# Bapatla Engineering College:: Bapatla (Autonomous)

Department of Chemistry

	Mid-Tarm r	- Chairingtiy
EIE	Mid-Term Ex	amination- L(SEM-2)
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	Instrumentation	and panets de
a∩ min	And the last of th	WING HALLOTECHNOLOGY

Time: 90 min.	and Hanotechnology	20E1203
	Max. Marks:35	
Question No.1 comp	Mileon.	12-06-2023

#### Question No.1 compulsory

1. Answer all questions

Answer	ONE	Question	from	each	unit 94:1
					will of .

a	Define nanoparticles.	(1)03	-7 Marks)
b	List any properties of fullerenes.	Remembering	COI
<u>c</u>		Remembering	CO1
_		Analyzing	COI
d	and the state of t	Analyzing	COI
e	Write the definition of CVD.	Analyzing	CO2
f	Mention the names of any two preparations methods of nanomaterials.	Remembering	CO2
g	Define emulsion. List the examples of emulsions.	Remembering	CO2

#### UNIT-I

2 a	Illustrate structure and applications carbon nanotubes.	Analyzing		
	Describe about Graphenes and Quantum dots.	Remembering	COI	7M
2.0	Describe and a second s			

(OR)

1	3.a Discuss about nanowires. Write its important applications.	Understanding COI /M
	3.2 Discuss about nanowness with the semiconductor nanonarticles.	Understanding CO1 7M
1	3.b Explain preparation and applications of semiconductor nanoparticles.	

#### UNIT - II

	f rememeterials by sol-gel process.	Understanding	CO2	I ANA
4.a	Write the preparation of nanomaterials by sol-gel process.	Remembering	CO2	7M
4.b	Write the preparation of nanomaterials by sol-get process.  Explain the Sonochemical synthesis method of preparation of			
	nanomaterials.			

(OR)

		(OR)		-	45.4
			LATIOTA PERSON	CO2	-
ľ		Illustrate applications of nanomaterials.	Analyzing	CO2	7M
l	5.a	Illustrate applications of authorismethod for preparation of	, many among		
I	5.b	Illustrate applications of nanomaterials.  Explain Photochemical synthesis method for preparation of			
١		nanomaterials.			



### Bapatla Engineering College:: Bapatla (Autonomous)

Department of Chemistry
Mid-Term Examination- II (SEM-2)

1/4 BTECH EIE		Instrumentation and Nanotechno	20EI203	
Time: 90 min.		Max. Marks:35		5-08-2023

#### Question No.1 compulsory (1X7=7); Answer ONE Question from each unit(2X14=28)

1. 4	Answer all questions		
a	List out the advantages of lithium batteries.	BLI	CO3
b	Write anode, cathode and electrolyte used in the construction of lithium - ion battery.	BLI	CO3
c	Write any two applications of alkaline battery.	BLI	CO3
d	Write the function of chromophore & auxochrome.	BL2	CO4
e	State the mathematical expression for Beer-Lamberts Law.	BL1	CO4
f	Mention the applications of IR Spectroscopy.	BLI	CO4
g	What is the main application of atomic absorption spectroscopy.	BLI	CO4

#### UNIT - III

		" I amount of Nice Battery	BL1	CO3	7 <b>M</b>	
١	2.a	Describe the working and construction of Ni-cd Battery.	BL2	CO3	7M	
١	2.b	Discuss the construction and reactions occurring during charging and				ĺ
		discharging process of Lead-acid Battery.			1	2

(OR)

A washing of H2.02 Fuel cell.	BL2	CO3	
3.a Describe the construction and working of H2-O2 Fuel cell.	BL1	CO3	7M
3 b Summarize solar Battery.			

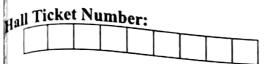
#### UNIT - IV

4.a	Draw	the	block	diagram	of	colorimetry	and	discuss	its	BLI	CO4	/M	- Constitution
4 h	Compo	nents in Bee	s. er-Lamb	erts law a	nd v	vrite its Limita	tions.			BL1	CO4	7M	

(OR)

		for estimation of sodium by flame	BL3	COA	1,41	
1	5.a	Demonstrate the procedure foe estimation of sodium by frame		CO4	7M	
		photometry.	BL3	COA	,	1
	5.b	photometry.  Describe the estimation of Iron by Atomic absorption spectroscopy.				

