

2014-2015
M.Sc. (Polymer Science & Technology)
IV Semester Examination
Polymer Materials-II (AC – 811)

Maximum Marks: 70

Credits: 04

Duration: Two Hours

Answer all the questions.

Assume suitable data if missing.

Notations used have their usual meaning.

Q.No.	Question	M.M.
1 (a)	Discuss the properties of polymer blends and give their important applications with the help of suitable examples.	[6.5]
1 (b)	Describe the methods determining the miscibility and compatibility with special reference to polymer blends.	[6.5]
1 (c)	Write short notes on any two of the followings: (i) Plastic-Rubber Blends (ii) Solution Cast Polymer Blends (iii) Mechanical Polymer Blends	[5]
2 (a)	What are reinforcing fibers? How are they classified? Discuss their role in polymer composites.	[7]
OR		
(a')	What are boron fibers? Why are these fibers preferred over carbon fibers in high performance polymer composites?	
2 (b)	What are coupling agents used for the surface treatment of glass fibers? Describe the particulate reinforcement of polymer composites.	[7]
2 (c)	Discuss the advantages of polymer composites.	[3]
3 (a)	Discuss the manufacturing process of nitrile butadiene rubber. Explain, how does the compounding improve its quality?	[6]

3 (b) What are the raw materials to get the polyurethanes? Give the procedure used for the manufacturing of rigid polyurethane foam. [6]

OR

(b') Describe the tapping and processing of rubber from the latex. Discuss the methods for the production of various conventional grade rubbers.

3 (c) How polymers are classified? Discuss various molding techniques employed in fabrication of polymers. [5]

4 (a) Explain the filament winding technique for producing reinforced plastic articles. [6]

4 (b) Discuss the minimum and critical fiber content in polymer composite materials. [6]

4 (c) Explain resin transfer moulding and discuss its advantages. [6]
