



Bapatla Engineering College:: Bapatla (Autonomous)

Department of Chemistry

Mid-Term Examination- I (SEM-2)

1/4 EIE

Instrumentation and nanotechnology

20EI203

Time: 90 min.

Max. Marks:35

12-06-2023

Question No.1 compulsory

Answer ONE Question from each unit ~~4:2~~

1. Answer all questions

(1X3=3 Marks)

a	Define nanoparticles.		
b	List any properties of fullerenes.	Remembering	CO1
c	Write any two applications of dendrimers.	Remembering	CO1
d	Illustrate the diagram of Buckminster Fullerene.	Analyzing	CO1
e	Write the definition of CVD.	Analyzing	CO1
f	Mention the names of any two preparations methods of nanomaterials.	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	CO1	7M
2.b	Describe about Graphenes and Quantum dots.	Remembering	CO1	7M

(OR)

3.a	Discuss about nanowires. Write its important applications.	Understanding	CO1	7M
3.b	Explain preparation and applications of semiconductor nanoparticles.	Understanding	CO1	7M

UNIT - II

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

(OR)

5.a	Illustrate applications of nanomaterials.	Analyzing	CO2	7M
5.b	Explain Photochemical synthesis method for preparation of nanomaterials.	Analyzing	CO2	7M

**Bapatla Engineering College:: Bapatla (Autonomous)**

Department of Chemistry

Mid-Term Examination- II (SEM-2)

1/4 BTECH EIE**Instrumentation and Nanotechnology****20E1203**

Time: 90 min.

Max. Marks:35

5-08-2023

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

a	List out the advantages of lithium batteries.	BL1	CO3
b	Write anode, cathode and electrolyte used in the construction of lithium - ion battery.	BL1	CO3
c	Write any two applications of alkaline battery.	BL1	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.	BL1	CO4
g	What is the main application of atomic absorption spectroscopy.	BL1	CO4

UNIT – III

2.a	Describe the working and construction of Ni-cd Battery.	BL1	CO3	7M
2.b	Discuss the construction and reactions occurring during charging and discharging process of Lead-acid Battery.	BL2	CO3	7M

(OR)

3.a	Describe the construction and working of H ₂ -O ₂ Fuel cell.	BL2	CO3	7M
3.b	Summarize solar Battery.	BL1	CO3	7M

UNIT – IV

4.a	Draw the block diagram of colorimetry and discuss its components.	BL1	CO4	7M
4.b	Explain Beer-Lamberts law and write its Limitations.	BL1	CO4	7M

(OR)

5.a	Demonstrate the procedure for estimation of sodium by flame photometry.	BL3	CO4	7M
5.b	Describe the estimation of Iron by Atomic absorption spectroscopy.	BL3	CO4	7M

Verified by
(Signature)
 (Dr. CH. SUBRAMANIAM)

