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[A-123]

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SARDAR PATEL UNIVERSITY

$\begin{array}{c} \text{M. Sc. (Integrated) Biotechnology - Sixth Semester Examination} \\ \text{Wednesday, } 06^{\text{th}} \text{ April, 2016} \end{array}$

Wednesday, 06th April, 2016 02:30 p.m. to 05:30 p.m.

PS06CIGB05: Bioanalytical Techniques

Note:			to the right indicate marks			
Q – 1	•		agram wherever necessary e most appropriate altern	ative for the follow	ing:	Total marks: 70 (08)
	1.	is in a)	ch of the following relation correct? A=log ₁₀ 100/%T A=log ₁₀ 1/%T	•	bance and % transmit A=2-log ₁₀ 100/%T Both a) & b)	ttance
	2.	The a) c)	process of formation of sma Chopping Trimming		liquid is called Nebulisation Grinding	-• 1
	3.	Elec a) c)	tron spin resonance is a bra Absorption Emission		Transmission	
3 -	4.	Near a) c)	r infrared region ranges from 1.5, 2.5 2.5, 25		1,1.2 25, 300	
	5.	In N a) c)	MR , act as a standar Methanol Acetone	d compound. b) d)	Chloroform Benzene	
	6.	In m a) c)	ass spectroscopy, mass ana Magnetic field Both a) and b)		on by the use of Electric field None of these	ee 3 m 3 m 3 m 3 m 3 m 3 m 3 m 3 m 3 m 3
	7.	Ioniz a) c)	zation radiation is produced Stable Both a) and b)	by atom. b) d)	Unstable None of these	
	8.	In ra a) c)	diometric titration, titration Linear Concave	curve is alwaysb) d)	Sigmoid Convex	

[P.T.O.]

Q-2	Atte	empt ANY SEVEN from the following:	(14)
	1. 2. 3. 4. 5. 6. 7. 8. 9.	What is auxochromic effect? How temperature and turbidity of solute and solutions affects Beer's law? Draw block diagram of single beam spectrophotometer. What is the principle of ESR? How thermocouple works? Write the principle of fluorescence spectroscopy. Why tetramethyl saline (TMS) is used as a reference material in NMR? Give the principle of radioimmunoassay. What is reverse isotopic dilution method?	
Q-3	(a) (b)	Give a detailed account on Beer's and Lambert's law. Discuss the applications of UV Visible spectrophotometer in life sciences. OR	(06) (06)
	(b)	Explain radiation sources and detectors used in UV Visible spectrophotometer.	(06)
Q – 4	(a) (b)	Draw schematic diagram of IR spectroscopy. Explain sample preparation for it. Describe instrumentation of AAS in detail. OR	(06) (06)
	(b)	Give advantages and disadvantages of AES.	(06)
Q - 5	(a) (b)	Discuss various applications of fluorescence spectrophotometer. Give a detailed account on chemical shift with suitable examples. OR	(06) (06)
	(b)	Write as detailed note on MALDI-TOF.	(06)
Q – 6	(a) (b)	Discuss any two methods used for radiation detection. Write a detailed note on: Nuclear active analysis method OR	(06) (06)
	(b)	Give an account on radio ligand assay.	(06)
