

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE Winter Examination – 2022 Course: B. Tech. Branch : Electrical Engineering Semester :VI Subject Code & Name: BTEEC605A Elective-VII A. Switch Gear and Protection Max Marks: 60 Date: Duration: 3 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 with block diagram Static relay with merits and demerits.	Understand	6
B)	Explain Primary and backup protection.	Understand	6
C)	With neat diagram describe the induction disc and induction cup type relay.	Understand	6
Q.2	Solve Any Two of the following.		12
A)	Explain in details with diagram SF6 C.B. Also write merits and demerits.	Understand	6
B)	Provide a detailed explanation of Miniature Oil Circuit Breaker (MOCB), including a diagram, and discuss its merits and demerits.	Understand	6
C)	Derive the expression for re-striking voltage of in case of a circuit breaker.	Apply	6
Q. 3	Solve Any Two of the following.		12
A)	Draw a general block diagram of a Numerical Type Relay and explain its merits and demerits in detail.	Understand	6
B)	Provide a detailed explanation, along with a block diagram, of a microprocessor-based overcurrent relay.	Understand	6
C)	Draw and explain the characteristics of impedance relay and MhO relay.	Apply	6
Q.4	Solve Any Two of the following.		12
A)	Explain in details busbar protection schemes.	Understand	6
B)	With neat diagram describe the operation of Buchholz relay used for transformer protection.	Understand	6
C)	With neat diagram explain the alternator protection against the stator faults.	Understand	6
Q. 5	Solve Any Two of the following.		12
A)	What is the significance of power system earthing. Explain in detail the different methods used for earthing?	Apply	6
B)	With neat diagram explain the percentage differential protection of	Apply	6

	transformer.		
C)	With neat diagram explain the construction and operating principle of lightning arrester.	Understand	6
	*** End ***		