

**Gandhi Institute of Engineering and Technology University, Odisha, Gunupur
(GIET UNIVERSITY)**



M.Sc. (Third Semester – Regular) Examinations, December – 2025
24MCYPC23004 – Chemistry of Materials
(Chemistry)

Time: 3 hrs

Maximum: 60 Marks

Answer ALL questions

(The figures in the right hand margin indicate marks)

PART – A**(2 x 5 = 10 Marks)**Q.1. Answer *ALL* questions

	CO #	Blooms Level
a. Define Advance ceramic and their types.	CO1	K1
b. Define particle-reinforced composite.	CO2	K2
c. Write down two property change during superconductor transformation.	CO3	K3
d. What is an ionic conductor?	CO4	K4
e. Explain doped Fullerene.	CO5	K5

PART – B**(10 x 5 = 50 Marks)**Answer *ALL* the questions

	Marks	CO #	Blooms Level
2. a. Discuss manufacturing of ceramics?	10	CO3	K3
(OR)			
c. Discuss about oxide ceramics, electro ceramics and structural ceramics.	5	CO2	K2
d. Explain ball milling process and its instrumentation.	5	CO4	K4
3.a. Explain polymer composite and their preparation methods.	5	CO5	K5
b. Write short note on CMC.	5	CO2	K2
(OR)			
c. Discuss Thermal evaporation methods.	10	CO3	K3
4.a. Explain top-down and bottom-up approach with its diagrammatic representation?	10	CO4	K4
(OR)			
c. Explain principle of CVD with instrumentation	5	CO2	K2
d. Discuss the plot of melting point depression for nanoparticles.	5	CO5	K5
5.a. Write short note on Artificial Photosynthesis	5	CO3	K3
b. Discuss property change during superconductor transformation	5	CO1	K1
(OR)			
c. Discuss doped Fullerene?	5	CO2	K2
d. Define Optical storage device and its classification?	5	CO5	K5
6.a. Derive mechanism for Frenkel Defect.	10	CO2	K2
(OR)			
c. Define dispersion-strengthened polymer with an example	5	CO2	K2
d. Define the magnetic properties of nanoparticles.	5	CO3	K3

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