Fayoum University
Faculty of Engineering
Electrical Engineering Department

Department: 2nd year, electric power
Exam: Final term
Date: 11 January , 2017

Course: electric circuits II
Time allowed: 3 hours
Total marks: 140 marks

Question (1) (30 marks)

A balanced delta-connected source has phase voltage $\mathbf{V}_{ab} = 416\angle 30^\circ$ V and a positive phase sequence. This is connected to a balanced delta-connected load. The load impedance per phase as $60\angle 30^\circ$ and line impedance per phase as $1 + j1\ \Omega$. Find the complex power that delivered by the source.

Question (2) (25 marks)

Determine the energy stored in the coupled inductors at $t = 2$ s in Fig.(1).

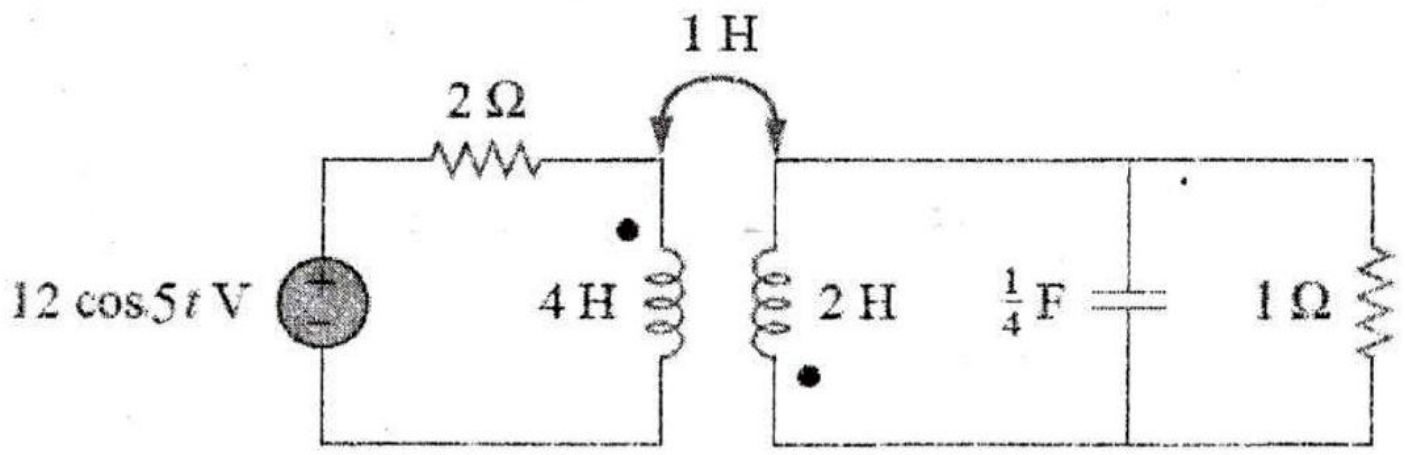

Fig.(1)

Question (3) (25 marks)

Identify the type of the filter, the circuit represents in Fig. (2), and determine its specifications.

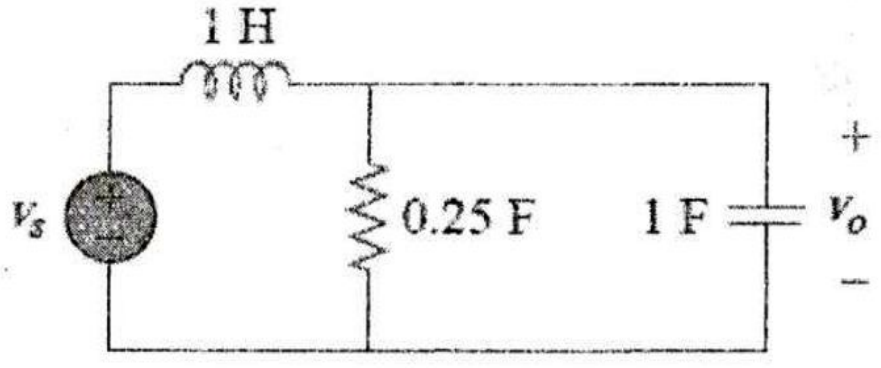

Fig. (2)

Dr. Jehan Shazly