

CODE: **196210**
NOVEMBER 2020

TIME: 3Hrs
MAX. MARKS : 50

PART A

(10 x 2=20)

Answer any **TEN** questions

1. Define ceramics
2. Explain composite materials.
3. What are the advantages of sol-gel techniques?
4. State difference of thermoplastic and rubber.
5. Write the co-efficient of elastomers.
6. What are dielectric materials?
7. What is the relation between dielectric constant and temperature?
8. Illustrate the example of piezoelectric and ferroelectric materials.
9. Draw LCR circuit in simple form.
10. State Bragg's law.
11. Define Nanotechnology.
12. Write different modes of classification of Nanomaterials.

PART B

(2 x 5=10)

Answer any **TWO** questions

13. Explain conventional method for solid state reaction.
14. Sketch the Spray drying method.
15. Write the special properties of liquid crystal polymers.
16. Differentiate piezoelectric and ferroelectric properties.
17. Short note on scanning electron microscopy.
18. Sketch temperature and frequency effect of dielectric materials.
19. Explain thin film coatings technique of CVD/PVD.
20. Sketch the working mechanism of TEM.

PART C

(2x10=20)

Answer any **TWO** questions

21. Classify the difference between continuous and discontinuous fibre composite
22. State the physical, chemical and mechanical properties of polymers.
23. Classify the various types of dielectric materials.
24. How to measure dielectric behavior through LCR meter?
25. Sketch contact and non-contact operation mode of AFM.
