| Seat No.: | Enrolment No. |
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GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VI (NEW) - EXAMINATION - SUMMER 2016

Subject Code: 2163902 Date:09/05/2016

Subject Name: NANOPOLYMERS AND NANO-COMPOSITES

Time: 10:30 AM to 01:00 PM Total Marks: 70

Instructions:

- 1. Attempt all questions.
- 2. Make suitable assumptions wherever necessary.
- 3. Figures to the right indicate full marks.

| Q.1 | (a) | Write a short note on Silicon Nitride based ceramic. | 07 |
|------------|------------|---|----|
| | (b) | Explain Functionallly graded ceramic. | 07 |
| Q.2 | (a) | Write a short note on cryochemical synthesis for nano composites. | 07 |
| | (b) | Write a short note on polypropylene layered silicate. OR | 07 |
| | (b) | Write a short note on Hetropolymer. | 07 |
| Q.3 | (a) | Explain chemistry of Polymerization. | 07 |
| | (b) | Explain TG (Glass Transition Temperature) and factor affecting TG. OR | 07 |
| Q.3 | (a) | Write short note on Silicon carbides based ceramic. | 07 |
| | (b) | Write a short note on Nanophase ceramic composites. | 07 |
| Q.4 | (a) | Write a short note on poly(ethylacrylate)/bentonitenanocomposites. | 07 |
| | (b) | Write a short note on poly(butylene terephthlate) (PBT) based nanocomposites. OR | 07 |
| Q.4 | (a) | Explain Block copolymers for ordered polymeric nanostructures. | 07 |
| | (b) | Write various applications of Silicon Carbide and Silicon Nitride. | 07 |
| Q.5 | (a) | Write a short note on polymer/Calcium Carbonate nanocomposites. | 07 |
| | (b) | Explain Metal-containing polymers based nanocomposites. | 07 |
| | | OR | |
| Q.5 | (a) | Write a short note on Machinable nanocomposite ceramics | 07 |
| | (b) | Explain preparation of nano pahsic CaCO3 | 07 |
