

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Regular End Semester Examination – Winter 2022

Course: B. Tech

Branch : Electrical

Semester : VI

Subject Code & Name: BTEEC605A & Switchgear and Protection

Max Marks: 60

Date:

Duration: 3.45 Hr.

Instructions to the Students:

1. All the questions are compulsory.
2. The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in () in front of the question.
3. Use of non-programmable scientific calculators is allowed.
4. Assume suitable data wherever necessary and mention it clearly.

	(Level/CO)	Marks
Q. 1 Solve Any Two of the following.		12
A) Explain need of protective relaying & state the qualities of protective relay.	(L2/CO1)	6
B) Explain the working principle of induction type relay with neat diagram.	(L2/CO1)	6
C) What is static relays? Explain the advantages & disadvantages of static relay.	(L3/CO1)	6
Q.2 Solve Any Two of the following.		12
A) Compare A.C. and D. C. circuit breaker.	(L3/CO2)	6
B) Explain construction and working vacuum circuit breaker.	(L2/CO2)	6
C) What are the characteristics of SF6 gas? Explain construction and working o SF6 circuit breaker.	(L2/CO2)	6
Q. 3 Solve Any Two of the following.		12
A) Explain the working principle microprocessor based protection relay.	(L2/CO3)	6
B) Explain the advantages of numerical relay over electromechanical relays	(L3/CO3)	6
C) Explain the working of numerical type rely.	(L4/CO3)	6
Q.4 Solve Any Two of the following.		12
A) Explain differential protection scheme used for busbar protection	(L3/CO3)	6
B) Explain time-graded overcurrent protection of transmission.	(L3/CO3)	6
C) Describe the principle of impedance relay for protection of transmission line.	(L3/CO3)	6
Q. 5 Solve Any Two of the following.		12
A) Explain construction and working principle of Buchholz relay.	(L2/CO3)	6
B) Explain the protection of an alternator from turn-to-turn fault.	(L3/CO3)	6
C) What is basic impulse insulation ? Explain the concept of insulation coordination.	(L2/CO3)	6

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