

TUTORIAL QUESTIONS

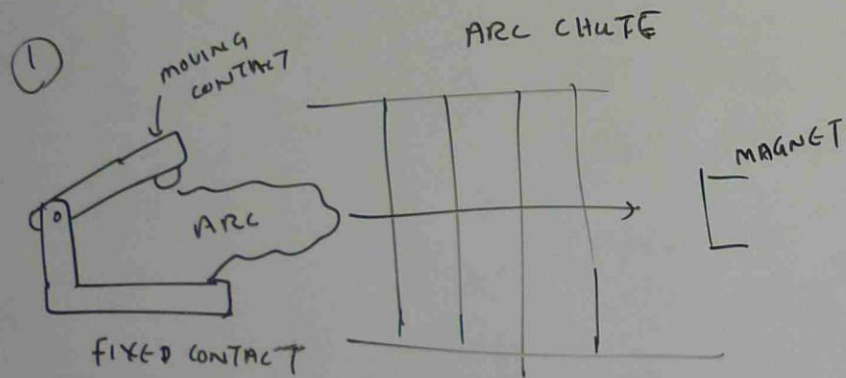
- ① (a) SKETCH THE ARC OCCURS IN THE CIRCUIT BREAKER AND DESCRIBE THE FOLLOWING (a) ARC LENGTHENING (b) ARC COOLING (c) ARC SPLITTING (d) ARC CONSTRAINING
- ② DRAW THE GRAPH CONSISTING OF CIRCUIT VOLTAGE, RESTRIKING VOLTAGE, RATE OF INCREASE OF DIELECTRIC STRENGTH, ARC VOLTAGE AND ARC CURRENT
- ③ DESCRIBE THE FEATURES AND SUITABILITY OF FOLLOWING CLOSING SYSTEMS FOR CIRCUIT BREAKER (a) SOLENOID CLOSING (b) MOTOR CLOSING (c) SPRING WHEEL CLOSING (d) FLYWHEEL CLOSING.
- ④ SKETCH THE INSTALLATION OF RECLOSER AND EXPLAIN THE OPERATION.

