

Tanta University
Faculty of Medicine
Department Of Medical Biochemistry

Examination MD (Medical Biochemistry) Paper II

Time allowed: three hour

16/10/2016

I describe the catalytic activity and regulatory mechanism of the following enzymes (30 marks)

- 1) Glyceraldehyde -3- phosphate dehydrogenase with reference to the affect of oxidative stress
- 2) 6-phosphfructo -2 kinase in the liver and cardiac muscle
- 3) PDH enzyme complex
- 4) HMG-Co-A reductase
- 5) PRPP aminotransferase

II Discuss the following pathways (35 marks)

- 1) Synthesis of glucose from propionyl- CoA
- 2) Formation of docosaheaxaenoic from stearic with references to its biological importance
- 3) Synthesis of PAF with reference to biological importance
- 4) Degradation of pyrimidine nucleotides with reference to clinical correlations
- 5) Synthesis of ALA and its relation to vitamin B6 deficiency

III Write short assay on each of following

- 1) Receptors serine /threonine kinases (5 marks)
- 2) Structure , synthesis, secretion ,mechanism of action and degradation of PTH (10 marks)

IV Discuss each of the following (20 marks)

- 1) Vitamin D
- 2) Link between life style , oxidative stress and carcinogenic potential

Good Luck

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Examination MD (Medical Biochemistry) paper I

Time allowed: three hour

9/10/2016

I Discuss the biochemical basis of the following diseases (30 marks)

- 1) Adrenogenital syndrome
- 2) Xeroderma pigmentosum
- 3) Sphingolipidosis
- 4) Refsum's disease
- 5) Maple syrup urine disease

II Write on each of the following (10 marks)

- 1) Structural and functional properties of RBCs membrane
- 2) Protein denaturation with reference to the significance of denaturation-renaturation experiments on ribonucleases
- 3) Salient features of alpha helix with references to two amino acids that destabilize this structure

III Write short notes on the following (20 marks)

- 1) Biochemical aspects of phagocytosis
- 2) Uses of monoclonal antibodies in Medical Biochemistry
- 3) Antigen chemistry

IV Explain the following (40 marks)

- 1) Mobile genetic elements
- 2) RNA interference
- 3) Cis-regulatory elements
- 4) Splice-site choice
- 5) Histone modification

Good luck



All questions must be answered:

		Marks
Q 1	a- Discuss conditions associated with bone marrow fibrosis and its grading.	15
	b- Give an account on risk prognostic genetic biomarkers in B cell acute lymphocytic leukemia.	10
Q2	a- Discuss anaemias secondary to chronic disease and systemic disorders.	15
	b- Give an account on Factor V Lieden and its clinical significance.	10
Q3	a- Discuss signaling and gene expression of endocytosis and phagocytosis.	15
	b- Give an account on T-cell subsets & its clinical significance.	10
Q4	a- Discuss causes, pathogenesis and prevention of gangrenous limb due to infection.	10
	B-Case:	15
	A 22-year-old male, recently incarcerated and now homeless, has received one week of clarithromycin for low grade fever and left upper lobe pneumonia. He has not improved on antibiotics with persistant cough productive of mucopurulent sputum. Repeated chest Xray suggested a small cavity in the left upper lobe.	
	1. Mention differential diagnosis, laboratory investigations of this case	
	2. Describe methods of infection control, prophylaxis and treatment	

Department Chairman