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BIONMED viith

BMI-III

VTJET/LIB/ENGIGI/BM/SEM-VII/BMI-III/14 May 13

VT-F.H.Exam. April(I)-I.Y.178

Con. 8328-13.

GS-5476

(REVISED COURSE)

(3 Hours)

[Total Marks : 100



- N.B. : (1) Question No. 1 is **compulsory**.
(2) Attempt any **four** questions out of remaining **six** questions.
(3) **Figures** to the **right** indicate **full** marks.
(4) Use **ligible** hand writing
1. (a) How is medical diathermy different from surgical diathermy ? 5
(b) What are Lasers ? Mention four major differences between Laser and Incandescent light. 5
(c) What do you understand by Circus Motion theory ? 5
(d) What do you understand by Interferential therapy ? 5
 2. (a) What is a Nerve Muscle Stimulator ? Explain with the help of a neat block diagram. 8
(b) Explain the various low frequency currents, its waveform, values and its applications in therapy. 12
 3. (a) With the help of a neat block diagram, explain the working of a Hemodialysis machine. 8
(b) With the help of a neat circuit diagram, explain the blood leak detector circuit. 8
(c) How is peritoneal dialysis different from hemodialysis ? 4
 4. (a) What do you understand by D. C. Defibrillators ? Explain the various types of D. C. Defibrillators with adequate circuit diagram and waveforms. 10
(b) Explain the concept of Cardioversion with the help of a neat block diagram. 10
 5. (a) Mention the technical specifications of an internal pacemaker. 4
(b) With the help of a neat block diagram, explain the working of an external pacemaker. 8
(c) How is Asynchronous Pacemaker different from Synchronous Pacemaker ? Explain using block diagram. 8
 6. (a) Explain the principle of Surgical Diathermy. 4
(b) What are the modes in ESU ? With the help of a neat circuit diagram, explain any one mode selection in ESU. 10
(c) Explain in detail an ESU Analyser. 6
 7. Write short notes on any **four** :- 20
 - (a) Nd-Yag Lasers
 - (b) Factors that affect Heart Rate Variability
 - (c) Role of Anticoagulant in Dialysis machine
 - (d) Types of Arrhythmias
 - (e) IR and UV Lamps.
