

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
DIPLOMA ENGINEERING – SEMESTER – V • EXAMINATION – SUMMER • 2014

Subject Code: 350304

Date: 31-05-2014

Subject Name: Therapeutic Medical Instrumentation

Time: 02:30 pm - 05:30 pm

Total Marks: 70

Instructions:

1. Attempt all five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Each question carry equal marks (14 marks)

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|-------------|---|-----------|
| Q.1 | (a) Draw and explain functional block diagram of electro therapy unit. | 07 |
| | (b) Explain working principle and block diagram of syringe infusion pump. | 07 |
| | | |
| Q.2 | (a) Explain He-Ne laser with suitable diagram. | 07 |
| | (b) Write a short note on cervical traction. | 07 |
| | OR | |
| | (b) Draw & describe any two current waveforms used in electrotherapy. | 07 |
| | | |
| Q.3 | (a) Describe the principle of dialysis in the artificial kidney with diagram. | 07 |
| | (b) Explain the effect of ultrasound on human body. | 07 |
| | OR | |
| Q.3 | (a) Explain hemodialysis machine with its diagram. | 07 |
| | (b) Explain the application techniques of short wave diathermy with neat sketch | 07 |
| | | |
| Q.4 | (a) What is ultrasound transducer and explain its construction with its labeled diagram. | 07 |
| | (b) Describe the principle of electro surgery unit using diagram with its modes. | 07 |
| | OR | |
| Q. 4 | (a) Define therapeutic instrumentation. Enlist equipments involved in it with its function. | 07 |
| | (b) State the function of dialyser. Enlist its types and explain any one in detail. | 07 |
| | | |
| Q.5 | (a) Explain any one type of neonatal therapy unit in detail with its diagram. | 07 |
| | (b) Write a short note on IR lamp with a suitable diagram. | 07 |
| | OR | |
| Q.5 | (a) Draw and describe different types of cutting & coagulation electrodes. | 07 |
| | (b) Define following terms with necessary figure: | 07 |
| | (1) Biphasic Stimulation | 01 |
| | (2) Fulguration | 02 |
| | (3) Dessication | 02 |
| | (4) Coagulation | 02 |

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