88 <sup>T</sup>	State Case Case School State Case Season
	(3 Hours) [Total Marks: 75]
	All questions are compulsory
	Figures to right indicate full marks
Q. 1	Choose appropriate option for following multiple choice-based questions. 20
101	The amino acid, which contains sulphur is
a	Methionine Methionine
b c	Serine Glycine
d	Leucine What is the standard free energy change of ATP?
a a	Small and negative
b	Large and positive
C C	Large and negative  Small and positive
3:	A reaction, which proceeds with net release of free energy and is spontaneous,
	is called as Endergonic reaction
b a	Exergonic reaction
c d	Endothermic reaction  Exothermic reaction
4	Which of the following is correct about Krebs Cycle?
a	Pyruvate condenses with Oxaloacetate to form Citrate
b	Alpha ketoglutarate is a five Carbon compound Oxidative Phosphorylation occurs in the cytoplasm only
d	Krebs cycle can operate in anaerobic condition
5 a	Glucose-6-Phosphate to Fructose-6-Phosphate
b	Pyruvate to Lactate Pyruvate to Acetyl CoA
d d	Oxaloacetate to Phosphoenolpyruvate
6 a	Which of the following is a debranching enzyme? Glycogen synthetase
b C	Glucose-6-phosphatase Amylo 1,6 glucosidase
d d	Amylo 1,4-1,6 transglycosylase
	Celes, Belgs, Co. Seles, Co. Sele
10618	Page 1 of 4
<b>,</b> C)	

## Paper / Subject Code: 65813 / Biochemistry

Paper / Subject Code: 65813 / Biochemistry	3
The state of the s	
7. First accounts of alcothoma in ETC in	200
7 Final acceptor of electrons in ETC is a Cyt c	
b Oxygen C	
c FADH <sub>2</sub>	6
8 Pyruvate is converted to acetyl CoA by	50
a Oxidative Phosphorylation	
b Oxidative decarboxylation	
c Oxidative carboxylation d Oxidative dephosphorylation	2
9 Number of ATP formed by oxidation of one molecule of palmitic acid is	V
a 146 9 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	
b 1067 c 134	ZO Z
SP ST dis34 SP SP SP SP SP SP	)
10 Conversion of acetoacetate to acetone is the step involved in	
a ketogenesis b urea cycle	2
c glycolysis	)
d HMP shunt	
11 Argininosuccinic aciduria is a recessive disease due to lack ofenzyme.  a argininosuccinate lyase	9
a argininosuccinate lyase  b argininosuccinase	5
c arginase	
b argininosuccinase c arginase d arginine transcarbomylase  12 Dopamine is synthesized from a tyrosine b tryptophan c threonine	
12 Dopamine is synthesized from  a tyrosine	\$\hat{\chi}
b tryptophan , b c c c c c c c c c c c c c c c c c c	′
c threonine d lysine	بر
a argininosuccinate lyase b argininosuccinase c arginase d arginine transcarbomylase  12 Dopamine is synthesized from a tyrosine b tryptophan c threonine d lysine  13 Hydrolases enzymes are involved in a Oxidation reduction reaction b Hydrolysis reaction c Isomerization reaction d Addition or removal group reaction	9
a Oxidation reduction reaction	Y
b Hydrolysis reaction c Isomerization reaction	
d Addition or removal group reaction	
d lysine  13 Hydrolases enzymes are involved in  a Oxidation reduction reaction  b Hydrolysis reaction  c Isomerization reaction  d Addition or removal group reaction	
c Isomerization reaction d Addition or removal group reaction	
a argininosuccinate lyase b argininosuccinase c arginase d argininosuccinase tyrosine tyrosine b tryptophan c threonine d lysine  13 Hydrolases enzymes are involved in a Oxidation reduction reaction b Hydrolysis reaction c Isomerization reaction d Addition or removal group reaction  10618  Page 2 of 4  D6A99C70AD2773F6C66989BAC13F6755	
10618 Page 2 of 4  D6A99C70AD2773F6C66989BAC13F6755	
D6A99C70AD2773F6C66989BAC13F6755	

