QP Code: 12764 (2½ Hours) N.B.: (1) All questions are compulsory. Total Marks:75 Internal choices have been given. (2)Figures to the right indicate full marks. \cdot (3) production.

(c) Malate

(c) Golgi complex (c) c role in citric acid (c) Oxalor (A) Fill in the blanks(any three):-Glycolysis in the anaerobic conditions leads to (i) (a) Pyruvate (b) Lactate HMP shunt occurs in the_ (ii) (a) Cytosol (b) Mitochondria (iii) is considered to play a catalytic role in citric acid cycle. (a) Succinic acid (b) a-Ketoglutarate Gluconeogenesis is regulated by_ (iv) (a) Glucagon (b) Lactate Both and 'b' (c) Glycogen phosphorylase is a key enzyme in (v) (a) Gluconeogenesis(b) Glycogenesis Pyruvate is converted to acetyl CoA by_ (vi) (a) Oxidative (b) Reductive Both 'a' and 'b' decarboxylation decarboxylation (B) Define and explain(any one):-2 Gluconeogenesis (i) Glycogenesis (ii) (C) Write short notes on (any one):-4 Glyoxylate pathway (i) · Oxidation of pyruvate to cetyl CoA (ii) (D) Elaborate on (any one):-6 TCA with reactions (i) HMP shunt with reactions (ii) (A) Fill in the blanks(anythree):-The NADLA shuttle used by skeletal muscles and brain is (i) (a) Malate-Aspartate shuttle (b) Slycerol phosphate shuttle (c) Both 'a' and 'b' explains the dependence of electron transfer on ATP synthesis in mitochondria. (a) Proton-motive force (b) Rotational catalysis (c) Chemiosmotic theory

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		O cycle results in al	
	(iii)	Q cycle results in the passage of electrons through in ETC.	
		(a) Complex IV	
	•	(b) Complex III	
	To a * sec	(c) Complex V	
	(iv)	Iron-sulphur proteins are characteristic of the cycle.	•
		""F**WA DIVICIIIS AIR ("DOPOCTOPICTIC OT IDE	
		(b) EV.	
1.34		(a) B. (b)	5
	(v)	(c) Both 'a' and 'b') *
	(•)	inhibits cytochrome oxidase.	
	3	(a) Cyanide	
		(b) Rotenone	
		(c) Amytal chlorophyll	
	(vi)	Photosystem II contains a reaction centre	
		called	
		(a) P700	
		(b) P680	
		(c) P600	2
(B)	Define	(a) ETC (b) EMP (c) Both 'a' and 'b' inhibits cytochrome oxidase. (a) Cyanide (b) Rotenone (c) Amytal Photosystem II contains a reaction centre chlorophyll called (a) P700 (b) P680 (c) P600 and explain(any one):- Free energy Photophosphorylation is in detail(any one):- Malate-Aspartate shuttel Dark reaction and light reaction of photosynthesis rate on (any one):- Z scheme of photosynthesis Structure of ATP synthase the blanks(any three):- The stationary phase in reverse phase partition chromatography is supported by a matrix.	
	(i)	Free energy	
	(ii)	Photophosphorylation	
- 5			4
(C)	Discus	s in detail(any one):-	
	(i)	Malate-Aspartate shuttel	
	(ii)	Dark reaction and light reaction of photosynthesis	(
(D)	Elabor	ate on (any one):-	
	(i)	Z scheme of photosynthe xis	
	(ii)	Structure of ATP synthase	
	•	, XA	
(A)	Fill in	the blanks(any three):-	
1	(i)	The stationary phase in reverse phase partition chromatography is	
		supported by a matrix.	
		(a) Non-polar compound	
•		(b) Polar compound	
		Water	
Tr.	(ii) -	$V_{\bullet} = V_{\bullet} + \underline{\hspace{1cm}} \times V_{\bullet}$	
	187.	(a) Rf	
	'SK,	(b) Kd	
1	× ·	(c) aWr	
1 V	(ii) KSHRI.		
VI.	43.40	L'TTIDN OVED	

