

Course No: NUTR 3318  
Course Title: Immunity & Nutrition  
Date: 23/05/2018  
No. of Questions: (14)  
Time: 2 hours  
Using Calculator (No)

University of Palestine



Final Exam For 2<sup>nd</sup>  
Semester.  
2017/2018  
Total Grade: 50

Instructor Name: Dr Marwan Jalambo  
Student No.: \_\_\_\_\_  
Student Name: \_\_\_\_\_  
College Name: \_\_\_\_\_  
Dep. / Specialist: \_\_\_\_\_  
Using Dictionary (No)

**Question One: Put True (T) or False (F)**

**11.5 Marks**

1. (     ) Green tea inhibit activation of the NF- $\kappa$ B pathway.
2. (     ) Proteobacteria are bacteria when increase in number may be harm to the human body.
3. (     ) Bacteroides are bacteria when increase in number may be harm to the human body.
4. (     ) Increase number of Proteobacteria may produce cytokines and release the cell wall antigen.
5. (     ) Cancer can result in a chronic inflammation; the opposite is also not true as inflammation can lead to cancer.
6. (     ) Increase cytokines production due to imbalance of gut microflora may inhibit NF- $\kappa$ B production.
7. (     ) Mycotoxin as aflatoxin can cause hepatoma.
8. (     ) B6 supplementation can improved immune response in HIV/AIDS patients.
9. (     ) B6 deficiency may suppress Th1 activity and increase Th2 response.
10. (     ) B9 is required for thymidine production.
11. (     ) There is no side effects like immune suppression, nausea, and vomiting of Immunotherapy compared to chemotherapy.
12. (     ) The dead cells that are killed by chemotherapy are cleared and leading to a systemic inflammatory response.
13. (     ) Streptococcus oralis produced acid from glucose, consequently caused dental caries and periodontal disease.
14. (     ) Hyperglycemia can interrupt the balance of regulation between proinflammatory and pro-resolving mediators.
15. (     ) The loss of nephron functions lead to decrease glomerular filtration rate.
16. (     ) PUFAs supplementation are reduced levels of renal fibrosis by modulation of the transforming growth factor beta (TGF $\beta$ ) pathways.
17. (     ) The supplementation of Genistein agent can inhibit TGF $\beta$ -mediated renal fibrosis and can upregulate cell adhesion molecules.
18. (     ) Folate Deficiency is also associated with declining CD4 counts and increased disease progression among HIV men.



19. (        ) The hypoferremia of inflammation represent a real iron deficiency.
20. (        ) Hyperferremia may protect against the potential prooxidant properties of iron.
21. (        ) Transferrin has a higher affinity for iron than Lactoferrin at inflammation sites.
22. (        ) Polyphenols are able to inhibiting the activation of NF-κB.
- 23 (        ) Grape seed extract is rich in flavanols named proanthocyanidins.

**Question Two: MCQ; Choose The Correct Answer**

**14 marks**

1. Which of the following chemicals can be metabolized to vitamin A after ingestion:
  - a. β-Carotene
  - b. α-carotene
  - c. β-cryptoxanthin
  - d. All the above
  - e. a+b
2. .... has been connected in the destruction of beta cells in the pancreas
  - a. Interleukin 1 (IL-1)
  - b. Interleukin 6 (IL-6)
  - c. Tumor necrosis factor
  - d. Leptin
  - e. All the above
3. Intracellular adhesion molecule -1 expression can be upregulated by
  - a. Glycation end products,
  - b. Oxidative stress,
  - c. Proinflammatory cytokines.
  - d. All the above
  - e. a+b
4. .... are transmembrane receptors that facilitate cell-extracellular matrix adhesion.
  - a. Selectins
  - b. Integrins
  - c. a+b
  - d. None of above
5. Which of the following are promote migration of leukocytes across the cell membrane?
  - a. INFγ and MIF
  - b. TNF-α and IL-1
  - c. a+b
  - d. None of above



