Code No: R05412303 **R05** **Set No. 2**

IV B.Tech I Semester Examinations,NOVEMBER 2010
BIOSENSORS AND BIOELECTRONICS
Bio-Technology

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

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. Illustrate the following.
   (a) Ammonium ion sensors.
   (b) Electro active analyte.
   (c) Second harmonic generation of biosensors. [4+6+6]
2. Write the advantages and disadvantages of piezoelectric biosensors compare to Amperometric biosensors. [16]
3. Give an account of detection of chemically induced DNA damage by various air pollutants and monitoring by DNA based biosensors. [16]
4. Explain in detail about the detection of human leutenizing hormone in serum during the hormonal imbalance by amperometric immuno biosensors. [16]
5. Narrate the various likely factors contribute for the biological material stabilization in biosensors.. [16]
6. What are biomolecular photonic computers? Explain the advantages over conventional computers. [16]
7. Write short notes on the following.
   (a) Dissolved oxygen electrode transducers.
   (b) Thick-film screen-printing technique. [8+8]
8. Write about five basic operations, namely, extract, merge, detect, copy and append, generally used in DNA based biocomputation. [16]

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Code No: R05412303 **R05** **Set No. 4**

IV B.Tech I Semester Examinations,NOVEMBER 2010
BIOSENSORS AND BIOELECTRONICS
Bio-Technology

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

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. Write the advantages and disadvantages of piezoelectric biosensors compare to Amperometric biosensors. [16]

2. What are biomolecular photonic computers? Explain the advantages over conventional computers. [16]

3. Write about five basic operations, namely, extract, merge, detect, copy and append, generally used in DNA based biocomputation. [16]

4. Explain in detail about the detection of human leutenizing hormone in serum during the hormonal imbalance by amperometric immuno biosensors. [16]

5. Narrate the various likely factors contribute for the biological material stabilization in biosensors.. [16]

6. Illustrate the following.
   (a) Ammonium ion sensors.
   (b) Electro active analyte.
   (c) Second harmonic generation of biosensors. [4+6+6]

7. Write short notes on the following.
   (a) Dissolved oxygen electrode transducers.
   (b) Thick-film screen-printing technique. [8+8]

8. Give an account of detection of chemically induced DNA damage by various air pollutants and monitoring by DNA based biosensors. [16]

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Code No: R05412303 **R05** **Set No. 1**

IV B.Tech I Semester Examinations,NOVEMBER 2010
BIOSENSORS AND BIOELECTRONICS
Bio-Technology

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

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. Write about five basic operations, namely, extract, merge, detect, copy and append, generally used in DNA based biocomputation. [16]

2. Give an account of detection of chemically induced DNA damage by various air pollutants and monitoring by DNA based biosensors. [16]

3. Write the advantages and disadvantages of piezoelectric biosensors compare to Amperometric biosensors. [16]

4. Explain in detail about the detection of human leutenizing hormone in serum during the hormonal imbalance by amperometric immuno biosensors. [16]

5. Write short notes on the following.
   (a) Dissolved oxygen electrode transducers.
   (b) Thick-film screen-printing technique. [8+8]

6. Illustrate the following.
   (a) Ammonium ion sensors.
   (b) Electro active analyte.
   (c) Second harmonic generation of biosensors. [4+6+6]

7. What are biomolecular photonic computers? Explain the advantages over conventional computers. [16]

8. Narrate the various likely factors contribute for the biological material stabilization in biosensors.. [16]

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Code No: R05412303 **R05** **Set No. 3**

IV B.Tech I Semester Examinations,NOVEMBER 2010
BIOSENSORS AND BIOELECTRONICS
Bio-Technology

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

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. What are biomolecular photonic computers? Explain the advantages over conventional computers. [16]

2. Write short notes on the following.
   (a) Dissolved oxygen electrode transducers.
   (b) Thick-film screen-printing technique. [8+8]

3. Write about five basic operations, namely, extract, merge, detect, copy and append, generally used in DNA based biocomputation. [16]

4. Illustrate the following.
   (a) Ammonium ion sensors.
   (b) Electro active analyte.
   (c) Second harmonic generation of biosensors. [4+6+6]

5. Give an account of detection of chemically induced DNA damage by various air pollutants and monitoring by DNA based biosensors. [16]

6. Narrate the various likely factors contribute for the biological material stabilization in biosensors.. [16]

7. Write the advantages and disadvantages of piezoelectric biosensors compare to Amperometric biosensors. [16]

8. Explain in detail about the detection of human leutenizing hormone in serum during the hormonal imbalance by amperometric immuno biosensors. [16]

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