[This question paper contains 4 printed pages.]

Sr. No. of Question Paper: 6916

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Your Roll No.....

Unique Paper Code

: 223551

Name of the Course

: B.Sc. LIFE SCIENCES

Name of the Paper

: LSPT-510 : BIOCHEMISTRY AND IMMUNOLOGY

Semester

: V

Time: 3 Hours

Maximum Marks: 75

Instructions for Candidates

- 1. Write your Roll No. on the top immediately on receipt of this question paper.
- 2. Answer six questions in all.
- 3. Section A: Answer three questions including Q. No. 1 which is compulsory.
- 4. Section B: Answer three questions including Q. No. 5 which is compulsory.

SECTION A – BIOCHEMISTRY

- 1. (a) Define
 - (i) Glycogenin
 - (ii) Ubiquinone

(2)

- (b) Differentiate between the following:
 - (i) Ureotelic and Uricotelic organisms
 - (ii) Ketogenic and Glucogenic amino acids

(4)

- (c) Give functions of the following:
 - (i) Pyruvate dehydrogenase complex
 - (ii) Cytochrome oxidase

(2)

- (d) Name and draw the structure of:-
 - (i) 7C Keto Sugar

	(ii) A dicarboxylic intermediate of TCA cycle					(2)
	(e)	Matc	ch the following:		•	(4)
		A	Epinephrine	I	NADPH	7
		В	FAD	II	Hemolytic anemia	
		С	Pantothenic Acid	Ш	Cyclic AMP	
		D	Pentose Phosphate Pathway	IV	β-hydroxy butyrate	
		Е	Anaerobic respiration	V	Riboflavin	
		F	Phosphorylating Subunits	VI	Coenzyme A	
		G	Ketone Bodies	VII	Lactic acid	
		Н	Pyruvate kinase	VIII	Mitochondria	
 3. 	(ii)	struc	eribe the sequence of reactions in the tural formulae. uss the pathway of Glycogenolysis.			(8) (4)
3.	(1)		does 6C Glucose is converted to 7 tural formulae.	C Sed	onepturose phosphate?	(8)
	(ii)	Disc	uss the Induced Fit Theory of Enzy	me ac	ction.	(4)
4.	Wri	te sho	ort notes on any three of the follow	wing:		
	(i)	Urea	a Cycle			
	(ii)	Oxid	lative Phosphorylation			
	(iii)	Micl	naelis Menten constant			

(4+4+4)

(iv) Oxidative Deamination

6.

SECTION B – IMMUNOLOGY

5.	(a)	Define			
		(i) Adjuvant			
		(ii) ADCC	(2)		
	(b)	Differentiate between the following:			
		(i) Selective Theory and Instructional Theory			
		(ii) Variolation and Vaccination	(4)		
	(c)	Expand the following:			
		(i) GALT			
		(ii) ELISA			
		(iii) PMN			
		(iv) MHC	(2)		
	(d)	Fill in the blanks:			
		(i) Father of Immunology			
		(ii) Antibody that exist mostly as a pentamer			
		(iii) Antibody involved in Allergic reactions			
		(iv) Surgical removal of thymus is called	(2)		
	(e)	Give reasons why?			
		(i) Secondary immune response is faster than the primary respons	e		
		(ii) Most antigens result in polyclonal or heterogeneous sera	(3)		
6.	(i)	Explain the process of Monoclonal Antibody production by hybrid	idoma		
	()	technology. Give clinical uses of monoclonal antibodies.	(6+2)		

- (ii) Explain how T-cells are MHC restricted. (4)
- 7. (i) What are Primary lymphoid organs? Summarize their functions in immune system. (8)
 - (ii) What is an immunogen? How is it different from an antigen? (2+2)
- 8. Write short notes on any three of the following:
 - (i) DNA Vaccine
 - (ii) Active Immunity
 - (iii) Spleen
 - (iv) Antigen processing and presentation of endogenous antigen (cytosolic pathway) (4+4+4)