

- Q.25 Explain any three major equipments used in ICU.
- Q.26 Explain Operating Room Instrumentation.
- Q.27 Explain Suction machine with block diagram.
- Q.28 Write a note on Electrosurgical unit.
- Q.29 Write a note on operation theatre Table.
- Q.30 Explain Artificial Pacemaker in details.
- Q.31 Explain Exercise testing test.
- Q.32 Explain CPAP.
- Q.33 Write a note on Medical Gas supply system in Hospital.
- Q.34 Explain the importance of CSSD in operating room.
- Q.35 Explain IABP.

#### SECTION-D

**Note :** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

- Q.36 What is Fibrillation. Explain Defibrillator in details.
- Q.37 Explain Anesthesia machine with diagram.
- Q.38 Explain Ventilator with its classification & different ventilation modes.

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#### 4th Sem / Medical electronics Subject : Bio-Medical Instrumentation-II (BMI-II)

Time : 3 Hrs.

M.M. : 100

#### SECTION-A

**Note:** Multiple choice type questions. All questions are compulsory. (10x1=10)

- Q.1 What is  $O_2$  + Flush flow in anaesthesia
- a) 0-20 L/min                      b) 35-75 L/min
- c) 0-50 L/min                      d) None of the above
- Q.2 What is pressure range for suction pump.
- a) 0-10 mm of Hg                  b) 15-20 mm of Hg
- c) 0-50 mm of Hg                  d) None of the above
- Q.3 ECG measurement is done for
- a) Heart                              b) Liver
- c) Brain                                d) Muscles
- Q.4 The range of Respiration Rate of a person at rest
- a) 12-20 breaths/min    b) 20-50 breaths/min
- c) 50-100 breaths/min    d) None of above

Q.5 What should be the Humidity range for operating room

- a) 20-40%                      b) 50-60%
- c) 70-90%                      d) None of above

Q.6 Residual Volume range is about

- a) 0-20 ml                      b) 400-600 ml
- c) 100-200 ml                      d) 50-60 ml

Q.7  $\text{FiO}_2$  range in ventilator lie between

- a) 0-20%                      b) 21-100%
- c) 50-100%                      d) None of above

Q.8 Material used in prosthetics is

- a) Wooden                      b) Plastics
- c) Metals                      d) All of above

Q.9 How many heart chambers does the heart have

- a) 4                      b) 2
- c) 3                      d) 6

Q.10 Blue colour represents which of following gas in Central Medical gas supply in hospital.

- a) Air                      b) Oxygen
- c) Nitrous Oxide                      d) All of the above

## SECTION-B

**Note:** Objective type questions. All questions are compulsory. (10x1=10)

Q.11 Fibrillation

Q.12 Operation Theatre

Q.13 Expand ICCU.

Q.14 Telemetry

Q.15 Normal waveform pattern of ECG.

Q.16 Expand CPAP.

Q.17 Cardiac cycle.

Q.18 Ambu Bag.

Q.19 Expand ESU.

Q.20 CATH LAB.

## SECTION-C

**Note :** Short answer type questions. Attempt any Twelve question out of fifteen questions. (12x5=60)

Q.21 Write a note on Prosthetics & Orthotics.

Q.22 Explain Single Channel Telemetry system.

Q.23 Write a note on Critical care instrumentation.

Q.24 Write a short note role of Biomedical Engineer in Hospitals.