- 
6. Which of the following stimulate proinflammatory cytokine and chemokine production within the renal cells?
    - a.  $\text{INF}\gamma$  and MIF
    - b.  $\text{TNF-}\alpha$  and IL-1
    - c. a+b
    - d. None of above
  
  7. .... deficiencies are associated with thymic atrophy
    - a. B6 and B9
    - b. B9 and B12
    - c. B6 and B12
    - d. None of above
  
  8. B12 supplementation had beneficial effect on the innate immunity by
    - a. Increased lymphocyte activity and decreased NK activity
    - b. Increased lymphocyte activity and increased NK activity
    - c. Decreased lymphocyte activity and increased NK activity
    - d. None of above
  
  9. After infection onset,
    - a. Plasma concentrations of both iron and zinc decrease
    - b. Plasma concentrations of both iron and zinc increase
    - c. Plasma concentrations of both iron and zinc not change
    - d. Plasma concentrations of iron increase and zinc decrease.
    - e. Plasma concentrations of iron decrease and zinc increase.
  
  10. During infection, the normal control of iron metabolism is reorganized by
    - a. IL-1 and  $\text{TNF-}\alpha$ .
    - b. IL-6 and  $\text{TNF-}\alpha$ .
    - c. IL-1 and IL-6.
    - d. None of above
  
  11. Hypoferremia stimulates ..... effects on T helper cells and ..... effects in macrophages with a net effect of increasing cytotoxicity in macrophages.
    - a.  $\text{TNF-}\alpha$  and  $\text{IFN-}\gamma$
    - b.  $\text{IFN-}\gamma$  and  $\text{TNF-}\alpha$
    - c. None of the above

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12. The human body had average of vitamin C a store of
- 60 mg
  - 45 mg
  - 500 mg
  - 1500 mg
13. ....found in chocolate, is accompanied by antioxidant cocoa flavanols.
- Theobromine
  - Zeaxanthin
  - Capsaicin
  - None of the above
14. Carotenoids provide certain colors to fruits and vegetables such as
- Pink (lycopene)
  - Yellow (astaxanthin)
  - Red ( $\beta$ -carotene)
  - All the above not true

**Question Three: Mention 4 risk factors of Colorectal ?**

**2 marks**

- 1.
- 2.
- 3.
- 4.

**Question Four: Mention the name of Autoantibodies that are associated with the amount of insulin required as compared with patients of DM? 2 marks**

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**Question Five: Abdominal adipocytes are produced bioactive substances. Mention six of these substances? 3 marks**

**Question Six: Renal epithelium can be injured by several factors. Mention 4 of these factors? 2 marks**

- 1.
- 2.
- 3.
- 4.

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**Question seven: Flavonoids work as antioxidants, anti-inflammatory and antitumor actions. Mention other 3 benefits to the flavonoids? 1.5 marks**

- 1.
- 2.
- 3.

**Question Eight: Phenolic acids can be subdivided into two major groups. Mention its? 2 marks**

- 1.
- 2.

**Question Nine: Write about flavonoids subgroups? 4 marks**

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**Question Ten: Write about the mechanism of the following: 3marks**

a. Effects of Infection on Biomarkers of retinol Status

b. Effects of Infection on Biomarkers of iron Status

c. Effects of Infection on Biomarkers of B2 Status

**Question eleven: Capsaicin can may inhibit Helicobacter pylori? 1.5 marks**

**Question Twelve: What are the major derivatives of hydroxycinnamic acids present in plants? 1 mark**

1.

2.

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**Question Thirteen: Classify the Phytochemicals into three major groups: 1.5 marks**

- 1.
- 2.
- 3.

**Question Fourteen: Mention the phytochemicals name that are localize to the macular region of the retina, which is the area that receives the most UV radiation 1 mark**

- 1.
- 2.

End of Questions  
*Good Luck*