5) DEFINE THE FOLLOWING TECHNICAL TERMS

(a) CIRCUIT BREAKER

(b) BREAKING CAPACITY

6) DESCRIBE THE TYPES OF CIRCUIT BREAKERS
AND EXPLAIN THE COMPONENTS OF OIL CIRCUIT
BREAKER



ARC LENGTHENING - THE ARC HAS TO BE LENGTHENED
SO ITS RESISTANCE IS INCREASED
TO ASSIST IN EXTINGUISHING
ARC

ARC COOLING

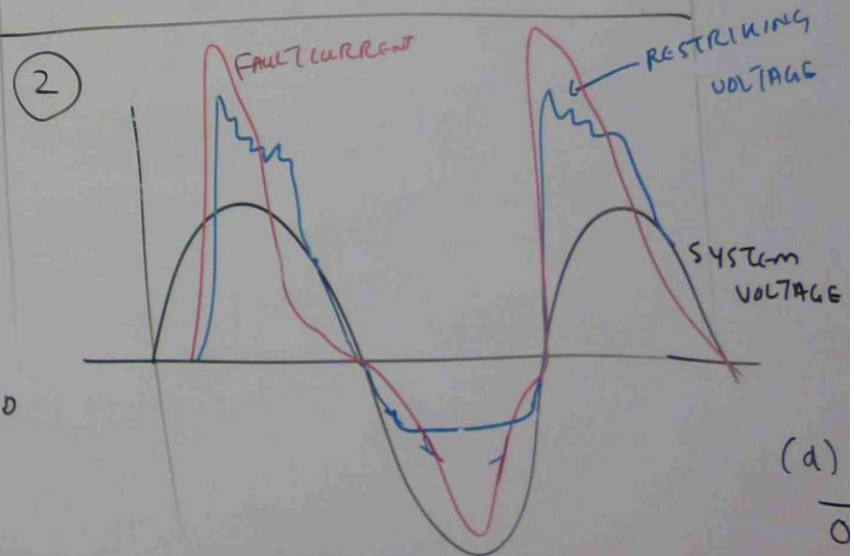
LENGTHENED ARC IS COOLED BY AIR

ARC SPLITTING

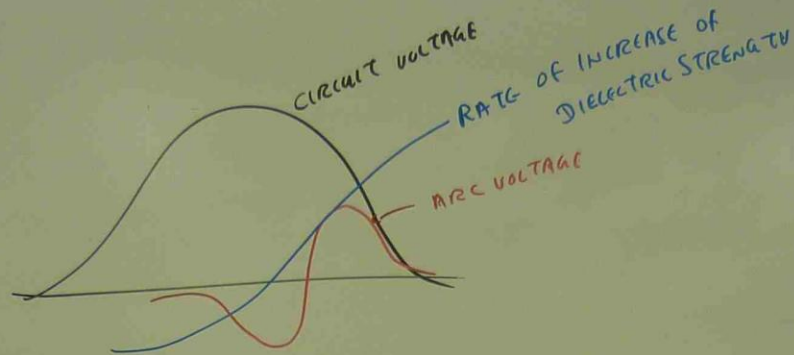
THE ARC CHUTE SPLITS THE ARC AS
IT TRAVELS ALONG CHUTE

ARC CONSTRAINING

THE ARC IS CONSTRAINED IN ARC CHUTE
OF NARROW CHANNEL



(d)



③ (a) Solenoid Closing

PROVIDE VERY HIGH FORCE TOWARDS THE END OF THE STROKE

RIKING
VOLTAGE

(b) MOTOR CLOSING

NO DIRECT CLOSING. IT CHARGES A SPRING ON FLYWHEEL

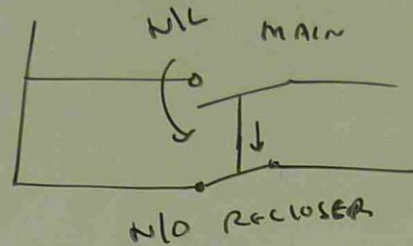
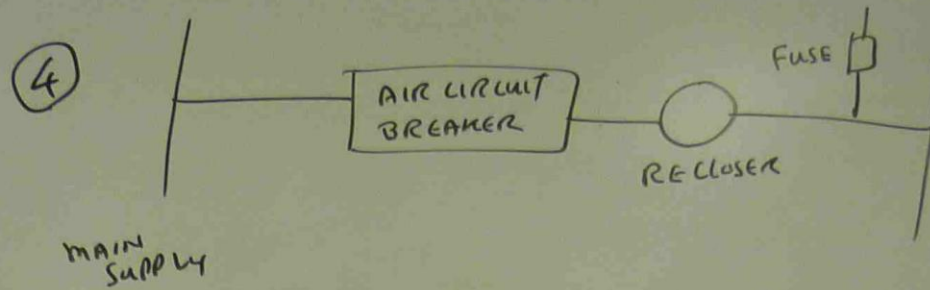
SYSTEM
VOLTAGE

(c) SPRING WHEEL CLOSING

SPRING MAY BE COMPRESSED SLOWLY BY HAND OR SMALL MOTOR

(d) FLYWHEEL CLOSING

ORGANIZED BY SMALL MOTOR. ENERGY IS USED TO CLOSE CIRCUIT BREAKER.



THE RECLOSER COIL IS ENERGISED WHEN THE CIRCUIT BREAKER CONTACT IS OPENED.

THE RECLOSER CONTACT IS CLOSED AND IT ENERGIZES THE MAIN CONTACT TO RECLOSE.

WHEN THE SYSTEM FAULT IS CLEARED, RECLOSER COIL RECLOSES THE MAIN CONTACTS.

⑤

CIRCUIT BREAKER

A MECHANICAL SWITCHING DEVICE CARRYING AND BREAKING THE CURRENT UNDER NORMAL CIRCUIT AND UNDER PRE-DETERMINED CONDITIONS.
BREAKING AND MAKING THE CURRENT UNDER ABNORMAL CONDITION AND SHORT CIRCUIT.

BREAKING CAPACITY

THE VALUE OF THE BREAKING CURRENT, THE MAXIMUM VALUE OF CURRENT THAT THE CB CAN TRIP AND CLEAR THE FAULT

⑥ TYPES OF CIRCUIT BREAKERS

OIL CIRCUIT BREAKER

AIR CIRCUIT BREAKER

AIR BLAST CIRCUIT BREAKER

VACUUM CIRCUIT BREAKER

SULPHUR HEXA FLUORIDE CIRCUIT BREAKER