Roll No. | | | | | | | | | | | | |

Total No. of Pages : 02

Total No. of Questions : 19

M.Sc (Chemistry) (Campus) (2015 to 2017) (Sem.-2)

CHEMISTRY OF MATERIALS

Subject Code : CHL-416A

M.Code : 51153

Time : 3 Hrs. Max. Marks : 70

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains SIX questions carrying FIVE marks each and students have to attempt ALL questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

1. Explain inorganic liquid crystals.
2. Explain the nature of liquid crystals.
3. Define Thermochromic materials.
4. What is the chemical formula of perovskites?
5. Define Fullerene.
6. List some silicate glasses.
7. List Group 14 semiconductors.
8. List some inorganic pigments.
9. Write the properties of Zeolites.
10. Define Aluminophosphates.

SECTION-B

11. What are high temperature superconductors? Discuss its properties and applications.

12. Explain in detail the nature and design of liquid crystalline materials.

13. What are inorganic pigments? Differentiate between organic and inorganic pigments.

14. Discuss the properties and applications of nanotubes and graphene.

15. What are inverse and normal spinal molecules? List some normal spinal molecules.

16. What do you mean by isoelectronic? List some isoelectronic species and their properties.

SECTION-C

17. Discuss the principle and material used in light emitting diodes and write its applications also.

18. What is the structure of Zeolites? Discuss in detail the application of MFI zeolites in petroleum industry.

19. What are chromogenic materials? Write the applications of chromogenic materials. Differentiate between thermochromic and photochromic materials.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.