Code No: R05321806 **R05** **Set No. 2**

III B.Tech II Semester Examinations,December 2010
POLYMERIC MATERIALS
Metallurgy And Material Technology

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) What are the differences between cold molding and all the other molding processes?
   (b) Why cold molding process is so rapid? Explain
   (c) Describe the typical blow molded shapes. [6+5+5]
2. Briefly explain the following for the determination of average molecular weight:
   (a) Viscosity method
   (b) Turbidity method. [8+8]
3. (a) Illustrate the bonding between polymer chain nylon 6,6. Why is this bonding particularly strong? Explain.
   (b) What properties do nylons have,that make them useful for engineering applications? What is the important undesirable property of nylons?
   (c) What are the applications of nylons? [7+6+3]
4. (a) What is bulk polymerization technique? Explain the process in detail.
   (b) What is melt polycondensation? Explain the suitable conditions for this.[8+8]
5. (a) What are photo degradients? Explain its role in polymers.
   (b) Explain about colorants in polymeric technology. [10+6]
6. (a) What are the two major ingrediants that are present in many thermosets? Explain about them in detail.
   (b) How are Alkyd resins produced? Explain it. In which type of industry the Alkyd resins are widely used? Why? [6+10]
7. (a) Explain the chemical & mechanical properties of LDPE & HDPE.
   (b) Discuss the important applications of LDPE & HDPE.
   (c) What are the various raw materials used for the production of LDPE & HDPE? Explain about them. [6+5+5]
8. (a) What is Neoprene rubber? What are its properties and applications? What are the various vulcanising agents used in neoprene rubber? Discuss.
   (b) What is natural rubber? Sketch its mer structure and explain. Also sketch the mer structure after vulcanization. Discuss the differences. [8+8]

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Code No: R05321806 **R05** **Set No. 4**

III B.Tech II Semester Examinations,December 2010
POLYMERIC MATERIALS
Metallurgy And Material Technology

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) What are the two major ingrediants that are present in many thermosets? Explain about them in detail.
   (b) How are Alkyd resins produced? Explain it. In which type of industry the Alkyd resins are widely used? Why? [6+10]
2. (a) What are the differences between cold molding and all the other molding processes?
   (b) Why cold molding process is so rapid? Explain
   (c) Describe the typical blow molded shapes. [6+5+5]
3. (a) What is Neoprene rubber? What are its properties and applications? What are the various vulcanising agents used in neoprene rubber? Discuss.
   (b) What is natural rubber? Sketch its mer structure and explain. Also sketch the mer structure after vulcanization. Discuss the differences. [8+8]
4. (a) What are photo degradients? Explain its role in polymers.
   (b) Explain about colorants in polymeric technology. [10+6]
5. (a) What is bulk polymerization technique? Explain the process in detail.
   (b) What is melt polycondensation? Explain the suitable conditions for this.[8+8]
6. Briefly explain the following for the determination of average molecular weight:
   (a) Viscosity method
   (b) Turbidity method. [8+8]
7. (a) Illustrate the bonding between polymer chain nylon 6,6. Why is this bonding particularly strong? Explain.
   (b) What properties do nylons have,that make them useful for engineering applications? What is the important undesirable property of nylons?
   (c) What are the applications of nylons? [7+6+3]
8. (a) Explain the chemical & mechanical properties of LDPE & HDPE.
   (b) Discuss the important applications of LDPE & HDPE.
   (c) What are the various raw materials used for the production of LDPE & HDPE? Explain about them. [6+5+5]

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Code No: R05321806 **R05** **Set No. 1**

III B.Tech II Semester Examinations,December 2010
POLYMERIC MATERIALS
Metallurgy And Material Technology

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) Illustrate the bonding between polymer chain nylon 6,6. Why is this bonding particularly strong? Explain.
   (b) What properties do nylons have,that make them useful for engineering applications? What is the important undesirable property of nylons?
   (c) What are the applications of nylons? [7+6+3]
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   (a) Viscosity method
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   (b) Explain about colorants in polymeric technology. [10+6]
6. (a) What are the two major ingrediants that are present in many thermosets? Explain about them in detail.
   (b) How are Alkyd resins produced? Explain it. In which type of industry the Alkyd resins are widely used? Why? [6+10]
7. (a) What are the differences between cold molding and all the other molding processes?
   (b) Why cold molding process is so rapid? Explain
   (c) Describe the typical blow molded shapes. [6+5+5]
8. (a) Explain the chemical & mechanical properties of LDPE & HDPE.
   (b) Discuss the important applications of LDPE & HDPE.
   (c) What are the various raw materials used for the production of LDPE & HDPE? Explain about them. [6+5+5]

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Code No: R05321806 **R05** **Set No. 3**

III B.Tech II Semester Examinations,December 2010
POLYMERIC MATERIALS
Metallurgy And Material Technology

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) What is Neoprene rubber? What are its properties and applications? What are the various vulcanising agents used in neoprene rubber? Discuss.
   (b) What is natural rubber? Sketch its mer structure and explain. Also sketch the mer structure after vulcanization. Discuss the differences. [8+8]
2. (a) Explain the chemical & mechanical properties of LDPE & HDPE.
   (b) Discuss the important applications of LDPE & HDPE.
   (c) What are the various raw materials used for the production of LDPE & HDPE? Explain about them. [6+5+5]
3. (a) What are photo degradients? Explain its role in polymers.
   (b) Explain about colorants in polymeric technology. [10+6]
4. Briefly explain the following for the determination of average molecular weight:
   (a) Viscosity method
   (b) Turbidity method. [8+8]
5. (a) Illustrate the bonding between polymer chain nylon 6,6. Why is this bonding particularly strong? Explain.
   (b) What properties do nylons have,that make them useful for engineering applications? What is the important undesirable property of nylons?
   (c) What are the applications of nylons? [7+6+3]
6. (a) What are the two major ingrediants that are present in many thermosets? Explain about them in detail.
   (b) How are Alkyd resins produced? Explain it. In which type of industry the Alkyd resins are widely used? Why? [6+10]
7. (a) What is bulk polymerization technique? Explain the process in detail.
   (b) What is melt polycondensation? Explain the suitable conditions for this.[8+8]
8. (a) What are the differences between cold molding and all the other molding processes?
   (b) Why cold molding process is so rapid? Explain
   (c) Describe the typical blow molded shapes. [6+5+5]

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