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**Question Paper Code: 95B02**

B.E./B.Tech. DEGREE EXAMINATION, MAY 2024

Fifth Semester

Biomedical Engineering

19UBM502- Diagnostic And Therapeutic Equipments – II

(Regulations 2019)

Duration: Three hours

Maximum: 100 Marks

Answer All Questions

PART A - (10x 2 = 20 Marks)

1. What is the purpose of obstetric ultrasound? CO1- U
2. Explain the principle of A-scan display. CO1- U
3. What are 5 examples of ventilator modes? CO2- U
4. What is the most important factor in determining airway resistance? CO2- U
5. What is GSR galvanic skin response and how does it work? CO3- U
6. How is an Electroretinograph performed? CO3- U
7. What are lasers used for in medicine? CO4- U
8. What are the four types of laser tissue interactions? CO4- U
9. What is a ground fault detector? CO5- U
10. Why does ECG unit have an isolation circuitry as a mandatory requirement? CO5- U

PART – B (5 x 16= 80Marks)

11. (a) Explain difference between A-mode, B-mode and M-mode display. CO1- U (16)  
Or  
(b) Explain the function of echocardiograph with block diagram. CO1- U (16)
12. (a) Describe how residual volume is measured using whole body plethysmography. CO2- U (16)  
Or  
(b) What is Apnea? Describe the working of an Apnea monitor with the help of a block diagram. CO2- U (16)

13. (a) Outline the clinical applications of Electro oculograph with case study. CO3- App (16)
- Or
- (b) Distinguish between pure tone audiometer and speech audiometer. CO3- App (16)
14. (a) Discuss in detail about short wave diathermy with its application and treatment methodology. CO4- App (16)
- Or
- (b) Discuss in detail about Ultrasonic diathermy with its application and treatment methodology. CO4- App (16)
15. (a) Briefly explain the physiological effects caused due to the flow of current in human body along with important susceptibility parameters. CO5- U (16)
- Or
- (b) Explain the basic measures to be taken to protect from shock. CO5- U (16)