

Con. 5156-09.

SP-6890

(3 Hours)

[ Total Marks : 100

- N.B.** (1) Attempt any **five** questions, question No.1 is **compulsory**.  
 (2) Answers to the questions should be grouped **together**.  
 (3) **Figures** to the **right** indicates **full** marks.

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| 1. Attempt <b>all</b> :—  | <b>20</b> |
| (a) Hounsfield number — it's application  |           |
| (b) Limitations of X-ray radiography  |           |
| (c) Action potential and its generation   |           |
| (d) Oximetry.   |           |
| 2. (a) Explain generation of EEG signal and also discuss 10-20 electrode system.                  | <b>10</b> |
| (b) Explain 12 lead system in ECG machine and discuss its block diagram.                          | <b>10</b> |
| 3. (a) Explain the Physiology of Respiratory.   | <b>10</b> |
| (b) Explain B-mode in detail with applications.   | <b>10</b> |
| 4. (a) Explain working of "Hemodialysis" machine and precautions taken during the hemodialysis.   | <b>10</b> |
| (b) Explain MRI with it's applications.   | <b>10</b> |
| 5. (a) Explain "Gamma Camera" and it's medical applications.                                      | <b>10</b> |
| (b) What is Pacemaker ? Explain a demand type synchronous pacemaker.                              | <b>10</b> |
| 6. (a) Explain the working of Ventilator. Explain how different parameters are monitored.         | <b>10</b> |
| (b) Explain working "CT Scanner" and reconstruction techniques used for image.                    | <b>10</b> |
| 7. (a) Draw and explain the block diagram of Electrosurgical Machine with its modes of operation. | <b>10</b> |
| (b) Explain different types blood flow measurement methods.                                       | <b>10</b> |
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