SEAT No. :

[Total No. of Pages : 2

BE/Insem./APR-145

B.E. (Electrical)

403147 : SWITCHGEAR & PROTECTION

(2012 Pattern) (Semester - II)

Time : 1 Hour]   *[Max. Marks : 30*

Instructions to the candidates:

1) *Answer Q1 or 2, Q3 or 4, and Q5 or 6.*
2) *Neat diagrams must be drawn wherever necessary.*
3) *Figures to the right side indicate full marks.*
4) *Use of Non-Programmable Scientific Calculator is allowed.*
5) *Assume suitable data if necessary.*

Q1) a) What are the causes of faults? State the different types of fault in power system. **[4]**

b) What are essential qualities of Protective relaying? Explain in detail. **[6]**

OR

Q2) a) Draw and Explain the trip circuit of circuit breaker. **[4]**

b) Obtain torque equation of Induction type relay. **[6]**

Q3) a) Explain the concept of current chopping with neat waveform. **[4]**

b) Explain the following terms with respect to circuit breaker.

    i) Restriking voltage

    ii) R. R. R. V.

    iii) Recovery voltage **[6]**

OR

Q4) a) Explain high resistance interruption principle of circuit breaker. **[4]**

b) What is resistance switching? Derive the expression for critical value of switching resistance. **[6]**

P.T.O.

Q5) a)   Explain the following terms with respect to circuit breaker.   **[4]**

   i)   Short time current   ii)   Making capacity

   b)   Explain construction and working of aircircuit breaker.   **[6]**

<div align="center">OR</div>

Q6) a)   Explain what is autoreclosing in circuit breaker.   **[4]**

   b)   With neat diagram explain the construction and working of vaccumcircuit breaker.   **[6]**

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