
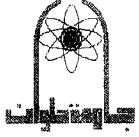


12/1/15  
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 كلية الهندسة بطنطا	<b>Dept/Division: Biomedical Engineering</b> <b>Academic level: First</b> <b>Semester: First 2015/2016</b> <b>Course code &amp; title: GEN4114 – Technical Report Writing</b> <b>Instructors: Dr. Ahmed Agamia and Dr. Nancy M. Salem</b> <b>Total mark: 40 marks</b> <b>Time allowed: 2 hrs</b>	
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Answer the following questions

**Question 1:**

**[8 marks]**

- What is meant by “Technical Writing”?
- What is the importance of technical writing?
- Explain the ethical issues that should be considered in technical writing.

**Question 2:**

**[8 marks]**

- List different types of letters.
- What is the structure of a business letter?
- Write a recommendation letter for a postgraduate student from a professor.

**Question 3:**

**[8 marks]**

- Why *graphics* are used for data representation in technical reports?
- What are the types of graphics that could be used?
- What the guidelines for using graphics?

**Question 4:**

**[8 marks]**

One of the things you will be asked to do on your university course is to give an oral presentation. Formal speaking in front of your colleagues and supervisors can be challenging if you have not done this before. It is important to be as well prepared as possible.

- What are the main points that should be considered when planning a presentation?
- Compare between good and bad presentations
- Compare between the several choices for you to deliver your speech?

**Question 5:**

**[8 marks]**

“Don’t plagiarize. Express your own thoughts in your own words.... Note, too, that simply changing a few words here and there, or changing the order of a few words in a sentence or paragraph, is still plagiarism. Plagiarism is one of the most serious crimes in academia.” (Pechenik, 2001; p.10).

- What is *plagiarism*?
- Compare between different types of plagiarism.
- How plagiarism can be avoided?

**Answer the following Questions:**

**A-Choose the correct answer(s): (20 Marks)**

**1- If pancreas is removed, the compound which remain undigested is**

- a) Proteins
- b) Carbohydrates
- c) Fats
- d) all of these

**2- Most of the fat digestion occurs in**

- a) Rectum
- b) Stomach
- c) Duodenum
- d) Small intestine

**3-Release of pancreatic juice is stimulated by**

- a) Enterokinase
- b) Secretin
- c) Trypsinogen
- d) Cholecystokinin

**4-One of the enzymes involved in glycolysis, aldolase, requires  $Zn^{2+}$  for catalysis.**

**Under conditions of zinc deficiency, when the enzyme may lack zinc, it would be referred to as the:**

- a. holoenzyme
- b. prosthetic group
- c. apoenzyme
- d. coenzyme
- e. substrate

**5- What is a coenzyme?**

- a) Inorganic ion
- b) Organic molecule
- c) Both A and B
- d)  $FAD^+$

**6- Vitamin K is**

- a) Water soluble
- b) Fat soluble
- c) B complex
- d) None of them

**7. The naturally occurring form of amino acid in proteins**

- a) L-amino acids only
- b) D-amino acids only
- c) both L and D amino acids
- d) none of these

**9. Acidic amino acids include**

- a) Arginine and glutamate
- b) Aspartate and asparagine
- c) Aspartate and lysine
- d) Aspartate and glutamate

**10-Disulphide bonds are formed between**

- a) cysteine residues that are close together
- b) cystine residues that are close together
- c) proline residues that are close together
- d) histidine residues that are close together

**B. Write short note about disease resulted from (5 Marks):**

- 1- Sickle cell anemia
- 2- Cystic Fibrosis

**C. Write the chemical structure of \_\_\_\_\_ (10 Marks):**

- a) Glutamate
- b)  $\alpha$ - Glucose
- c) Capric acid
- d) Histidine
- e) Omega 6 fatty acid


**D. What happened in case of? \_\_\_\_\_ (10 Marks)**

- 1- Surgical removal of pancreas
- 2- CCK deficiency
- 3- Surgical removal of gall bladder
- 4- Vitamin C deficiency
- 5- Macrocytic anemia

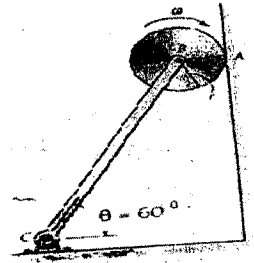
**E. Write short note about: \_\_\_\_\_ (5 Marks)**

Pyruvate Carboxylase and Decarboxylase classes and action (with equation)

©Good Luck  
Dr. Manar.S. fouda







b) Find the relation between the angular momentum about (O) and (G).

Question (5) (20 Marks):

Prove that the work done by external forces and couples as a rigid body moves between two positions equals the change in the total kinetic energy of the body.

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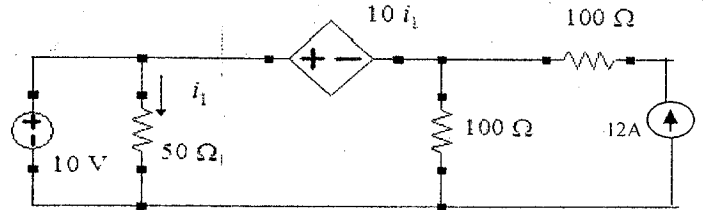
Department	Biomedical	Division	Module 1
Course Title	Electrical Circuits		
Academic Level	First	Semester	Second
Course Code		Total Mark	120
Instructor(s)	Ass. Prof. Wedad Refaey , Dr. Rasha Elazab		
Instructions	17/1/2016	Time Allowed	3



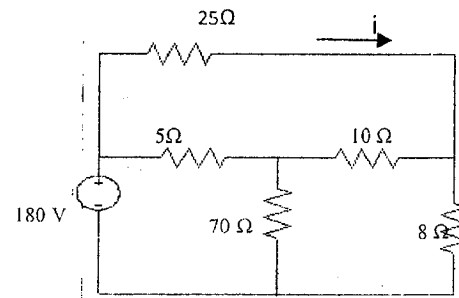
**Question 1**

[20 marks]

1-A) Find the current  $i_1$  and Find the power dissipated in each resistor and the power sources in each voltage.



