

# CBCS SCHEME

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15NT71

## Seventh Semester B.E. Degree Examination, Dec.2018/Jan.2019 Nano Composites and Their Applications

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

### Module-1

- 1 a. Explain about composites, composition of composites, and classification based on its origin. (10 Marks)  
b. Write a short note on polymer matrix composites. (06 Marks)

OR

- 2 a. Write a note on particle, and fibre reinforced composites. (08 Marks)  
b. Explain the Carbon fibre production technique. (08 Marks)

### Module-2

- 3 a. Write a short note on hand layup, and sprayup processing of polymer matrix composites. (08 Marks)  
b. Explain filament winding process. (08 Marks)

OR

- 4 a. Explain about injection moulding, and reaction injection moulding. (08 Marks)  
b. Write a note on resin transfer moulding and pultrusion. (08 Marks)

### Module-3

- 5 a. Write a note on reinforcements for MMCs, and effect of reinforcements. (08 Marks)  
b. Write a short note on interface and interface properties. (08 Marks)

OR

- 6 a. Explain about powder metallurgy and diffusion bonding methods of processing of MMCs. (08 Marks)  
b. Write a note on stir casting, and squeeze casting infiltration techniques. (08 Marks)

### Module-4

- 7 a. Brief about CMCs and mention various types of MMCs. (08 Marks)  
b. Explain about oxide ceramic matrix composites (08 Marks)

OR

- 8 a. Discuss in detail about isostatic pressing methods. (12 Marks)  
b. Explain about hot pressing processing of MMCs. (04 Marks)

### Module-5

- 9 a. Brief about classification of laminates. (08 Marks)  
b. Explain the compression testing of composite materials. (08 Marks)

OR

- 10 a. Explain about mechanically fastened joints. Mention its advantages and limitation. (06 Marks)  
b. Discuss about factors affecting the mechanical performance of composites. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.