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	(iii)	In GLC, a stationary phase of silicon grease	is supported
U		(a) Celite	
		(b) Sephadex	
		(c) Resin	
	(iv)	In the detection of component, is useful	if ungeturated
	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	compounds are being investigated.	II unsaturated
•		compounds are being investigated. (a) Iodine vapour (b) Ninhydrin (c) H ₂ SO ₄ in ethanol In TLC, for charged lipids,solvents are u (a) Polar (b) Non-polar (c) Both 'a' and 'b' If Kd is	ÇO ^v
		(b) Ninhydrin	17 mil (1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
		(c) H ₂ SO ₄ in ethanol	<i>f</i> 2,
	(v)	In TLC, for charged lipids,solvents are u	ised.
		(a) Polar	4 1000 miles
	•	(b) Non-polar	A.
		(c) Both 'a' and 'b'	7
	(vi)	(a) Polar (b) Non-polar (c) Both 'a' and 'b' If Kd is, moderately moving zones are o (a) Greater than 1	btained.
	•	(a) Greater than 1	
		(b) 1	ned Hiller,
		(c) Less than 1	A me appropriate [10]
(B)	Defin	(a) Greater than 1 (b) 1 (c) Less than 1 e and explain (any one):- Stationary phase Ion exchangers short notes on (any one):- Principle of HPLC Application of gel filtration shromatography rate on (any one):- Adsorption chromatography Paper chromatography The active form of vitamin D in humans is	1 W (i) 2
	(i)	Stationary phase	
	(ii)	Ion exchangers	and the second s
(C)	Write	short notes on (any one):-	4
	(i)	Principle of HPLC	11210 (1)
	(ii)	Application of gel filtration thromatography	ragion of the ATT
(D)	Elabor	rate on (any one):-	6
	(i)	Adsorption chromatography	weit an
	(ii)	Paper chromatography	o ensuasamed ide
		A consequently and color of the transfer of	
(A)	File in	the blanks(any three):-	3
	(i)	The active form of vitamin D in humans is	a me bound one
		(a) Ergocalciferol	(a) Physici
		(b) Cholecalciferol	
		(c) Rehydrocholesterol	7.0478
	(ii)	Rixoflavin consists of sugar alcohol attached to	Comment of the Course
		Flavin	m (Gdy V)
		(b) Chromane	inna i jaka k
	18	(c) Pyridine	
	एसि)	pI value of lysine is	
F	(4)	(a) 5.97	
NV		우리 [1] - [1] 그 프랑스 그는 문에 다른 사람들이 하는 것이 하는 이 그를 하는 것은 그리고 물로에 모르겠다면 하다.	Statistics (w)
UK!		(b) 2.34	
$\mathcal{D}_{\mathbf{r}}$		(c) 9.74	[TURN OVER
Parket .		28 PROTECTION OF THE PROTECTION AND A STATE OF THE PROTECTION AND	

		(iv) The ignal QP Code: 12764	
		The isoelectric pH of glycine is calculated by arithmetic mean of pK1 and	
		glycine is calculated by arithmetic illean of partial o	
		(a) pK_2	
		(b) pK	
•	- ·	$(v) (c) pK_{R}^{3}$	
		takes nort as a summaring tion.	,
		' Yrldoxine	Ś
		(h) Flori	Y
		(vi) (c) Biotin	
		(vi) In titration curve, the relatively flat zone observed is called	
		(a) Titration zone	
		(b) Acceptor zone	
•	(B)	(c) Buffering zone	•
	(11)	Define and Explain the following(any one):-	4
		Vitaliins	
	(0)	(ii) FAD	
	(C)	Write short notes on (any one):-	4
		(i) Role of vitamin A in vision	
	(D)	(ii) Coenzyme form of vitamin B1	1
	(D)	Discuss in detail(any one):-	6
		(i) Working of glass electrode and its applications	
		(ii) Titration curve of asparate	
5	(4)	(ii) Titration curve of asparate Justify any one of the following:- (i) Citric acid cycle is amphibolic (ii) Glycolysis in humans is highly significant. Elaborate on (any one):- (i) Uncounlers of ETC.	•
5.	(A)	Justify any one of the following:-	3
		(i) Citric acid cycle is amphibolic	
	(D)	(ii) Glycolysis in humans is highly significant.	
	(B)	Elaborate on (any one):-	3
	((1)	(ii) Electron carriers in Stotosynthesis	
	(C)		3
		(i) Application of ion exchange chromatography	
	(D)	(ii) Principle of affinity chromatography	
	(D)	Attempt any one of the following:-	3
		(i) Physiological role of vitamin E	
		(ii) Calculate the pH of a mixture of 0.1M acetic acid and 0.2M sodium	
	(ID)	$ace(ace(pR_a = 4.76))$.	
	(E)	Write True or False(any three):-	
		(i) Plyceraldehyde-3-phophate is formed at the end of phase I of glycolysis.	•
	vita.	O V = 1 and to to take	
		Ubiquinone is also known as CoO10	
	X	(Allinity chromatography relies on differences in the state of the sta	
	P	of the molecules to be separation of buffers.	
	N	Tionderson-maselbalch equation is used for	
र्श	r	(vi) Riboflavin and Lactoflavin are different biomolecules	