Varietied by
Lupe experience
(Dr. CH. SUBRAMONIAM)



## I/IV B.Tech (Regular/Supplementary) DEGREE EXAMINATION

August, 2023 Second Semester Time: Three Hours

#### Electronics and Instrumentation Engineering

Instrumentation & Nano Technology

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c) Illustrate the diagram Quantum dot? d) List any two methods for the preparation of CNT. e) Mention any two engineering applications of nanomaterials. f) Write the properties of nanoparticles g) Name the fuel gases used in flame photometry. h) Mention the applications of nanomaterials. i) Define CVD. j) What is the necessary condition for molecule to be IR active? k) List any two methods for preparation of nanomaterials. l) Mention applications of IR spectroscopy. m) State Beer-Lamberts law. n) Mention light source in colorimetry  Unit-I  2 a) Describe about nano peapods and Graphenes.	CO1		M
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j) What is the necessary condition for molecule to be IR active? k) List any two methods for preparation of nanomaterials. l) Mention applications of IR spectroscopy. m) State Beer-Lamberts law. n) Mention light source in colorimetry  Unit-I  2 a) Describe about nano peapods and Graphenes.	CO3	Ll	IM
Mention applications of IR spectroscopy.  m) State Beer-Lamberts law. n) Mention light source in colorimetry  Unit-I  2 a) Describe about nano peapods and Graphenes.	CO4		lM
Mention applications of IR spectroscopy.  m) State Beer-Lamberts law. n) Mention light source in colorimetry  Unit-I  2 a) Describe about nano peapods and Graphenes.	CO4	LI	IM
m) State Beer-Lamberts law. n) Mention light source in colorimetry  Unit-I  2 a) Describe about nano peapods and Graphenes.	CO1	Ll	IM
n) Mention light source in colorimetry  2 a) Describe about nano peapods and Graphenes.	COI	LI	1M
2 a) Describe about nano peapods and Graphenes.	COI	LI	1 <b>M</b>
2 a) Describe about nano peapods and Graphenes.	CO2	Ll	IM
b) Illustrate structure and applications carbon nanotubes.	COI	L2	7 <b>M</b>
	CO1	L3	7M
(OR)	le.		
3 a) Demonstrate the structure and applications of carbon nanotubes.	COI	L3	7M
b) Explain the properties of semiconductor nanoparticles.	COI	L2	7M
<u>Unit-∏</u>			
4 a) Explain about chemical vapour deposition method for preparation of nano materials.	CO2	L2	7M
<ul> <li>b) Discuss the production of nanomaterials by electrochemical synthesis.</li> </ul>	CO2	L3	7M
(OR)			
5 a) Illustrate preparation of nanomaterials by Photochemical synthesis.	CO2	L3	7M
b) Illustrate engineering applications of nanomaterials.	CO2	L2	7M
<u>Unit-III</u>			
6 a) Discuss the construction and reactions occurring during charging and discharging	g CO3	L2	7M
processes of Lead-acid battery.			
b) Summarize Lithium Ion Battery and its applications.	CO3	L3	7M
(OR)			
7 a) Describe the working and construction of Nickel-Cadmium battery.	CO3	L3	7M
b) Summarize the applications of solar batteries. Unit-IV	CO <sub>3</sub>	L2	7M
C. I in the and discuss its components	COA		73.4
	CO4 CO4	L3	7M
b) Demonstrate procedure for estimation of non by colormiety.  (OR)	CO4	L3	7M
1 1 5- the determination of sedium by flame photometry	CO4	L2	73.6
. C. II. a astimation of Nickel by AAS		1.7	A 100 A 10
b) Illustrate procedure for the estimation of Nickel by Auto	CO4	1.2	7M 7M