

G

Reg. No. :

--	--	--	--	--	--	--	--	--	--

**Question Paper Code:59325**

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2018

Elective

Electrical and Electronics Engineering

15UEE925 - ERECTION, TESTING AND COMMISSIONING OF ELECTRICAL EQUIPMENTS

(Regulation 2015)

Duration: Three hours

Maximum: 100 Marks

PART -- A (5 x 3 = 15 Marks)

- |    |  |        |
|----|--|--------|
| 1. | State the importance of polarity and phase sequence in transformer.  | CO1- R |
| 2. | State the various tests in commissioning of Power Transformers.      | CO2- R |
| 3. | Explain the voltage ratio test on slip ring Induction motor.         | CO3- R |
| 4. | Illustrating the method of reversing of three phase induction motor. | CO4- R |
| 5. | List the various tests adopted on protective devices                 | CO5 -R |

PART – B (5 x14= 70Marks)

- |    |  |        |      |
|----|--|--------|------|
| 6. | (a) Describe the functional requirements and constructional features of transformer tanks. | CO1- U | (14) |
|----|--|--------|------|

Or

- |    |   |        |      |
|----|---|--------|------|
|    | (b) Explain the important steps followed in inspection of transformers.                     | CO1 -U | (14) |
| 7. | (a) Explain the construction and working principle of Buchholz relay with its applications. | CO2- U | (14) |

Or

- |  |  |        |      |
|--|--|--------|------|
|  | (b) Describe the test setup for impulse testing of power transformers. | CO2 -U | (14) |
|--|--|--------|------|

8. (a) Give the functions of excitation system in synchronous machine. CO3- Ana (14)  
Explain the principle of brushless excitation system.

Or

- (b) Illustrate the procedure of low slip test and the method of calculating  $X_q$  in synchronous machine. CO3- Ana (14)

9. (a) Describe the mechanical tests for alignment, bearings, vibrations and balancing in induction machine. CO4 -U (14)

Or

- (b) List the various electrical tests performed on induction machines and discuss any two in detail. CO4 -Ana (14)

10. (a) (i) State the various type tests performed on high voltage a.c circuit CO5 -U (7)

- (ii) Explain routine tests necessary on high voltage a.c circuit breaker. CO5- U (7)

Or

- (b) What are the types of Circuit breakers? Explain any one circuit breaker with neat sketch. CO5- U (14)

PART -- C (1x 15 = 15 Marks)

11. (a) Explain the general inspection checks and maintenance of generators and motors CO5- U (15)

Or

- (b) Write about hazardous location and the requirements of explosion proof equipment. Give its design specialties. CO1 -App (15)