power System Apparatus	SUBJECT CODE: ISEE 75L	DATE: 12-01-2018	
Q.No.	Bits	DESCRIPTION		Marks	CO's
3	a)	Temperature rise test. Different type of temp. rise tests. — 01. } Explanation of any one or two tests — 05 } 06		06	
	b)	Only mentions the different type of tests on transformer.  2 tests $\Rightarrow$ 1 marks.  12 tests $\times$ 0.5 Marks = 06 M.		06	
Q.4	a)	Installation procedure of transformer 1) Tender 2) Enquiry 3) Transportation 4) Inspection. 5) Foundation details. 6) Tests. 7) Installation. 8) Mounting. two line explanations. at least. 6.		06 Marks	

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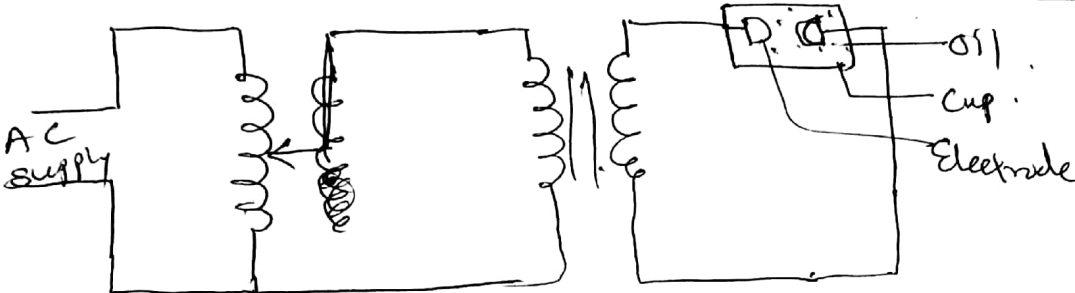
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E & E Dept  
Exam  
IA Scheme  
2018-19 ( Odd )

**SCHEME OF EVALUATION IA -**

Page No : /

SEM:	SUBJECT:	SUBJECT CODE:	DATE:		
Q.No.	Bits	DESCRIPTION		Marks	CO's
4	b)	 <p>Step up transformer</p> <p>Circuit diagram. ——— 02 .</p> <p>Working BDV test of oil → 04 .</p> <p>} 06</p>		06	