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Question Paper Code:59325

B.E. / B.Tech. DEGREE EXAMINATION, DEC 2021

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. Mention the significance of line charging capacitance. CO3- R
4. State the standard test necessary on synchronous motors. CO4- R
5. Specify types of protective devices used in electrical systems? CO5 -R

PART – B (5 x14= 70Marks)

6. (a) Explain the important steps followed in inspection of transformers. CO1- U (14)

Or

(b) List the various types of transformers and discuss the basic principle of power transformer working CO1 -U (14)
7. (a) Describe the test setup for impulse testing of power transformers CO2- U (14)

Or

(b) State the importance of efficiency and significance of condition of maximum efficiency of transformer & Analyse the efficiency by on the basis of O.C test & S.C test. CO2 -U (14)

8. (a) Explain the sudden 3 phase short circuit test on a 3 phase synchronous generators & also explain how to calculate X_d', X_d'', X_d or X_s . CO3- Ana (14)
- 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) (i) Summarize the mechanical designed features of IM. CO4 -Ana (7)
- (ii) Summarize the starting methods of squirrel cage IM CO4 -Ana (7)
10. (a) Explain the layout of a simple short circuit testing station for proving the ratings of the circuit breaker. CO5 -U (14)
- 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) Describe the operations of over current relay & time delay relay with neat sketches CO1 -App (15)