

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI  
(MID SEMESTER EXAMINATION)**

**CLASS: BE**  
**BRANCH: CHEMICAL / CHEMICAL-PLASTICS AND POLYMER**

**SEMESTER: VII**  
**SESSION : MO/2018**

**SUBJECT : PC7009 POLYMER COMPOSITES**

**TIME: 1.5 HOURS**

**FULL MARKS: 25**

**INSTRUCTIONS:**

1. The total marks of the questions are 30.
2. Candidates may attempt for all 30 marks.
3. In those cases where the marks obtained exceed 25 marks, the excess will be ignored.
4. Before attempting the question paper, be sure that you have got the correct question paper.
5. The missing data, if any, may be assumed suitably.

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- Q1 (a) What do you mean by composite? What are the advantages of plastic composite over metal & ceramic? [2]  
(b) What is Reinforcement and list the different types and forms of the reinforcing materials? [3]
- Q2 (a) What do you mean by short fibre filled composite? Classify different types of short fibre composite [2]  
(b) What are the different types of additives used in short fibre filled composite during processing? [3]
- Q3 (a) Why oxidation is essential step in c-fiber making process? [2]  
(b) What function offers by initiating and participating comonomer in carbon fibre manufacturing process. [3]
- Q4 (a) What is E & S glass? [2]  
(b) What are the advantages of continuous process over marble process for glass fibre? [3]
- Q5 (a) Distinguish between gel spinning & supper drawing process for poly ethylene fibre. [2]  
(b) What are the basic steps for preparing silicon carbide fibre (SiC)? [3]
- Q6 (a) What is role of interface in composite? [2]  
(b) What are the different types of interaction plays between matrix and fibre ? [3]

::: 14/09/2018 :::M