## Paper / Subject Code: 65813 / Biochemistry

		Paper / Subject Code: 65813 / Biochemistry
	2	
	383K	
	14	If $K_m$ changes and $V_{max}$ remains the same. What is the type of enzyme
	E C	inhibition?  Competitive Inhibition
	b a	Noncompetitive Inhibition
AD'	c	Uncompetitive inhibition
200	S d	Suicide Inhibition
5)	15	Puromycin is a drug that interferes with
9	a	Protein synthesis
1200	b c	Nucleotide synthesis  DNA replication
65	d <sub>o</sub>	RNA synthesis
	16	Genetic lack of causes Lesch Nyhan syndrome.
	a	Hypoxanthine guanine phosphoribosyl transferase
	b	Adenine phosphoribosyl transferase
97	C	Adenine deaminase  Guanine deaminase
	7	AUG serves as
	a	Start codon
, ST	<b>b</b>	Non-sense codon
N A	C	Stop codon & Stop codon
	' d	Anticodon
P	18	In DNA replication is responsible for removal of supercoiling
	a <sup>^</sup>	as the replication fork moves ahead.  Topoisomerase
	P <sub>2</sub>	Primase
College	c c	as the replication fork moves ahead.  Topoisomerase  Primase  Ligase  Helicase
P. Dest P. L.	d d	as the replication fork moves ahead.  Topoisomerase  Primase  Ligase  Helicase  The role of sigma factor present in bacterial RNA polymerase is
	190	The role of sigma factor present in bacterial RNA polymerase is
	a	Positioning of RNA polymerase correctly on DNA template Catalyzing RNA synthesis
S	c	Terminating RNA synthesis
	d,	Separating the two strands of DNA
A COST	20	Which enzyme is a part of urea cycle?
2975	a	ornithine transcarbamoylase
	b c	Asparginase Glutamate synthase
<u> </u>	(6) 40	gluatamine transaminase
	b c d	
	26	Terminating RNA synthesis Separating the two strands of DNA Which enzyme is a part of urea cycle? ornithine transcarbamoylase Asparginase Glutamate synthase gluatamine transaminase
AD'		
	5 × × ×	In DNA replication is responsible for removal of supercoiling as the replication fork moves ahead.  Topoisomerase Primase Ligase Helicase  The role of sigma factor present in bacterial RNA polymerase is Positioning of RNA polymerase correctly on DNA template Catalyzing RNA synthesis Terminating RNA synthesis Separating the two strands of DNA Which enzyme is a part of urea cycle? ornithine transcarbamoylase Asparginase Glutamate synthase gluatamine transaminase  Page 3 of 4
5,0	10618	Page 3 of 4
	C/01	The role of sigma factor present in bacterial RNA polymerase is Positioning of RNA polymerase correctly on DNA template Catalyzing RNA synthesis Terminating RNA synthesis Separating the two strands of DNA Which enzyme is a part of urea cycle? ornithine transcarbamoylase Asparginase Glutamate synthase gluatamine transaminase  Page 3 of 4
500	89° M	Page 3 of 4  D6A99C70AD2773F6C66989BAC13F6755
/ (	O'	

## Paper / Subject Code: 65813 / Biochemistry

Paper / Subject Code: 65813 / Biochemistry	200	150
	Br. Bro	)
	5	ć
Q. 2 Answer any two questions.	20	S. S.
a i) Elaborate in detail the regulatory steps of glycolysis with respect to	60	79
name and structure of intermediates, enzymes and cofactors.  ii) Discuss ketogenesis w.r.t reactions and regulation.	5 4 CE	. 6
<b>b</b> i) Outline reactions involved in conversion of AMP to IMP and write a note on salvage pathway for purines.	6	\$ 6
ii) Explain in brief about initiation and elongation steps in prokaryotic replication.	Solar Polity	,
c i) Discuss Michaelis Menten and line Weaver Burk plot with respect to	6	B
enzyme inhibitors.		9
ii) Explain the terms i) spontaneous reaction, ii) activation energy iii) ΔG	574	
iv) Entropy		0
BL Sign Right By Stor By, Vigin Sign By, The	26/2	20° Y
Q.3 Answer any seven questions	35	) _
i) Write a note on secondary structure of proteins. Draw structure	p' 55'	
of Lecithin.	SOF	3
ii) Classify carbohydrates based on their structure and chemical	(36)	T
nature. Give structure of lactose.	60 300	)
Give the names and structures of substrate and product for the		
reactions catalysed by following enzymes.		19
a) Lactonase, b) Pyruvate kinase.  Evplain various steps involved in alycogenolysis	OFD TISES	6
iy) Explain various steps involved in glycogenolysis.		5
v) Write a note on carnitine shuttle. Explain the energetics for $\beta$	OF, SU,	
oxidation of palmitic acid	2	
vi) Explain β oxidation of palmitic acid with energetics.	-10r	3
vii) Explain the biosynthesis of adrenaline with its significance.	69 6	Y. T.
viii) Outline the synthesis of CTP from orotate. Write a note on		
treatment of gout.	2, 5,	
ix) Discuss the IUB classification of enzymes with suitable	,06,	99
reactions catalysed by following enzymes.  a) Lactonase, b) Pyruvate kinase.  Explain various steps involved in glycogenolysis.  v) Write a note on carnitine shuttle. Explain the energetics for β oxidation of palmitic acid  vi) Explain β oxidation of palmitic acid with energetics.  vii) Explain the biosynthesis of adrenaline with its significance.  viii) Outline the synthesis of CTP from orotate. Write a note on treatment of gout.  ix) Discuss the IUB classification of enzymes with suitable examples.		6
A CONTROL OF THE PROPERTY OF T	Sto Sto	7
	56	
	997	
	5	
ix) Discuss the IUB classification of enzymes with suitable examples.		
examples.		
wine a lote of carming studie. Explain the energetics for β oxidation of palmitic acid with energetics.  vii) Explain β oxidation of palmitic acid with energetics.  viii) Explain the biosynthesis of adrenaline with its significance.  viii) Outline the synthesis of CTP from orotate. Write a note on treatment of gout.  Discuss the IUB classification of enzymes with suitable examples.		
D6A99C70AD2773F6C66989BAC13F6755		