Code No: R07A1BS04 **R07** **Set No. 2**

I B.Tech Examinations,December 2010
APPLIED CHEMISTRY
Civil Engineering

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

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) Teflon is an addition polymer, it behaves like a thermosetting polymer. Give Reasons.
   (b) What are the different kinds of addtivies used the fabrication of plastics?
   (c) What is crepe rubber and reclaimed rubber? [4+8+4]
2. (a) Write a brief account on
      i. pitting corrosion and
      ii. pipeline corrosion.
   (b) What is the principle of cathodic protection? Explain impressed current method of protection. Mention its merits and demerits. [8+8]
3. (a) What is meant by blended oils? Explain the functions of various additives added to the lubricants?
   (b) What are viscosity & viscosity index of lubricating oil? [12+4]
4. (a) Discuss the disadvantages of using hard water for various industries.
   (b) Explain the factors responsible for the corrosion of a boiler. Discuss the measures for its prevention. [8+8]
5. (a) List the laboratory tests for cement and describe them.
   (b) Write about the decay of concrete and its prevention. [10+6]
6. (a) Define Refractories and what are the criteria of a good refractory?
   (b) Give the classification of refractories with suitable examples. [6+10]
7. (a) What is cementation? Explain the various types of cementation process?
   (b) Why galvanization of iron is preferred to tinning? [12+4]
8. (a) What is potable water? Discuss the treatment of water for domestic purpose.
   (b) Calculate temporary hardness and total hardness of a sample of water containing $Mg(HCO_3)_2$ = 7.3 mg/L; $Ca(HCO_3)_2$ = 16.2 mg/L; $MgCl_2$ = 9.5 mg/L; $CaSO_4$ = 13.6 mg/L. [12+4]

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Code No: R07A1BS04 **R07** **Set No. 4**

I B.Tech Examinations,December 2010
APPLIED CHEMISTRY
Civil Engineering

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

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) Discuss the disadvantages of using hard water for various industries.
   (b) Explain the factors responsible for the corrosion of a boiler. Discuss the measures for its prevention. [8+8]
2. (a) What is cementation? Explain the various types of cementation process?
   (b) Why galvanization of iron is preferred to tinning? [12+4]
3. (a) List the laboratory tests for cement and describe them.
   (b) Write about the decay of concrete and its prevention. [10+6]
4. (a) Teflon is an addition polymer, it behaves like a thermosetting polymer. Give Reasons.
   (b) What are the different kinds of addtivies used the fabrication of plastics?
   (c) What is crepe rubber and reclaimed rubber? [4+8+4]
5. (a) Write a brief account on
      i. pitting corrosion and
      ii. pipeline corrosion.
   (b) What is the principle of cathodic protection? Explain impressed current method of protection. Mention its merits and demerits. [8+8]
6. (a) Define Refractories and what are the criteria of a good refractory?
   (b) Give the classification of refractories with suitable examples. [6+10]
7. (a) What is meant by blended oils? Explain the functions of various additives added to the lubricants?
   (b) What are viscosity & viscosity index of lubricating oil? [12+4]
8. (a) What is potable water? Discuss the treatment of water for domestic purpose.
   (b) Calculate temporary hardness and total hardness of a sample of water containing $Mg(HCO_3)_2$ = 7.3 mg/L; $Ca(HCO_3)_2$ = 16.2 mg/L; $MgCl_2$ = 9.5 mg/L; $CaSO_4$ = 13.6 mg/L. [12+4]

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Code No: R07A1BS04 **R07** **Set No. 1**

I B.Tech Examinations,December 2010
APPLIED CHEMISTRY
Civil Engineering

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

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) What is cementation? Explain the various types of cementation process?
   (b) Why galvanization of iron is preferred to tinning? [12+4]
2. (a) Teflon is an addition polymer, it behaves like a thermosetting polymer. Give Reasons.
   (b) What are the different kinds of addtivies used the fabrication of plastics?
   (c) What is crepe rubber and reclaimed rubber? [4+8+4]
3. (a) Discuss the disadvantages of using hard water for various industries.
   (b) Explain the factors responsible for the corrosion of a boiler. Discuss the measures for its prevention. [8+8]
4. (a) Write a brief account on
      i. pitting corrosion and
      ii. pipeline corrosion.
   (b) What is the principle of cathodic protection? Explain impressed current method of protection. Mention its merits and demerits. [8+8]
5. (a) Define Refractories and what are the criteria of a good refractory?
   (b) Give the classification of refractories with suitable examples. [6+10]
6. (a) List the laboratory tests for cement and describe them.
   (b) Write about the decay of concrete and its prevention. [10+6]
7. (a) What is potable water? Discuss the treatment of water for domestic purpose.
   (b) Calculate temporary hardness and total hardness of a sample of water containing $Mg(HCO_3)_2$ = 7.3 mg/L; $Ca(HCO_3)_2$ = 16.2 mg/L; $MgCl_2$ = 9.5 mg/L; $CaSO_4$ = 13.6 mg/L. [12+4]
8. (a) What is meant by blended oils? Explain the functions of various additives added to the lubricants?
   (b) What are viscosity & viscosity index of lubricating oil? [12+4]

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Code No: R07A1BS04 **R07** **Set No. 3**

I B.Tech Examinations,December 2010
APPLIED CHEMISTRY
Civil Engineering

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

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) Teflon is an addition polymer, it behaves like a thermosetting polymer. Give Reasons.
   (b) What are the different kinds of addtivies used the fabrication of plastics?
   (c) What is crepe rubber and reclaimed rubber? [4+8+4]
2. (a) Define Refractories and what are the criteria of a good refractory?
   (b) Give the classification of refractories with suitable examples. [6+10]
3. (a) List the laboratory tests for cement and describe them.
   (b) Write about the decay of concrete and its prevention. [10+6]
4. (a) Discuss the disadvantages of using hard water for various industries.
   (b) Explain the factors responsible for the corrosion of a boiler. Discuss the measures for its prevention. [8+8]
5. (a) What is meant by blended oils? Explain the functions of various additives added to the lubricants?
   (b) What are viscosity & viscosity index of lubricating oil? [12+4]
6. (a) What is potable water? Discuss the treatment of water for domestic purpose.
   (b) Calculate temporary hardness and total hardness of a sample of water containing $Mg(HCO_3)_2$ = 7.3 mg/L; $Ca(HCO_3)_2$ = 16.2 mg/L; $MgCl_2$ = 9.5 mg/L; $CaSO_4$ = 13.6 mg/L. [12+4]
7. (a) Write a brief account on
      i. pitting corrosion and
      ii. pipeline corrosion.
   (b) What is the principle of cathodic protection? Explain impressed current method of protection. Mention its merits and demerits. [8+8]
8. (a) What is cementation? Explain the various types of cementation process?
   (b) Why galvanization of iron is preferred to tinning? [12+4]

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