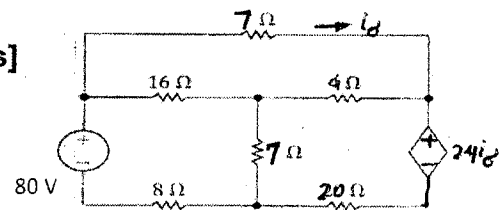
1-B) Find the current in resistance 5Ω by Using  $\Delta$ -Y transformation.



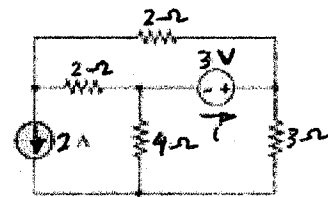
**Question 2**

[20 marks]

2-A) Use the mesh method to Find the power dissipated in the 8 Ω resistor in the circuit shown.



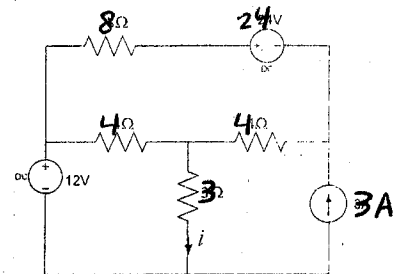
2-B) Using node voltage analysis in the circuit of Figure, Find the power through the sources.



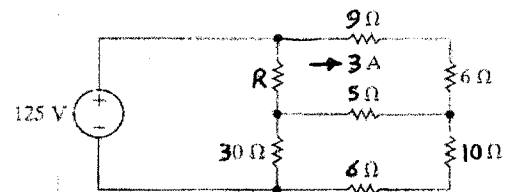
**Question 3**

[20 marks]

3-A) In the circuit, Find the current  $i$  by using superposition.



3-B) For the circuit shown, Find (i) R and (ii) The power supplied by the 125 V source.

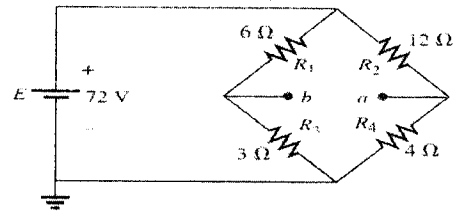


### Question 4

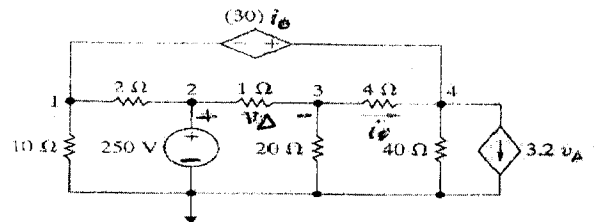
[20 marks]

1-

- Find Thevenin equivalent for ab terminal,
- Find load resistance for maximum power.
- Find maximum power consumed.



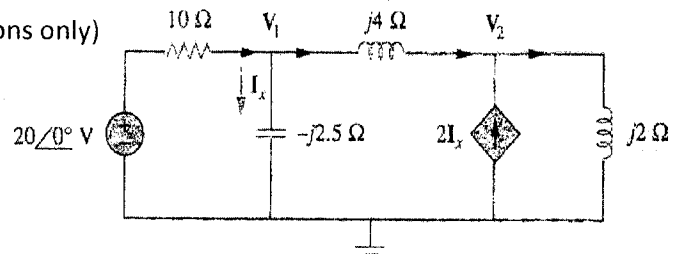
2- Find power of 250 v source using Thevenin method.



### Question 5

[20 marks]

1- Find  $V_1$  and  $V_2$  using nodal analysis. ( Write equations only)



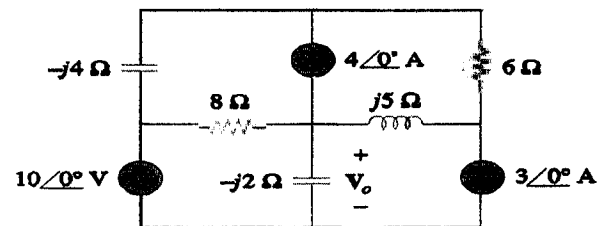
2- If  $i(t) = 500 \sin(1000t + 30^\circ)$  mA, find:

- Maximum value of  $i$ ,
- RMS value of  $i$ ,
- Frequency in Hz,
- Periodic time in seconds.

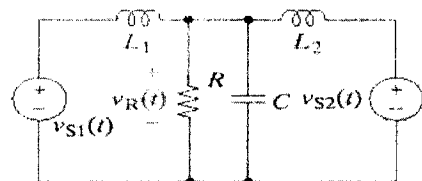
### Question 6

[ 20 marks]

1- Find mesh equations for the following circuit.



2-Using Thevenin theory find  $V_R(t)$  for  $R=20\Omega$ ,  $L_1 = 2\text{mH}$ ,  $L_2 = 6\text{mH}$ ,  $C = 20\ \mu\text{F}$ ,  $V_{s1} = 100\sin 5000t\ \text{V}$ , and  $V_{s2} = 120\sin(5000t + 30^\circ)\ \text{V}$ . ( using equations only)



Widad Mohamed