

Q-4	Attempt all questions	(14)
a)	Write a concise note on carbon nanotubes.	07
b)	Describe how the Ball Milling technique is being widely used for nano material synthesis.	07
Q-5	Attempt all questions	(14)
a)	Discuss in detail, the properties of carbon nanotubes. How do SWCNTs differ from MWCNTs?	07
b)	Write a note on Sol-gel method for the synthesis of nanoparticles.	07
Q-6	Attempt all questions	(14)
a)	Briefly explain the observed thermal properties of nanomaterials.	06
b)	Describe the principle, working and significance of SEM.	08
Q-7	Attempt all questions	(14)
a)	Briefly discuss X-Ray diffraction (XRD) technique with necessary diagrams. On which law of physics does the XRD work?	07
b)	Discuss Atomic Force Microscopy (AFM) in detail with necessary diagrams. Mention the modes in which the AFM is used.	07
Q-8	Attempt all questions	(14)
a)	Discuss few applications of Nanotechnology.	09
b)	Draw a diagram of TEM instrument. How do SEM and TEM differ?	05

