

T.E - VI Sem - Chem

(34)

Advance materialy

TE/VI/CBGS/CHEM/TSAM

QP Code : 717300

(3 Hours)

[Total Marks : 80

- N.B. : (1) Question no. 1 is compulsory
 (2) Answer Any Three Questions from the Remaining five Questions.
 (3) Illustrate the answer with proper and neat diagram wherever necessary.

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| 1. (a) Write applications of carbon Nanotubes. | 5 |
| (b) Explain various $A_m X_n$ structures of Ceramic Materials | 5 |
| (c) Explain Biomedical application of PTFE. | 5 |
| (d) Explain classification of Titanium alloys. | 5 |
| 2. (a) Explain different causes of failure in Stainless Steel | 10 |
| (b) What is High Temperature Polymer? Explain several ways by which heat stability of Polymer can be increased. | 10 |
| 3. (a) Explain Slurry Infiltration Process for fabrication of Ceramic Matrix Composites along with its advantage and disadvantages. | 10 |
| (b) What is closed molding process? Explain Pultrusion and Pulforming Process for processing of fiber reinforced plastic composites. | 10 |
| 4. (a) Explain preparation of INSITU Particle Metal matrix composite along with its advantage and disadvantages | 10 |
| (b) Explain Slip Casting Process for processing of ceramics along with its advantage and disadvantages | 10 |
| 5. (a) What are composites? Explain classification of Composites Material. | 10 |
| (b) Explain Chemical Vapor Deposition Method for synthesis of Carbon Nanotubes. | 10 |
| 6. (a) Explain various types of Thermal Spraying Methods used for Thin Film Coating. | 10 |
| (b) What is Stainless Steel? Explain various types of stainless steel with their characteristics. | 10 |