

Menoufia University
Faculty of Engineering, Shebin El-Kom
Electrical Engineering Department
First Semester Examination, 2013-2014
Exam Date : 16 / 1 / 2014



Subject: Condition Monitoring of High Voltage Equipment
Code: ELE 710
Year: Postgraduate-PhD
Time Allowed : 3 hours
Total Marks : 100 marks

Answer the following questions

Question 1

(25 marks)

- (a) What are the aims of condition monitoring implementation? (15 marks)
- (b) State the main components of condition monitoring system with declaring the function of each one. (10 marks)

Question 2

(25 marks)

- (a) Distinguish between continuous and periodic monitoring systems. (10 marks)
- (b) For gas insulated switchgear (GIS), many partial discharge detection methods are used. However, few methods are used for oil-immersed transformer and cables. Comment. (15 marks)

Question 3

(30 marks)

Classify the partial discharge measurement methods including their sensor and detection principles with declaring the type of monitoring (online/offline monitoring) for:

1. gas insulated switchgear (GIS)
2. oil-immersed transformer
3. power cable

Question 4

(20 marks)

Briefly, discuss the purposes of signal processing technology in partial discharge measuring system?

With our best wishes

Prof. Dr. Mohamed Izzularab

Dr. Nehmdoh Sabiha

This exam measures the following ILOs							
Skills	Knowledge & Understanding Skills			Intellectual Skills		Professional Skills	
	a1-1	a1-3	a1-4	b4-1	b5-2	c4-1	c8-1
Question Number	Q1-a	Q3	Q2-b	Q2-d	Q3-a	Q3-b	Q4-c